Arkansas Tech Writing

15 Edition
July 2022

Edited by Carl Brucker
(revised May 2024)

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English 2053: Technical Writing

15th edition

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Carl Brucker

Arkansas Tech University

July 2022
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About This Text

This is the revised fifteenth edition of a text that was first published in 1989 as *Assignments and Models for English 2053*.

A digital version of this text is available from the English Department's Resources page: *http://www.atu.edu/worldlanguages/resources.php*

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Liz Chrisman gave permission to use her photos.

I want to thank the English 2053 students whose writing and suggestions have contributed to this book and my daughter **Allison Brucker** for permission to use some of her drawings as illustrations.

Note: Navigation has been added to this 2024 revised text. Clicking on any reference to another part of the text will take you to that page. You can then use the back command (command + [ ) to return you to your original location in the text.
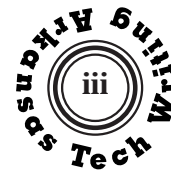
Changes in the Fifteenth Edition

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New student models:

Jessica Bumgardner, "Time Moves Slower Here" (p. 6)

Kaci Yancey, "Classification of My Favoriet Starbucks Drink by Season" (pp. 18-19)

Addilin Brown, "Classification of Data by Properties" (pp. 26-27)

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Madison Holmes, "Process of Human Decomposition" (pp. 40-41)

Wendy Miller, "Instructions for Building Model Y" (pp. 43-44)

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Hunter Preis, "Questionnaire Regarding Clothing and Personal Preference" (pp. 56-58)

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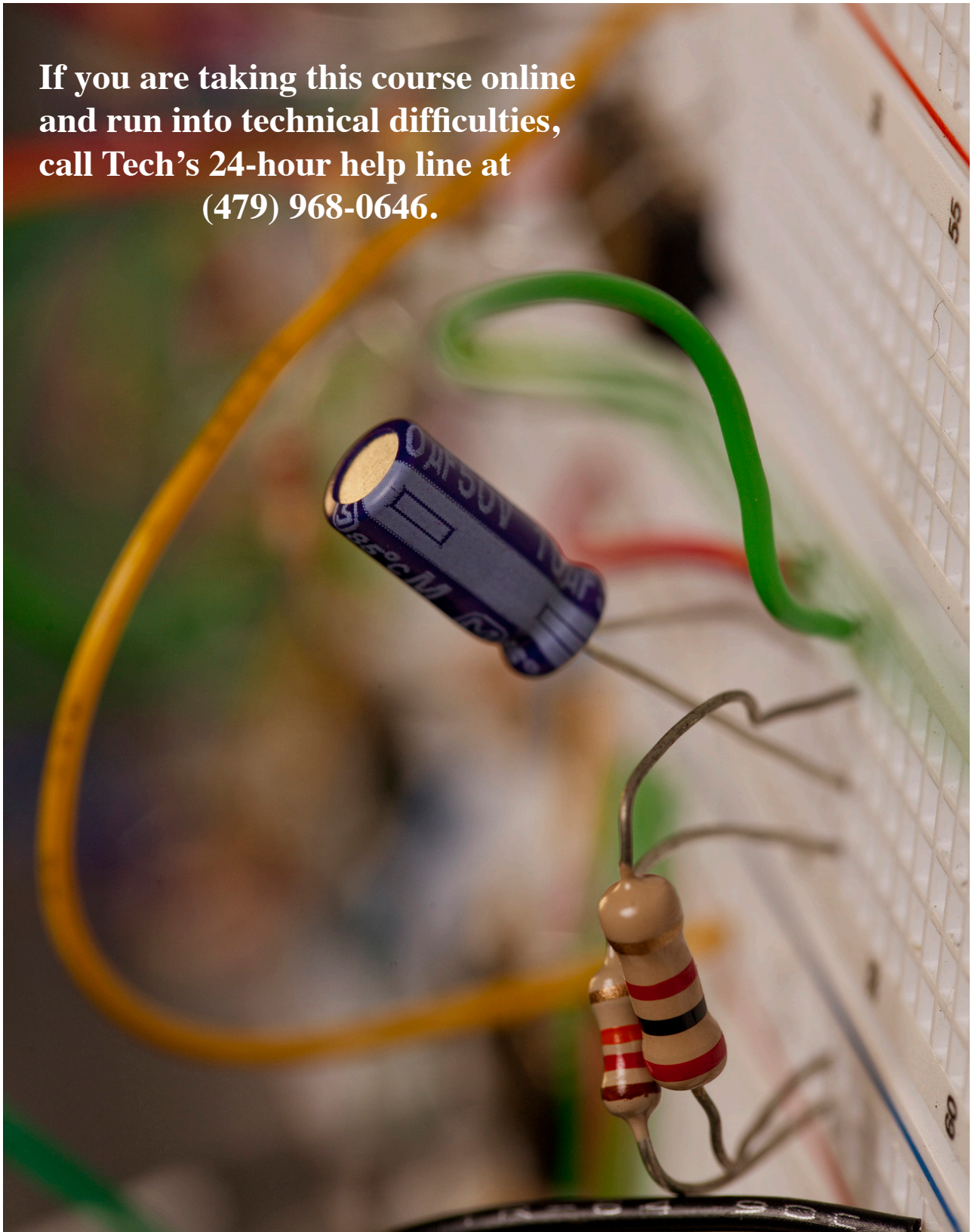
Introduction

ENGL 2053 Technical Writing is a pre-professional course designed to help you prepare for the writing responsibilities you will face after graduation by introducing you to a variety of document types, formats, and style requirements that are common in the workplace.

One way to begin building your skills is to review the characteristics of technical and workplace writing that distinguish it from the academic writing you do in school.

Characteristics of Technical and Workplace Writing

Practical. Much of the academic writing that you have done in school was designed to help you learn or to demonstrate your knowledge. Technical and workplace writing, however, serves practical purposes. These documents provide coworkers and customers with the information that they need to make decisions or to take actions.

Other-Directed. If you express yourself by writing a song lyric for your band, penning a loving note to your significant other, sending an edgy email to the local newspaper editor, or updating your personal blog, your writing is self-directed; you are writing in response to your own need or desire to express yourself. Technical writing is almost always other-directed, written in response to someone else's need for information.

Reader-Centered. Because technical writing is other-directed, the reader's needs determine the form and content of the communication. Technical writers must fully understand the needs, knowledge, and interests of their readers in order to prepare a successful document that gives readers the information they need in a form they understand without burdening them with unnecessary data. In addition, technical and workplace documents are often designed to be read by diverse readers, and the writer needs to shape his documents to fit an array of reader needs.

Constrained. Technical writers create specialized documents that are not common in academic writing -- progress reports, proposals, memoranda, business letters, instructions, specifications. Moreover, technical writers need to follow the format requirements of their particular organization or audience. They also need to understand and adapt to the conventions and culture of the organization of which they are a part.

Integrated. Much academic writing focuses exclusively on text, but technical and workplace documents are often multimodal, integrating text with graphics. A technical writer needs to be aware of the visual design of documents and be able to produce graphics and select which graphic is appropriate to a specific communication situation.

Collaborative. You may have occasionally worked on collaborative projects in school, but the majority of significant technical and workplace writing is collaborative. This may mean working directly with coworkers, either face-to-face or electronically, on drafting and revising documents, or it may mean having your work reviewed and revised by superiors or outside consultants.

Contingent. Every technical or workplace writing situation has a social and political dimension. Unlike academic writing, which is generally from student to teacher, workplace writing must be adapted in tone and style to a wider variety of social and political relationships--manager to subordinate, coworker to coworker, worker to vendor, manager to regulatory agency, employee to customer. Technical and workplace writers need to be aware of the dynamic nature of language usage and strive to avoid disrespect or sexist uses of honorifics and pronouns.

Tested. You may have asked your roommate to look over an academic paper before handing it in, but in the workplace, documents are often vigorously tested with sample readers before they are used or distributed.

Ethical. The courts view most technical and workplace documents written by employees as representing the position of the organization, and these documents can become evidence in contractual or liability lawsuits. Even when technical and workplace documents do not confront legal issues, they can have serious effects and technical writers need to be conscientious about presenting information as accurately as possible.

Three Characteristics of Effective Technical or Workplace Writing

Unitary. Ideally a technical document should provide a single, unambiguous version of the information to all readers. For this reason technical writers avoid irony, figurative language, and humor.

Usable. Ideally a technical document is reader-centered and presented in a manner that makes it easy for readers to acquire the information they need.

Efficient. Technical writers need to be aware of the value of their readers' time. Readers should not be slowed down by unfamiliar or overly complicated formats and they should not have to read through unneeded information or discussion. Technical writers should always strive to keep the ratio between the valuable information they communicate and the number of words they use to do it as high as possible.

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D e s c r i b e

Write a descriptive paragraph of about 150 words on the person, place or object assigned by your instructor.

Concentrate on unity, coherence, and effective use of detail. Your paragraph should communicate a clear **dominant impression** of your subject.

Your instructor may allow you to use "subjective" description for this assignment. In such a case, your paragraph could be humorous, ironic, or in some other way imprecise. What is most important, however, is to exhibit unity, coherence, and effective detail in prose that is free of errors.

Format Requirement: Give your paragraph a descriptive title.

Just a Shy Guy

The Pointer Sisters released a song a few years ago, entitled "He's So Shy." That song could have been written for Brad. Brad is a clean-cut young man who is about twenty years old. His light brown hair is short; his blue eyes are surrounded by long lashes. His white Guess shirt is tucked into a pair of stone-washed Levi's 501 jeans. A pair of snakeskin cowboy boots adds an impressive finishing touch to Brad's neat appearance. Brad seems somewhat bored with this assignment and uncomfortable about staring at a stranger. He glances quickly at the person he is describing, rolls his pen across his lips, then writes his thoughts in small, printed words on his paper before looking up again. Brad's reluctance to raise his head is the most obvious indication of his shyness. However, his quick smile assures me that he is a fun-loving guy. My impression of Brad can be summed up by this line from the Pointer Sisters' song. "He's so shy, so good-lookin."

Tina Sharp McCain

A Man of the Times

My attention is drawn to a young man sitting in the front row of our classroom. He sits relaxed with his glasses propped on the end of his nose, reading a book (no doubt another assignment) to pass the few minutes remaining until the class starts. His clothes are neat, clean, and sufficiently stylish, but the one accessory that stands out is a huge watch. Maybe that is why he is always right on time for class, or a couple of minutes early, but never late. As the class begins, he fidgets with his pen, waiting for the other students to finish an assignment he has already completed. Taking notes, he writes in tiny script as big, scrawling writing would surely waste valuable time and space. When it becomes obvious that the professor is nearing the end of his lecture, the young man begins anxiously chewing his gum, his jaws in rapid motion. Then, when the words of dismissal are spoken, he is up and gone, off to his next appointed designation, but we will see him next class, right on time I am sure.

Jamie Barker

---

*Tina McCain unifies her descriptive paragraph by **framing** it with references to the Pointer Sisters' song and by sticking to a clear **dominant impression**– Brad seems shy but attractive. Coherence is helped by the sequence of descriptive detail, in this case, top-to-bottom organization.*

*<u>**Suggestion**</u>: Lessen the choppiness of the prose by combining sentence ideas.*

Both Jamie Barker and Greg Grady (next page) write witty descriptions that use closely observed details to communicate dominant impressions.

Ms. Barker doesn't explicitly state her dominant impression, but she uses the image of the "huge watch" and the references to time to give her paragraph a strong sense of purpose and unity.

Descriptive Paragraph

The Upperclassman

The first time I spotted Brady, I knew he was an upperclassman. There were many clues. The first had to be his yellow boy-scout shirt that was too small and paper-thin. His shorts were wrinkled and also quite faded. Then, of course, there was the tattered, formerly blue hat that was nearing the color white. Finally, Brady wore a pair of worn-out sandals to top off his look. All of these clues pointed to his complete lack of concern for others' perception of him. He carried no books, only a green notebook covered in drawings and a black rubber pen that he has been chewing on unmercifully. He had certainly already learned from his years in college that only freshmen carry textbooks to class. His look of absolute boredom and irritation with the assignment suggested that he had long ago lost that freshman enthusiasm for the first week of classes. In conclusion, all of these clues suggest that he is indeed no freshman.

Greg Grady

The Man-Cave

As I sit in my high-backed leather desk chair, I move my feet back and forth through the carpet. The bronze flooring is an old and dirty remnant of the 1970's that perfectly complements the walnut colored wood paneling lining the walls. Upon the walls hang various trophy items I have collected over the years. Items that, if left up to my wife, would have been tossed in the trash long ago. My three guitars hang on the furthest wall behind me, a purple and black acoustic, a pure white electric, and a sunburst fretless bass. The drums set up in the corner closest to the guitars provide the last ingredient needed for a jam session. On the opposite wall, there are two framed Lord of the Rings puzzles with a replica of "Sting", the sword used by the Hobbits in the books, mounted between them. On the next wall to the right, a 49ers pennant hangs over a signed picture of their old tight-end, Ted Kwalick, illuminated by the green glass of a metal banker's desk lamp. My large cherry wood corner desk bridges these two walls. I built the desk myself so it is particularly monstrous. Each side is three feet wide and nine feet long with an inset cut out in the corner where the two sides meet. This allows my desk chair to be comfortably positioned for maximum use of desktop space. On either side of the chair, eight-inch cabinet speakers are mounted for supreme sound immersion. To the side of the right speaker, my custom gaming computer sits with blue LED lit fans glowing. The output from the computer is displayed on a corner mounted forty-seven inch LCD TV and a swivel mounted twenty-four inch LCD monitor. To sum it up, I have everything a man needs to relax and enjoy life. Who cares about ugly carpet?

Clayton Henry

A Low Dose of Rendering Plant Exhaust

The room, in which my computer is located, is cramped with five desks, a sink, and a refrigerator. When a person enters the room, three of the desks are visible directly across the room with windows above them. Another desk is on the left and another is to the right behind the sink. Four of the desks have desktop computers, and all are cluttered with loose papers and thick network manuals. The desk to the left, that does not have a computer on it, has a laser jet printer and two lunchboxes. The refrigerator is squeezed in-between this desk and the wall. The floor is covered with green carpet that was fashionable in offices during the 1960's, and the walls are bare of any decorations. The three windows that are above the desks have blinds that are always closed. The room smells like a low dose of rendering plant exhaust, and it is always cold.

Brent Hogan

Brent Hogan's description of his work area uses increasingly unappealing descriptive details, concluding with the grim "rendering plant" sentence.

Time Moves Slower Here

A phone is ringing somewhere outside of the heavy wooden door that is shut, keeping everything in this office preserved in time. Air blowing through the ceiling vents is the only activity within these four walls. My back aches from being stationary in the hard grey chair that resides at my desk. The clock on the bottom right of my computer screen reads 3:20 PM. I stretch my limbs out in front of me and roll to the left so that I can see out the large pane window that overlooks the Bentonville square. A young couple is strolling down the sidewalk holding hands. I wonder what adventure today has brought them. My eyes find a large black and white Great Dane tearing through the lush grass at the park across the street. The sunlight streaming in through the windows feels warm on my face. The sky appears blue and vast. "Ding," a notification sounds on my desktop alerting me that I have a new e-mail. As I roll back to my desk, I glance at the clock on my screen. It reads 3:24 PM.

Jessica Bumgardner

Jessica Bumgardner does not explicitly identify a dominant impression , but she draws a striking contrast between the freedom she sees outside the window and the nagging insistence of the notification sound. Her narrative approach is compelling and she includes several well-observed descriptive details

Stale Monotony

The computer I am using sits on the first floor of the Ross Pendergraft Library at Arkansas Tech University. Every aspect of the room points toward its purpose: to keep its inhabitants' minds on the task in front of them. Upon entering the room, I see the beige circulation desk. At the desk, a lady gloomily types on a computer. In the front of the room, just to the right, there are two pairs of dull, gray cubicles containing black computers. Further to the right stand four similarly-colored bookshelves containing scientific journals. In the center of the room there are two dozen of the same drab-colored cubicles containing computers. In front of me, to my left sits a lady focused on the screen in front of her. Middle-aged, hair graying, and wrinkle-faced, the lady peers through her purple glasses at her screen. In the middle of the room, to the right there are six wooden bookshelves, each of them holding old reference books. <u>Cheaply made but elegant all the same, their rich beige and brown tones prove refreshing after staring at the sharp computer screen.</u> This part of the room bears the aroma of rotting paper, a testament to the prestigious old encyclopedias. The whole room is designed to be as inoffensive as possible. The wide aisles between the cubicles, the not-too-bright lights which hang from the ceiling, even the framed landscapes that hang on the right wall were designed to not distract. The dull, sand-colored computer desks, matched with combining grays, blues, and whites all create a stale monotony only achievable at a library. Surrounded by this visual boredom, my eyes tend to focus more on my screen.

Brandon Peoples

Trapped

My computer sits in a small compartment tucked away from the rest of the room. It is dimly lit by the overhead light. The pale yellow of the paint on the walls only intensifies the yellow glow cast by the bulb above. The only other light that manages to creep in is that of the window in front of me. As I sit at the computer in this tiny space, I look out the window and see a fence that connects to even more fences. I look around on the floor and see nothing but clutter that keeps my feet from leaving the desk. Even as I look out of the open door into the hallway I see nothing but shadows, and it looks like there is no escape in that direction either. As it grows darker outside, the room becomes lit primarily by the glow of the computer screen. It is here that I remain, trapped until my homework is complete.

Katie Young

---

*Brandon Peoples's description explicitly states its **dominant impression** in its title and in its penultimate sentence.*

He concentrates on color to communicate his central idea.

He maintains the reader's spatial orientation with tansitional phrases such as "in front of me, to my left side."

In the sentence that starts "The wide aisles ...," Mr. Peoples uses parallelism to create an efficient multiple subject for the sentence.

<u>*Suggestion:*</u> *Delete the underlined sentence as it does not fit the overall dominant impression*

Every sentence in Katie Young's paragraph helps to communicate the dominant impression of being "trapped." The image of a "fence that connects to even more fences" is particularly effective.

A Different Perspective

As the neon green numbers of the digital clock rearrange to form the time, I realize that seven o'clock is finally here. The rays of sunlight that once beamed off the bare, bright white walls are now slowly beginning to fade. Suddenly, the door's hinges creak as if they had arthritis. Behind the door, a sweaty girl trudges to the center of the back of the room. Upon reaching her unmade bed, she collapses on top of the flowered bed sheets. Looking back to the left of the door, she sees the reflection of her untidy, empty room through the sliding mirror doors which conceal a closet. Her gaze shifts to the left wall, past a white laundry basket filled with green and gold basketball clothes, and up to the digital clock perched on a tall, grey dresser. Only a few precious hours remain to do homework. Reluctantly, she rolls off the right side of the bed and immediately plops down on a chair in front of the desk that is my home. I am filled with excitement as her outstretched hand slowly approaches me. Then, to my disappointment, her hand passes me by and reaches for a lamp on the left side of the desk. After a few seconds, a bright light flickers, and then finally illuminates the entire desktop. On the right side of the desk below the printer, several books are housed in deep, wide shelves. At this time, she usually spends the rest of the night immersed in one book after the other. Tonight is different. Tonight, her attention is focused on me as her fingers gracefully stroke my black keys. I am her computer, and like everything else in the room, I vie for the attention of this student athlete.

Sarah Hart

Sarah Hart increases the interest of her dorm-room description by using "A Different Perspective," describing the room and herself from the viewpoint of her computer, and by writing her description as a narrative.

His, Mine, and Ours

The cramped, dark room in which I sit is a mismatched, hodge-podge of two lives brought together. It is half male and half female. It's even married and single at the same time. It's young, but trying to grow up. There is a dark, mature armoire filled with baubles and jewels oddly placed under cabinets of shot glasses and travel signs. There is a large blue jar of pennies being saved up for a rainy day juxtaposed with a closet full of clothes and countless shoes that equals thousands of wasted pennies. This dark, tiny room was my husband's before it was mine, but it overflows with both of our odds and ends. His old desk is squished up against the white door and my cat-scratched pine furniture is jammed in close for the imagined guest that we will soon have. I can't even consistently call the room by the same name. Half the time it's our office, the other half it's our guest room. However, the room still has a sense of comfort within the chaos of disorder with its closed blinds and dim light. Maybe that's because even though the dark, small room is a messy blend of our new life together as husband and wife, it's the blend that truly makes the room represent us.

Caitlin Schneider

Caitlin Schnieder's use of parallelism underscores her theme of opposites coming together.

D e f i n e

Write an extended definition of at least 250 words, based on the following model, "Myocardial Infarction."

Select a specific concrete object (e.g., a flash drive) or a relatively simple or well-defined process (e.g., mitosis); avoid abstractions like "love" or "beauty."

Your essay should begin with a basic definition that follows the classic pattern: [Term to be defined] is [major class to which it belongs] [distinguishing characteristics or intended use].

Examples:

- [A claw hammer] is [a hand tool] [used to drive or remove nails].

- [An answering machine] is [an electronic device] [that receives and records telephone calls].

- [A compound bow] is [a muscle-powered missile weapon] [characterized by a system of eccentric pulleys which improves the mechanical advantage of a conventional longbow].
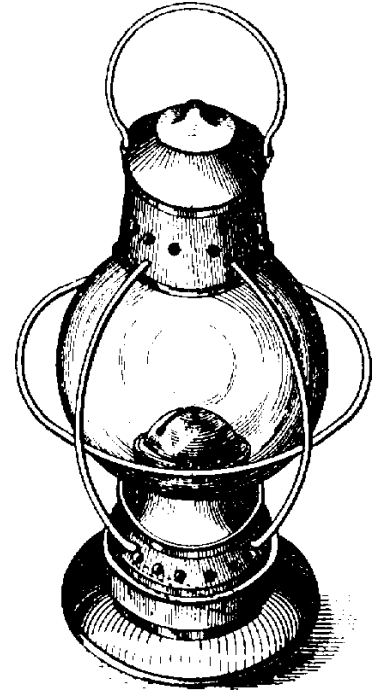
In order to extend your basic definition, expand upon each of its elements, beginning with background on the major class and providing significant details about each of the distinguishing characteristics. In some cases, a brief explanation of the device's use may be helpful.

Myocardial Infarction

Myocardial infarction (MI) is the death of cardiac tissue due to relative or absolute lack of blood supply to the cardiac muscle. An MI is more commonly known to the layperson as a "heart attack." An MI is caused by atheriosclerosis and coronary artery embolism.

Clinical symptoms experienced by the patient may include, but are not restricted to, chest pain, sweating, nausea, vomiting, shortness of breath, cyanosis (bluish tinged skin), weakness, and arm, jaw or shoulder pain. Physicians make a diagnosis by obtaining a health history, electrocardiogram (EKG), blood tests, and by auscultating (listening to) heart sounds. The occlusion may occur in any of the four coronary arteries: the left main, the left anterior descending, the left circumflex, or the right coronary. A combination of artries may be occluded, and a varying degree of blockage (partial or complete) may exist.

The type of the myocardium infarction is relative to the location of the occlusion. Examples of types are anterior, lateral, inferior, posterior, subendocardial, or a combination. Complications are closely related to the type of myocardial infarction and degree of blockage of the arteries. Anterior myocardial infarctions primarily will have heart-rhythm abnormalities (irregular and/or too fast), and build up of fluid in the lungs, resulting in breathing problems. Inferior myocardial infarctions will also have rhythm disturbances, but the abnormalities are irregular and/or too slow. These two types are the most common in occurrence.

Patients may experience one of two courses: complicated or uncomplicated. Complicated MIs may include life-threatening heart-rhytm abnormalities, unstable vital signs (blood pressure, pulse, respiration), severe chest pain unrelieved with medication, an extended hospital stay, or death. Uncomplicated MIs may include stable heart rhythm, stable vital signs, chest pain relieved with medications, minimal hostpital stay, and a prognosis for survival.

The immediate treatment of the myocardial infarction will largely depend on the type. Basic care will predominantly include oxygen therapy, bed rest, pain relief, EKG monitoring, anticoagulation therapy, and a cardiac-rehabilitation program. Anticoagulation therapy is the thinning of blood to allow easier flow in the arteries and veins, ususaly obtained by intravenous or oral medicines. Cardiac rehabilitation includes education on the disease, medications, diet, exercise, and future diagnostic studies as indicated.

Mary Lynne Hawkins

Mary Lynne Hawkins introduces the common abbreviation for this term, after using the full form.

Wherever necessary she glosses secondary terms, providing her readers with brief parenthetical definitions of technical terms.

Having defined a medical condition, Ms. Hawkins concludes by explaining treatment strategies.

C o m p a r e

Write a report of 500-1000 words in which you formally compare and contrast two similar quantities. These may be two products of any kind, two cities where you have lived, two colleges you have attended, two species of animals, two strategies for establishing a business–two of anything. In choosing your quantities, be sure that they are <u>similar</u> enough to allow a meaningful comparison, but <u>different</u> enough to provide a significant contrast.

The outline below demonstrates the structure of a comparison/contrast report. Note that there are two possible arrangements for the material in the body–i.e., the **point-by-point** and the **block**.

I. Introduction
    A. Statement of Purpose
    B. Quantities for Comparison/Contrast
        1. American Chameleon (Anole)
        2. Iguana
    C. Specific Points of Comparison/Contrast
        1. Physical Characteristics
        2. Eating Habits
        3. Habitat

II. Body (Point-by-Point)
    A. Physical Characteristics
        1. Anole
        2. Iguana
    B. Eating Habits
        1. Anole
        2. Iguana
    C. Habitat
        1. Anole
        2. Iguana

II. Body (Block)
    A. Anole
        1. Physical Characteristics
        2. Eating Habits
        3. Habitat
    B. Iguana
        1. Physical Characteristics
        2. Eating Habits
        3. Habitat

III. Conclusion–Derives from the purpose of the report and may offer a recommendation of some kind.

The Lion and the Cheetah

For nature lovers, the big cats of the African savanna hold special appeal. These carnivores epitomize raw power and beauty as they maintain the delicate balance of prey versus predator. The lion and the cheetah are two such creatures which, although alike in some aspects, also differ in physical prowess, hunting style, and social behavior.

The lion, which people lovingly call "king of the Beasts," is a powerful animal weighing up to 530 pounds (male); the female weighs up to 300 pounds. Male lions grow to be 6 to 8 feet long and stand about 3 feet tall at the shoulder. They have massive, muscular legs with large feet and heavy, sharp claws. Their muscular legs allow them to clear up to 35 feet in a single jump. This ability, of course, is a wonderful advantage in hunting their prey, which consists of large mammals like zebras, rodents, hares, and birds. Lions are also not above eating carrion or stealing what other animals have caught. Though the male is so much larger than the female, it is the lioness that does most of the hunting. A group of lionesses usually hunts together, with part of the group chasing the prey and directing it to the rest of the group, which is lying in ambush in the tall grass. The lionesses kill their prey by biting the victim's neck or throat and strangling it. Their cooperation in hunting is just one aspect of their social lives. Lions live in large gatherings known as *prides*, which contain as many as 35 lionesses and cubs, and 2 or 3 adult males. In addition to hunting together, they also guard their territory and raise their young together. Lionesses often "baby-sit" the cubs of their sisters or cousins while they are away hunting. The social behavior is characteristic of lions and separates them from other big cats like the cheetah.

The cheetah is quite a bit smaller than the lion, weighing only 100 to 130 pounds, measuring 4 feet in length, and standing 39 inches at the shoulder. However, what he lacks in physical power, he more than makes up for in speed. The cheetah is the fastest land animal. He can travel up to 65 miles per hour and can accelerate to full speed in just a few seconds. The cheetah's long, slender legs and supple spine allow for this awesome capability. His heavy, 2.5-foot tail helps him balance when executing sharp turns. However, the cheetah's lungs and heart cannot provide him with enough oxygen for sustained running, so he must hunt in short spurts. The cheetah's diet includes smaller antelopes, hares, warthogs, and birds. While hunting, he waits until he is within 100 yards, then races after his prey. This strategy is different from the tactics of other cats, like the lion, which

Deanna Gentry presents the quantities for comparison/contrast and expresses her (three) specific points.

Note that Ms. Gentry has chosen to use the block method; hence, all of the material on the lion appears in one section.

The next section is devoted to the cheetah.

usually pounces on its victims. If the cheetah cannot catch his prey within about 450 yards, he gives up and rests to catch his breath. Cheetahs lead somewhat solitary lives, meeting other cheetahs only to mate. Though they sometimes organize to hunt together, this cooperation is not usually the case.

The lion and the cheetah are both beautiful cats with unique characteristics. The male lion is the more majestic, with his flowing kingly mane and loud, bellowing roar; whereas, the cheetah is the more graceful, with his long, slender legs and swift, captivating sprint. They are both awesome cats to behold in action as they stake out their claims in the wild plains of the African savanna.

Deanna Gentry

C l a s s i f y

Write an informal classification report of about 400-600 words on a topic of your choice.

Remember in selecting your topic that a classification starts with a definable set of items. It then uses <u>one</u> consistent basis of classification to separate those items into categories. Thus, this writing assignment is also a test of logical thinking, and you should try to adhere to the rules regarding **completeness**, **exclusivity**, and **appropriateness** that are explained on page 156.

The best way to avoid logical problems is to be sure that you use **one consistent basis of classification**. You may, of course, choose to create a two-level classification in which you first separate your items on one basis and then separate each of the resulting categories on a second basis.

In addition to meeting the logical requirements of **completeness**, **exclusivity**, and **appropriateness**, try to define a set of items and a basis of classification that will result in a manageable number of categories. For example, attempting to classify all personal computers by manufacturer would result in an impossibly large number of categories; however, limiting the classification to the five best-selling personal computers in the United States would be manageable.

Format Requirement:

Label the sections of your report with appropriate, informative headings. If you are going to use two or more levels of headings, as in the examples which follow, make sure that your headings visually communicate their hierarchical relationship. Your reader should be able to determine which heading is subordinate by its appearance. Do not, however, rely on your headings to identify the subject matter. Name the objects you are describing in the text. Read ID: Information Design on page 159, General Guidelines for Good Document Design on page 160, and Headings on pages 161-162. This report may be submitted to Turnitin.com, so read Plagiarism on pages 220-221.

Classification of Caves
by Source of Formation

Caves play an important role in man's present-day environment but in ways other than the providing of shelter. They must be dealt with when drilling for oil wells; they can be a source of water for dry regions; and they may cause problems when building structures that may collapse if a cave exists under them.

Caves originate in a variety of ways, depending on their relationship with the host rock. The two major groups of caves are primary caves and secondary caves.

PRIMARY CAVES

Primary caves form during the time when the host rock is being laid down for solidifying. The cavities in lava that result from the cooling of magma around pockets of gases are an example

Lava Caves

Several kinds of caves are known to form during the cooling of lava discharged from volcanic vents. Most spectacular are lava tubes. Lava tubes are the result of cooling and solidification of the surface of a lava flow accompanied by the draining of the still-molten interior to leave the characteristic cylindrical void. The solidified lava streams form the floors as the magma cools. Lava tubes are embellished by a variety of dripping and flowing lava structures, notably stalactite-like lava pendants resulting from drippage of the cooling ceiling or remelting by hot gases. Lava tube systems occur throughout the lava fields of the northwestern United States and in almost all lava flows around the world that have not suffered excessive erosion.

Coral Caves

With the progressive expanding and uniting of colonies of coral in shallow, warm waters, submarine voids remain between the lacy walls of the living reef. Where shorelines have risen or sea level fallen, these coral caves have been exposed to wave action and surface weathering, both of which tend to enlarge or obliterate the voids and their features. Where reefs have been deeply buried by later sediments, the cavernous reef rock has formed reservoirs of ground-water and petroleum.

Tufa Caves

Where surface streams heavily charged with calcium bicarbonate are exposed to a warm, arid, or tropical environment, calcium carbonate can be deposited rapidly, along with suspended matter, in a form called tufa. The process is aided by aeration in spray, facilitating evaporation and the release of carbon dioxide. Plant life, especially mosses, aid evaporation and supply a ready matrix for deposition. As tufa-laden streams plunge over cliffs and canyon walls, umbrella-like canopies build outward from the spray. These enclose small caves in terraces of alcoves.

SECONDARY CAVES

Secondary caves develop after consolidation of the host rock, in some cases after the passage of several geologic periods. Limestone solution caves and sandstone rock shelters are the most common examples.

Shoreline and Water Worn Caves

The action of water along the shores of streams, lakes, and oceans plays a major role in the generation of caves. Sea caves form where a sea cliff, either containing incompetent rock at tide level or weakened by fracturing, is exposed to wave action. Quarrying takes place through grinding by contained particles that range from sand to boulders and by hydrodynamic pressure changes within the waves which pry cliff blocks loose. Chemical processes and the boring of organisms also aid in the excavation of sea caves. Streams and rivers also are effective in quarrying caves in the banks, using as tools the contained silt, sand, and gravel, particularly during flood stages.

Weathering Caves

Innumerable honeycomb-like cavities, small caves, and rock-shelters result from exposure of rock faces to the elements. Weak zones in the rock are attacked and excavated by rain, wind-driven sand, and alternating freezing and thawing, hydration and drying. Spring sapping by water seeping through cracks aids in the quarrying process, as do plants growing from the rock or tree roots wedging apart its blocks.

Descriptive phrases such as "umbrella-like canopies" and "translucent blue-tinted tunnels" are not used for decoration. They help the reader see the subject more accurately.

As a general rule of style, primary headings should be followed by some prose that introduces the entire category's characteristics and components.

Compounding subjects, verbs, and objects makes this prose efficient, increasing the ratio between the amount of information and the number of words.

3

Ice Caves

Although ice is considered as a rock by geologists, caves formed therein result more from melting than from a mechanical process. Meltwater flowing beneath glaciers sculpts intricate labyrinths within and along the base of the ice. Similarly, in snowfields, streams and wind currents create translucent blue-tinted tunnels whose scalloped semicircular walls become glazed with ice.

Caves have played an influential role in man's life throughout history. Most of the world's surface is underlain by caves and solution conduits. A knowledge of these caves and their uses can assist man in the future.

Robert Gunter

This report's brief conclusion does not attempt to summarize, but it does provide a clear sense of closure.

__Suggestion:__
Try to repair the awkwardness of the opening paragraph by making the first sentence more direct and making the clauses that compose the second sentence parallel.

Classification of My Favorite Starbucks Drinks by Season

Fall and Winter Drinks

During fall and winter, the best drinks are those that warm the tummy and give a person the feeling of the holidays in their stomachs. My favorite drinks during these seasons are always hot, in a festive red cup, and usually more spiced than my typical coffee order. There is something about the extra nutmeg included in these drinks that make them perfect to enjoy in cold weather.

Salted Caramel Hot Chocolate

The Salted Caramel Hot Chocolate is my absolute favorite Starbucks drink from the months of October through March. While the original hot chocolate is good, the Salted Caramel has toffee nut, caramel syrup and the perfect finishing touch of salt to bring it all together. A size grande totals in at about 360 calories. It is perfect for an icy, wintery day in December or January.

White Chocolate Mocha

The White Chocolate Mocha is a classic drink that is served year-round, hot or iced. While many people enjoy this drink iced during the summer, I enjoy it most as a hot drink during the colder months. This drink has very little actual coffee in it and is mostly comprised of syrups and milks. This drink in a size grande rings in at around 430 calories. It is not a drink that one would want to order when they actually need a boost of caffeine, but more of a treat to enjoy on a relaxed day.

Spring and Summer Drinks

During warmer weather months, I almost never order a hot coffee of any kind. Iced and frozen coffees are my absolute favorite, so hot weather is the perfect excuse to order as many iced coffees as my heart desires. Cold coffees are the best drinks for a warm, summer afternoon. In my opinion, iced coffees are also superior to hot coffees because there is no chance the tasty drink will result in a burnt tongue.

Kaci Yancey makes her set of items manageable by limiting the set to her "favorites."

Suggestion:
An introductory paragraph would be useful.

Ms. Yancey provides overall descriptions of the two primary categories.

Ms. Yancey identifies each example in her textual dexcription rather than relying on the headings. Her descriptions of examples are parallel and address the same characteristics such as calories for each type.

Ms. Yancey inserts a page break at the end of this first page to avoid having the heading Cold Brew Coffee "orphaned" at the bottom of the page.

Cold Brew Coffee

      Cold Brew Coffees from Starbucks have many perks. My favorite way to order a cold brew is to add two pumps of sugar free vanilla syrup, a dash of almond milk, and two Splendas. A size grande in this drink will total up to around 100 calories. They are delicious, easy to change up with different flavor combinations, and contain around double the caffeine as a hot coffee due to their specific brewing process.

Iced Almond Milk Latte

      The Iced Almond Milk Latte is a perfect drink to get when trying to avoid too much sweetness. The almond milk dilutes the coffee enough to make it drinkable, but leaves out all the added sugar from syrups and heavy creams. This drink also rings up at around 100 calories for a grande size. It is a refreshing drink to order when not wanting to get bogged down from a sugar crash.

Kaci Yancey

Classification of Whales by Feeding Pattern

Whales are a group of exclusively aquatic mammals found in all oceans and contiguous seas. These massive creatures are typically characterized by torpedo-shaped bodies with forelimbs shaped as flippers and no external hindlimbs. Most whales have a dorsal fin and a fluke or tail that is horizontal, not vertical like that of most fish. Whales belong to the order Cetacea, which zoologists divide into two suborders: Mysticeti (baleen) and Odontoceti (toothed).

MYSTICETI

Baleen whales are filter feeders. These whales feed mainly by straining krill and other crustaceans from the water as the massive creatures swim along the surface with their mouths open. Members of the Mysticeti suborder divide into three living families: Balaenopteridae includes the rorquals (baleen whales having longitudinal grooves on the throat and a small pointed dorsal fin); Balaenidae, the right whale family; and Eschrichtidae, the gray whales.

Balaenopteridae

The Balaenopteridae family includes the rorquals—blue whales, fin whales, sei whales, Bryde's whales, minke whales, and humpback whales. The rorquals all have similar body shapes and differ mainly in size. They range in length from 30 to 100 feet, depending on the species and sex of the animal. The main food source of this family is various species of krill. Animals such as small squid and fish are occasionally taken by rorquals.

Balaenidae

The Balaenidae family includes the right whales, the Greenland or bowhead whale, and the pygmy right whale. Historically, these whales occur mainly in cold and warm-temperate coastal waters around the world. Right whales feed almost exclusively on copepods (crustaceans) and krill.

Eschrochtidae

The Eschrichtidae family includes only gray whales. Gray whales are of medium size, ranging in length from 38 to 49 feet, but may attain lengths of up to 50 feet. This species is located in the north Atlantic and western Pacific Oceans, but has been hunted to near extinction. These animals are

Kimberly Horton's good, clear, specific examples–e.g, the names of the whales in this subclass– prepare the reader for the more detailed discussion of these whale families below.

Using common names as well as the scientific terminology helps the reader identify the whales more readily.

All subparagraphs provide distinguishing characteristics of members of each

bottom feeders. Gray whales feed mainly by sucking up minute shrimplike crustaceans.

ODONTOCETI

The toothed whales are known, by nature lovers, for their complex echolocation signals and distinguished by the presence of teeth, which they use to capture and tear prey. The toothed whales feed mainly on fish, squid, and shrimp. The three living families of Odontoceti are Platanistoidea, including all river dolphins; the Delphinoidea family, the marine dolphin family; and Physeterroidea, which includes sperm and beaked whales.

Platanistoidea

The Platanistoidea family includes only river dolphins. A healthy adult specimen ranges in size from 4 to 10 feet, depending on the species of the animal. These graceful creatures feed mainly on fish and are located in warm-temperate waters.

Delphinoidea

The Delphinoidea family includes marine dolphins, porpoises, narwhals, beluga, pilot, and killer whales. These mammals range in size from 6 to 20 feet in healthy adults, depending on the species and sex of the animal. This family's habitat ranges from cold to warm-temperate waters. Marine dolphins, porpoises, narwhals, beluga, pilot, and killer whales feed on small fish, squid, and occasionally, on other small mammals and birds.

Physeterroidea

The Physeterroidea family includes only the sperm and beaked whales. These creatures range in size from 20 to 40 feet, depending on the species, with the male slightly larger than the female. These whales range from cold to warm-temperate waters. The sperm and beaked whales feed on fish and large deep-water squid.

Whales of all types and sizes inhabit every ocean and adjoining sea in the world. They play an important role in maintaining the delicate equilibrium of their habitats. An extensive knowledge of these creatures can help man to keep this fragile balance as well and not push these graceful creatures toward the edge of extinction.

Kimberly Horton

The name of each type is repeated in the textual description, so Ms. Horton's reader does not have to rely on the headings.

In general, Ms. Horton describes the same characteristics in the same order for each subset. This sort of rhetorical parallelism helps her reader make comparisons.

Instead of summarizing, the brief conclusion asserts the value of increased understanding of whales.

Classification of Dogs by Breed Size

Dogs were domesticated from the gray wolf over 15,000 years ago and are known to be the first type of animal domesticated. People have them for pets all over the world. A dog's behavior is based on what they have been bred or trained to do. Select breeds are used for certain jobs such as hunting, protection, working, companionship, and many other things. People choose the breed of their dog based on their purpose for buying it. Breeds of dogs have different sizes including: giant, large, medium, and small.

GIANT

Dogs that are thought to be a "giant breed" are categorized according to certain aspects of their physical appearance. Most giant dogs weigh 100 pounds or more and are five feet or taller when standing on their hind legs. Three examples of giant breeds of dogs are: the mastiff, the Great Pyrenees, and the Saint Bernard.

Mastiff

Mastiffs weigh from 100 to 150 pounds. The basic mastiff is tan in color with some black on its face and feet. Mastiff dogs are bred and trained mainly as guard dogs for protection of the owner or protection of valuables. Mastiff breeds have different specifications based on where they are from. For example, Alpine mastiffs originated in Switzerland and the Cuban mastiff originated in Cuba.

Great Pyrenees

The Great Pyrenees can grow from 80 to 120 pounds. Their coats are white and have very thick and long hair. The Great Pyrenees are very gentle and affectionate. They can be pets but mostly are bred and trained to be livestock herders. Many goat farmers keep this breed of dog in the pen with their goats to keep them under control and take care of any predators that come around.

Saint Bernard

Saint Bernards are between 140 to 260 pounds. They can be smooth haired or rough haired and are mostly red and white with some brindle mixed in. Saint Bernards have been bred mostly as working dogs. They are

Chelsea Mason's report covers a large set of items, all dogs. Selecting a large set of items often makes it difficult to be comnplete and exclusive, but becasue she uses a single, clear basis for classification (size) and notes that she is only describing examples of each category, her classification is logical.

In each description, Ms. Mason mentions weight, appearance, and the primary activity of each breed in the same order. In the description of the mastiff, she also mentions where the breed originated, but she does not mention the place of origin of other breeds.

used widely in the Swiss Alps as rescue dogs for lost mountain climbers and workers.

LARGE

The large breed of dogs tend to be slightly smaller than giant breeds. On average, large dogs tend to measure 25 inches to their shoulder and weigh from 40-110 pounds. Three good examples of large dog breeds are: Dalmatian, Collie, and Rottweiler.

Dalmatian

The average Dalmatian weighs 37-71 pounds and is 21-26 inches to the shoulder. A Dalmatian's coat is completely white with black and brown spots all over it. The fur is usually short, dense, and fine but occasionally one will have longer hair. Dalmatians have been trained at several different jobs including: guard, rescue, athletic partner, and family pets.

Collie

Collies are lightly built weighing from 25-55 pounds and are stocky. Their fur can be long, short, or flat and their tails are bushy, smooth, or feathered. A Collie's fur can come in a variation of colors including black, red, black and tan, red and tan, and sometimes white. Collies are trained as working dogs because they're very energetic. They herd sheep, cattle, and other livestock.

Rottweiler

Rottweilers weigh 88-110 pounds and are 24-27 inches to their shoulders. They have an outer coat and an undercoat. The other coat has a medium length and is very dense. The undercoat is short and soft. A Rottweiler is mostly black with clearly defined tan places on the face and head. Rottweilers are mostly working dogs used as livestock herders, guide dogs, and police dogs.

MEDIUM

Medium breeds of dog are very energetic and need lots of room to play. They are usually 10-17 inches to the shoulder and weigh 20-40 pounds. Three examples of medium breeds of dogs are: Basset Hounds, Bulldogs, and Chow Chows.

Ms. Mason uses a two-level system of headings-- boldfaced and underlined all caps for the primary level, boldfaced and underlined title caps for the secondary level.

Because Ms. Mason's report includes weights in each description, she consistently uses numerals throughout to make comparison easier.

Basset Hound

Basset Hounds are long dogs weighing 35-50 pounds and are 12-15 inches to the shoulder. Their coats are very smooth and short. Basset Hounds have many different colors including: tri-color, honey and white, red and white, blue and gray, and black and tan. Basset Hounds were bread to be scent dogs. They hunt small mammals such as rabbits by getting their scent and looking for them.

Bulldog

The Bulldog is a very wide and stocky built dog. They weigh 55-60 pounds and are about 14-16 inches to the shoulder. A Bulldog's coat is short, sleek, and flat. They usually have a coat color of red, white, fawn, or brindle. Bulldogs are mainly bred and raised to be family pets. They are very good with children and have a patient nature.

Chow Chow

Chow Chows weigh 55-70 pounds and measure 19-22 inches to the shoulder. The Chow Chow's coat is very thick and fluffy. They can be found in red, blue, black, cinnamon, or cream colors. Chow Chows are most commonly made out to be family pets. They are very protective of their owners and property.

SMALL

Small dogs are considered to be dogs that weigh less than 22 pounds and are shorter than 16 inches. Some are lighter and a lot shorter while others are heavier and quite a bit taller. Three examples of small dogs are: Chihuahua, Yorkshire Terrier, and Dachshund.

Chihuahua

Most Chihuahuas weigh less than 6 pounds and measure 6-10 inches to the shoulder. Chihuahuas can have smooth hair or long hair. Their coat colors can several colors including black, tan, white, or many others. The Chihuahua is kept mainly has a pet, however is not an ideal pet for young children. They are very aggressive and protective of their owners.

Ms. Mason's report is not complete. It does not include all breeds of dogs, but uses examples. She adds a sense of parallelsim to the report by including three examples for each size type.

Yorkshire Terrier

The Yorkshire Terrier or "Yorkie" weighs 3-7 pounds and is 6-12 inches to the shoulder. Their coats are very glossy and silky and found in mostly blue with tan on the face, legs, and chest. Yorkies are kept as family pets and very popularly used as show dogs. They are known for their class and beautiful fur.

Dachshund

Dachshunds are short-legged and long-bodied. They weigh 15-20 pounds and are 6-11 inches in height. A Dachshund's coat can be short, long, or wire haired. They can be single colored such as red or brown, or they can be two colored such as black and tan or wild boar. The term "Dachshund" means "badger dog." They were bred in Germany to hunt badgers for sport but are kept mostly as pets in the United States.

Dogs are very popular among us humans. They have several different uses such as working dogs, hunting dogs, rescue dogs, and (probably most popular) companionship dogs. Having knowledge of the different sizes, breeds, and jobs these animals do will help a person choose which dog best suits what they are wanting the dog for.

Chelsea Mason

Ms. Mason includes the country of origin in her description of Dachshund, but has not identified country of origin for any of the other breeds described. It is best to use the same characteristics in each description.

Ms. Mason does not use a separate heading for her introductory paragraph nor her concluding paragraph. They are not necessary, but it would have been inconsistent if she had used just one or the other

Classification of Data by Properties

All statistical data can be classified as either qualitative or quantitative data, and both qualitative and quantitative data can be broken up into two groups. Qualitative data can be separated into nominal and ordinal levels of measurement, while quantitative data can be divided into ratio and interval levels of measurement.

QUALITATIVE DATA

Qualitative data, often referred to as categorial data, is data that involves characteristics, names, and labels. Even though this type of data does not consist of numbers, researchers can use the data to determine the frequency of any given category. This type of data can be collected through methods such as surveys, general observations, and interviews. Some examples of qualitative data include gender, hair color, and taste. Qualitative data can be categorized into two different subtypes called nominal levels of measurement and ordinal levels of measurement.

Nominal Level of Measurement

Nominal levels of measurement consist of any data that is able to be categorized, but an order cannot be determined. Some examples of Nominal data include marital status, eye color, and ethnicity. Data can be gathered for each of these examples, but there is no way to order or rank the data collected. Numbers can be used in nominal data collection, but the numbers are used as titles rather than holding actual values. For example, football players have numbers on their jerseys that serves as identification and have nothing to do with their ranking.

Ordinal Level of Measurement

Ordinal levels of measurement involve data that has no numerical value attached to it, but the data is able to be ranked in some way. The Likert scale questions are an example of ordinal data. A typical question that uses the Likert scale may include responses such as "strongly disagree", "disagree", "neither agree nor disagree", "agree", and "strongly agree". These levels of response do not involve any numbers at all, but the data can still be logically ranked by the relative magnitude of agreement.

Addilin Brown's introduction efficiently identifies the set of items to be classified and previews the result of that classification.

Ms. Brown provides general descriptions of the two major data types – qualitative and quantitative. Each heading in her report is followed by explanatory text.

This is a two-level classification. Ms. Broiwn uses one basis of classification to divide data into two broad categories and then uses different basis of classification to classify each of those general types.

Ms. Brown uses two levels of headings that are visually distinguished by capitalization.

QUANTITATIVE DATA

Quantitative data involves any data that is quantifiable. This data is made up of numbers that represent different measurements. The data under the category quantitative is often factually sound leaving no room for interpretation. Quantitative data is frequently collected from experiments with instruments that provide numerical measurements. Some examples of quantitative data are height, weight, and length. The data that makes up quantitative data can be labeled as either ratio or interval levels of measurement.

Ratio Level of Measurement

A ratio level of measurement is any numerical data that begins at a starting point of zero. Examples of ratio data include the number of children in a household, voltage, and weight. All of these examples fall into the ratio level of measurement because it is impossible for any of the quantifiable data from these examples to be negative.

Interval Level of Measurement

The interval level of measurement is any data that involves numerical quantities, but there is no defined starting point. Values that fall under this specific category include negative numbers. Some examples of interval data include temperatures and sea level. Both examples have the capability to be negative as well as positive, while zero is not a defined starting point.

Qualitative and Quantitative data are both equally valid for use in statistical studies. By correctly identifying the kind of data used in a study, statisticians can apply the appropriate statistical method to support scientifically sound conclusions.

Addilin Brown

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Write a letter to a Tech administrator, the head of your major department, or to the instructor of this course, as assigned by your instructor. Your letter should not be more than one page long.

In your letter you should propose some change, enhancement or alteration that would, in your opinion, improve Tech, your major program, or this course. You do not need to suggest anything earthshaking, and your letter need not be based on some great dissatisfaction with the present situation. Nevertheless, any institution, program, or course can be improved, and educators welcome constructive suggestions.

You may want to use a four-paragraph structure as outlined below:

1. Identify yourself and your general reason for writing.
2. Present the problem in a convincing manner, but avoid name-calling, blame-placing, and digressive complaining. You may want to **buffer** your "complaint" by noting something positive about the program.
3. Present the solution in a concise, but detailed manner, trying to keep in mind and respond to the probable reasons for this proposed action not having been initiated before.
4. Conclude and offer to discuss your proposal or to lend your assistance in its implementation.

A courteous **tone** is important. You are unlikely to convince someone to undertake your proposal by implying that he or she is stupid or incompetent. Including some praise for the positive aspects of the program may put your reader in a more receptive mood. See the discussion of "you perspective" in Tone on page 153 and Non-Biased Language on pages 217-220.

Format Requirements:

Follow the guidelines for writing a letter as described on pages 163-168. Remember that this letter may be sent to the addressee, and it will represent you to that person; therefore, your letter should **look good**, and it should be **perfectly correct**. Don't ruin the impression you make with careless errrors.

As much workplace communication is electronic, review Email and Messaging on pages 169-171 and Selecting Communication Media on pages 181-182.

1910 S El Paso Ave, Apt. 16
Russellville, AR 72801
February 12, 2020

Dr. Carl Brucker, Department Head
Department of English and World Languages
Arkansas Tech University
Russellville, AR 72801

Dr. Brucker:

I will be graduating with a degree in English and creative writing in December. I have observed the lengths Arkansas Tech and the English Department go to ensure the health of the students during this pandemic. This includes social distancing, wearing masks, and consistently sanitizing the classrooms. Even though this is the case, I find workshop classes sharing a room with other forms of classes, such as lecture-based classes, could potentially compromise the COVID-19 prevention standards the English Department strives for.

As a student at Tech during the pandemic, I have noticed that workshop classes share the same rooms as other forms of classes. Lecture classes require students to face the front of the classroom so that they may view a PowerPoint or other visuals being presented on the projector. Workshops, on the other hand, often require students to be in a circle so they may face each other and have discussions. Since this is the case, workshop classes move the desks to create a circle then move them back at the end of class for the next lecture-based class. In the end, desks are never put back how they are meant to be: fully sanitized and alternate between caution-taped desks and non-caution-taped desks. This usually leads to students not fully social distancing, or it leads to someone from a lecture-based class reorganizing the desks. The person that moves the desks back would be at risk for contracting the virus. There is never a guarantee that all the desks have been sanitized in between classes due to students only sanitizing the desk they sit in rather than every desk they touch.

I believe placing workshop-based classes in the same rooms, separate from the lecture-based classes, would allow the desks to remain stationary in a circle. This would eliminate the problem of moving the desks altogether. Since there are fewer workshop classes than there are lecture classes in the English Department, it should be feasible to schedule two or three rooms for only workshop classes. One room that allows 16 students and one or two smaller classrooms could be dedicated to these workshop classes.

I hope that you will consider my proposal. I believe this may help preserve the health of students and staff in this pandemic. Thank you for your attention on this matter.

Sincerely,
Sydney Shain
Sydney Shain

Sydney Shain's letter uses a variation of the modified block format (page 166) in which the first lines of body paragraphs are indented.

*The first paragraph **identifies the writer** and **provides necessary background** regarding efforts to handle the pandemic in the fall of 2020.*

*The second paragraph **suggests the problem**, that rearranging classroom chairs for both workshop and lecture classes undercuts efforts to provide a safe learning environment.*

*The third paragraph **presents a solution**, the resulting benefits, and a response to concerns about scheduling.*

The conclusion sets an appropriate tone, extremely important in sales or request letters.

*<u>**Suggestion:**</u> Offer to discuss this matter in the conclusion and include a phone number.*

Proposal Letter

1711 Coliseum Drive, MSC 7403
Russellville, AR 72801
May 3, 2024

Dr. Michael Bradley, Department Head
Department of Agriculture and Tourism
Arkansas Tech University
Russellville, AR 72801

Dr. Bradley:

I am a freshman pursuing an Agriculture Business degree here at Arkansas Tech University. I have already taken a few agriculture-focused classes during my first year at this university. These courses have consisted of many hands-on opportunities that have furthered my interest in this field of study. On three occasions, I have been given the opportunity to interact with the livestock that occupy the Arkansas Tech University farm. One of these hands-on lessons required my Animal Science class to handle and medicate a few of the piglets in the hog barns. This was a filthy endeavor.

While the class was warned beforehand that this lab period would involve getting dirty, many students could not dress for the occasion. Students either did not have or did not pack the appropriate footwear for working in the hog barns. Multiple students had piglets defecate on their clothes while handling them. Students were advised to take showers and wash their clothes after the class period. This removed the smell of hogs from most students' clothing, except for their shoes. Many students complained about scrubbing their shoes after the class period, to no avail. This resulted in their shoes staying foul-smelling for the rest of the semester.

I believe the solution to this problem would be to provide students with plastic booties that they can place over their shoes. Plastic booties are already in use on a lot of farms as a biosecurity measure. A valid concern of this solution could be the monetary impact on the department. There should be little to no effect on the department's budget because a pack of a hundred booties should not cost over ten dollars according to Amazon. Plastic booties are inexpensive, easy to store, easy to distribute, and easy to dispose of. Providing booties would protect students' property and give them peace of mind.

While this is not a huge issue for the department, I believe using my solution would improve the student experience with the hog barns. I would be willing to discuss this further with you via email. My email address is plemon@atu.edu. Thank you for your time.

Sincerely,

Presley Lemon

Presley Lemon

Presley Lemon uses the block format (page 167) in which all parts are left-aligned

From the start Ms. Lemon identfies herself and establishes the context for her proposal.

In describing the problem, Ms. Lemon is careful to avoid accusatory language.

In proposing a solution, Ms. Presley addresses the potential concern regarding cost.

Ms Presley's respectful tone increases the possibility of a positive response.

1711 Coliseum Drive, MSC 6071
Russellville, Arkansas
February 14, 2024

Dr. Wan Wei, Department Head
Accounting, Finance & Economics
Arkansas Tech University
Russellville, Arkansas 72801

Dr Wan Wei:

Josiah Carter uses a modified version of the block format (page 167), in which the first lines of the body paragraphs aare indented.

    I am an accounting major apart of the class of 2026. I transferred to Arkansas Tech University in the fall of 2023 and have been enjoying school here. The professors are great, and the classes are necessities to becoming an accountant. Due to being a transfer student there are some classes that do not transfer over due to separate curriculums which is understood.

Mr. Carter opens with positive comments regarding the accounting program in order to buffer his "complaint."

    When students fall a semester back due to transferring in or enrolling in the spring, that requires them to take those prerequisite classes they missed to catch up before the junior year where they are supposed to take Federal Taxes I and Intermediate Accounting I. The issue with those two courses is that they are offered exclusively in the fall semester. Students cannot move on in the degree map until they take those classes. That results in a whole year being tacked on to the students' degree plan, which is costly to the students monetarily, and mentally.

The specificity with which Mr. Carter describes the problem and his proposed solution – identifying particular courses and referencing enrollment numbers – increases the effeciveness of his proposal.

    I understand the potential reasons why those courses are offered exclusively in the fall can range from the workload on the professors, to budgeting in the program. Looking at the course history when these courses are offered, there is no problem getting enough students in the class as there were only six remaining seats in both courses in the fall of 2023. Based on those numbers the appropriate solution would be to lower the seats in the fall to 30 and then provide a section of both classes in the spring which could have 30 total seats as well. Lowering the limit in the fall would ensure there would be sufficient students in the spring. This would reduce the class sizes of these courses which benefits the students because they can develop a personal relationship with the professor, and students learn better that way. The smaller class sizes would also help the professors because they are not grading as many assignments as before, giving them more time to develop their best course plan for the semester. Adding a section in the spring would not be free, but would bring in revenue since the cost of falling back a semester has been reduced, which would encourage more students to come to Arkansas Tech for accounting.

    I hope that you consider this proposal in the near future, as I feel the marginal benefit would exceed the marginal cost. Thank you for your attention to this matter.

Sincerely,

Josiah Carter

Josiah Carter

E x p l a i n

Write an informal report of about 500-1000 words in which you describe a process that you understand well. Remember that the purpose of a process analysis is to allow your reader to understand; you are not writing instructions that would allow your reader to perform the process. Therefore, you should write in the **third person, indicative mood,** and **present tense.** See the discussion of process writing on page 158.

Your choice of topic is open, but you should avoid processes that are too complex to explain adequately in the assigned length. This is not a research assignment, but if you find it helpful to consult some resources, you may. Do not, however, reproduce someone else's work.

Use the Introduction-Body-Conclusion format to organize your report. The introductory section should provide your reader with the necessary background and definitions. The body of your report should be divided into the major steps of the process. These major steps may in turn be subdivided if that seems appropriate. Many processes can be divided into **preparation**, **execution**, and **completion**. Be sure that you use strict chronological sequence with no flashbacks. Your conclusion should summarize the information in your analysis in a concise and readily understood manner.

FORMAT REQUIREMENT:

Your report must include at least one diagram. Be sure that your diagram is accurately labeled and titled. The section on graphics in technical documents begins on page 185. Examples of diagrams and infographics dare on pages 212-214.

This report may be submitted to Turnitin.com, so read Plagiarism on pages 220-221.

The Four Strokes of a Four-Cycle Engine

People use four-cycle engines to power nearly all motor vehicles running on gasoline, as well as many types of watercraft, aircraft, and stationary mechanisms. Four-cycle engines produce power through four fundamental strokes of a piston within a cylinder of an engine. A stroke is the action of the piston moving from one extreme position in the cylinder, either top or bottom, to the opposite extreme position. We refer to the four strokes as the intake stroke, compression stroke, power stroke, and exhaust stroke. These four strokes, displayed graphically in Figure 1, continually occur in this order to produce power.
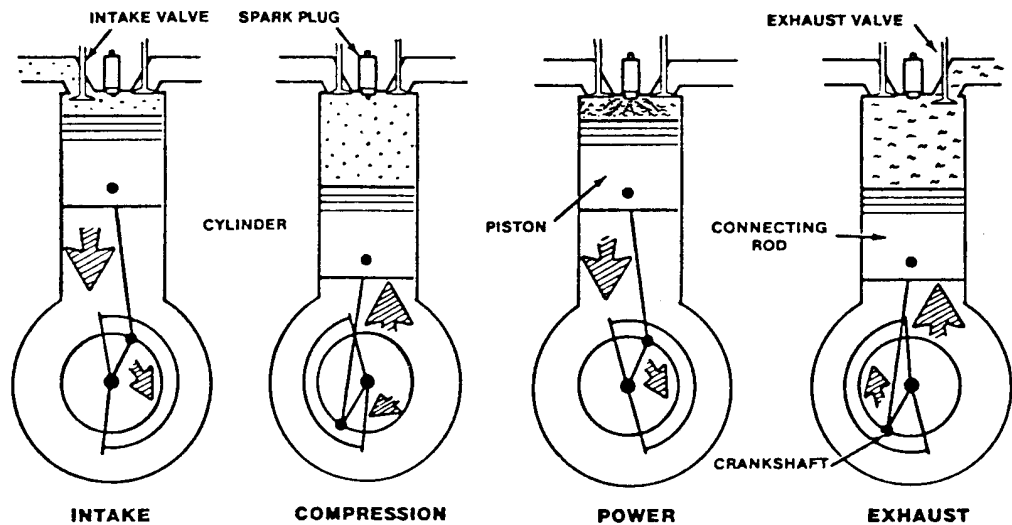
Figure 1: Events of a Four-Cycle Engine
Source: <u>1992 Eastern Gas Compression Roundtable</u>. West Virginia University, 1992, p. 127.

Intake Stroke

The first stroke of the process is the intake stroke. The intake stroke takes place from the top of the cylinder when the crankshaft is at top dead center to the bottom of the cylinder when the crankshaft is at bottom dead center, during which time the crankshaft rotates 180 degrees. The piston moves down during this stroke and the intake valve opens while a mixture of fuel and air flows into the cylinder. Though the piston moving downward in

the cylinder creates a vacuum that pulls the fuel and air mixture into the cylinder, the pressure equalizes by the time the piston reaches the bottom such that at this point the pressure inside the cylinder is at about atmospheric pressure. When the crankshaft is at bottom dead center, the intake valve closes. This forms a sealed container within the cylinder since both valves are now closed, including the exhaust valve which closes before the intake stroke. Figure 1 illustrates this stroke in the image labeled "INTAKE."

Compression Stroke

The second stroke is the compression stroke, which takes place from the bottom of the cylinder with the crankshaft at bottom dead center to the top of the cylinder with the crankshaft at top dead center. During this time, the crankshaft rotates a second 180 degrees such that it has rotated one full revolution since beginning the process. As the cylinder moves up to the top of the cylinder during this stroke, the cylinder volume reduces and in turn increases the pressure in the cylinder of the trapped gases comprising the fuel and air mixture from the intake stroke. Figure 2 illustrates this increase in pressure during the compression stroke from bottom dead center (BDC) to top dead center (TDC).

Power Stroke

The third stroke is the power stroke. At this point an electrical discharge through the spark plug ignites the compressed mixture of fuel and air, residing in the cylinder, causing a rapid increase in pressure in the cylinder when the crankshaft has rotated approximately twelve to fifteen degrees from top dead center. Figure 2 denotes the point of greatest pressure inside the cylinder by AP. The piston is forced down in the cylinder by the pressure increase being exerted on the top of the piston by the compressed gasses, which results in a power stroke. Like the intake stroke, this stroke involves the piston moving from the top of the cylinder with the crankshaft at top dead center to the bottom of the cylinder with the crankshaft at bottom dead center, resulting in the crankshaft rotating another 180 degrees.

When Mr. Strawn references Figure 1 on the previous page, he directs the reader to a particular, labeled part of that illustration.

Mr. Strawn correctly introduces two acronyms by first writing out the complete phrase and following it with the acronym in parentheses; however, since the acronyms are not used elsewhere in the report, this may not have been necessary.

Suggestion: In this paragraph Mr. Strawn should be sure that his reader understands the acronym AP (atmospheric pressure).

Figure 2: Events — Pressure over Time
Source: 1992 Eastern Gas Compression Roundtable. West Virginia University, 1992, p. 130.

Exhaust Stroke

The exhaust stroke, which is the fourth and final step of the cycle, comes about when the piston reaches the bottom of the cylinder and the crankshaft is at bottom dead center. When this occurs, the exhaust valve then opens. The pressure in the cylinder is above atmospheric pressure when the exhaust valve opens, so much of the burnt and remaining unburnt gases simply flow out of the cylinder past the exhaust valve through the exhaust port. As the piston moves toward the top of the cylinder, the piston pushes the remaining gases out of the cylinder through the exhaust port. Like other strokes, the crankshaft rotates 180 degrees during the exhaust stroke while the piston moves from the bottom of the cylinder to the top of the cylinder. When the piston reaches the top of the cylinder and the crankshaft is at top dead center, the exhaust valve closes.

Narrative

The entire process of these four strokes takes two complete revolutions of the crankshaft (720 degrees). Though the process requires four strokes, only the power stroke produces useful work. Momentum formed during the power stroke, which increases the speed of rotation of the crankshaft, allows the crankshaft in the engine to rotate throughout the other three strokes. Though there are other necessary processes involved with other sundry components of a four-cycle engine, these four strokes comprise the most fundamental aspect of how a four-cycle engine produces power.

Todd Strawn

Figure 2 is a technical illustration that is not fully explained in the text.

__Suggestion:__ It might have been better to omit Figure 2 in this sort of general description of the process. If included, it needs to be explained more fully.

The system of headings is simple and consistent, emphasizing the steps of the process, but the topics discussed are renamed in the text so the reader does not need to rely on the headings to understand the discussion.

The Metamorphosis of a Butterfly

Metamorphosis is often defined as "a change in form". Most insects go through the process of metamorphosis as they change from an egg to an adult. Butterflies go through one of the most complex types of development known as complete metamorphosis. It involves four distinct stages: egg, larva, pupa, and adult. Complete metamorphosis is unique in that the larvae are different in form from the adult. Figure 1 below displays a graphical presentation of the butterfly's metamorphic process.
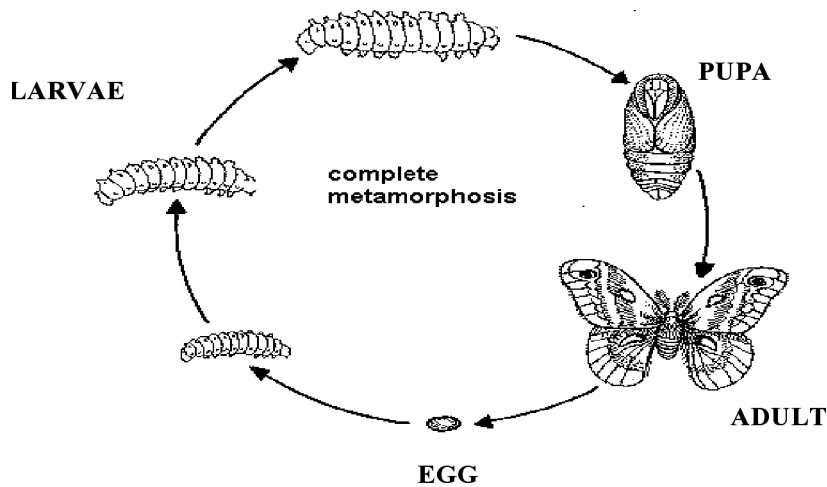
Figure 1: Stages of Metamorphosis
Source: P. Powell, Insect metamorphosis (1995). *West Virginia Extension Service*. Retrieved Febraury 20, 2004, from http://www.caf.wvu.edu/~forage/4002.htm

Egg Stage

All butterflies start out their lives as tiny eggs that are usually laid on the underside of plant leaves. Some other locations include flower heads and crevices in trees. Either way, the location is usually the future food source for the hatched larva. The egg is fixed on the plant with a glue-like chemical produced by the mother butterfly. The eggs come in all shapes and sizes and can be laid individually or in groups. The egg usually matures in about three days; and in the meantime, the larva is nourished by the yolk inside the egg. The developing larva receives air and water through an entrance on the egg called the micropyle. When the egg is ready to hatch, the larva chews through the eggshell and then consumes the entire egg as its first meal.

Metamorphosis in butterflies is an example of a natural process that makes a good topic for this process analysis assignment.

Chanda Adams introduces her graphic in her body text and places it before her explanation, providing her readers with a visual overview and allowing them to easily refer back to it as they read the descriptions of the steps.

Ms. Adams uses APA style for her source note. In MLA style her source note would have been: Paul Powell, "Insect Metamorphosis." West Virginia Extension Service. 1995. 20 February 2004. <http://www.caf.wvu.edu/~forage/4002.htm>.

Ms. Adams uses a page break after the paragraph describing the Egg Stage, to avoid leaving an orphaned heading at the bottom of this page.

Larval Stage

The larva, also known as a caterpillar, is equipped with simple eyes, strong mandibles, three pair of jointed legs in the front, and five pair of grasping prolegs in the back. Caterpillars come in many different colors and patterns, and some also have hair on their backs. The larval stage lasts from about two weeks to a month. This stage is also known as the "feeding stage" for the young caterpillar as it eats constantly and grows at a surprising rate. Due to this quick rate of growth, the caterpillar's skin (exoskeleton) becomes too tight and must be shed off. The caterpillar molts several times as it continues to grow, with each stage of growth being referred to as an instar. When the caterpillar reaches its limit of growth, it stops feeding and prepares to pupate (turn into a pupa).

Pupal Stage

During the pupa stage, the caterpillar locates a safe place such as a tree limb or leaf where it can spin a silk pad and attach itself upside down by its tail end. Some may even sit upright with a silk girdle wrapped around their mid-section to support them. The larva begins to molt for the last time leaving a soft, fragile pupa. The pupa, often called a chrysalis, hardens and becomes greenish or brown in color with thorn-like bumps so that it blends in with leaves and bits of wood. This stage is a resting period during which a butterfly forms inside the pupa. The caterpillar inside the chrysalis releases chemicals that turn its body into a liquid mush. Soon after, legs and wings are developed and compound eyes and antennae emerge.

Adult Stage

The final adult stage of the metamorphic process is when the adult butterfly hatches from the pupa. At first, the butterfly's wings are wrinkled up and wet; however, the butterfly pumps fluid from its abdomen through the veins in its wings. After the wings are built up, the butterfly hangs upside down for an hour or more to let its wings dry before it attempts to fly. At this point, the butterfly is fully developed and ready to fulfill its sole purpose, to reproduce. The adult butterfly has a short life span, although it varies in different species. Some may only live a few days and others may live up to 12 months; the life span of most, however, falls within this range.

The metamorphosis of the butterfly is one of the most amazing processes in nature. On the surface, it is hard to comprehend how such a beautiful being can evolve from the simplest little worm. This transformation of the butterfly from egg, to larva, to pupa, to adult is only one of the many examples of the never-ending cycle of life.

Chanda Adams

Ms. Adams repeats the name of the step she is describing in the body of her paragraph rather than using a pronoun reference (i.e. "this stage") that would force her reader to check back to the heading in order to understand the statement.

Ms. Adams does not use headings for her introductory or concluding paragraphs.

Human Digestion

Introduction

The human body performs the complex process of digestion multiple times every day, providing nutrients and energy from food. The digestion process begins as soon as the person consumes the food and continues for several hours after consumption. The nutrients from the food are broken down into a liquid mixture and the remaining portion is converted into waste. The primary digestive tract converts the food into a liquid mixture after the food is eaten. Within the next two hours, the secondary digestive tract processes the liquid mixture and prepares it for elimination as waste.

Primary Digestive Tract

The formation of saliva in the mouth activates the digestive process by clinging to the food. The saliva makes it easier to swallow the food so that the food can move along the digestive tract into the opening of the esophagus. The esophagus is the second part of the primary digestive tract and looks like an elastic tube, moving food from the back of the throat to the stomach. In the time that in takes to eat lunch, the esophagus is already moving food along the digestive tract to the stomach. As the small pieces of food move down the esophagus, the stomach secretes gastric juices that break down the food. The gastric juices in the stomach play a vital role in the digestive process, allowing food to move on to the secondary digestive tract.

Secondary Digestive Tract

From the stomach, the food enters the small intestine, which is twenty-two feet in length. The small intestine further processes the food mixture with help from three important organs: the pancreas, liver, and gallbladder. The pancreas is responsible for producing juices that assist with the digestion of fats and protein. In addition to producing bile, a juice that aids with the absorption of fats into the bloodstream, the liver filters out harmful substances or wastes and determines how many nutrients will be passed on to the rest of the body. The gallbladder functions as a temporary storage for bile to be used when the body needs it. This unique digestive process allows the body to absorb proteins, vitamins, minerals, carbohydrates, and fats from the food that is eaten everyday. The secondary digestive tract provides essential nutrients while extracting the waste products for elimination.

Elimination of Waste

After the extraction of nutrients, the remaining liquid mixture moves along the digestive tract as waste or material that cannot be used by the body.

In contrast to Chanda Adams' report on butterfly metamorphosis, Julia Pope uses headings before her opening and concluding paragraphs. Chanda's approach emphasizes the logical division of the process into four phases; Ms. Pope's approach emphasizes the major divisions of the process. Either approach is acceptable.

Ms. Pope uses transitions at the beginning and end of sections ("from the stomach," "after the extraction") to guide her reader through the process description.

If there had been fewer than two lines of text under the heading Elimination of Waste, Ms. Pope would have used a page break to force the section to the next page.

2

The waste travels to the large intestine. The large intestine is wider than the small intestine, but not nearly as long. Although the appendix is not vital to the digestion process, this organ is attached to the large intestine. The elimination process begins with the colon, which is part of the large intestine. The colon processes the waste for final elimination to include removing any water from the waste. As the waste product becomes harder, the large intestine pushes the solid waste into the rectum, which is the very last stop on the digestive tract. The solid waste stays in the rectum until the elimination process is complete. The elimination of waste provides a filtering mechanism that allows the body to remove any unnecessary substances. The human digestive system is shown in Figure 1.

Ms. Pope includes an informative diagram that she found at the KidsHealth online site. Unlike Ms. Adams in the previous example, Ms. Pope places her diagram near the end of the report. That is all right, particularly in a short report of this sort, but she should have referred to the figure early in her text, so readers would be alert to its presence and could refer to it while reading the description.

Figure 1: Digestive System
Source: "The Real Deal on the Digestive System." KidsHealth. 27 February 2004. http://kidshealth.org/kid/body/digest_noSW.html

Conclusion

The report has efficiently presented the basic phases of the digestive process and Ms. Pope concludes her report with a three-sentence summary.

Although the digestive process is a complex system of absorbing nutrients and removing waste, the digestion of food is vital for supporting the human body. The primary digestive tract prepares food for the conversion to nutrients, while the secondary digestive tract extracts vitamins and nutrients that are necessary for sustaining life. The body then allows for the elimination of waste to ensure that the digestive process functions properly.

Julia Pope

Process of Human Decomposition

<u>Introduction</u>

All life that begins must also end. Thousands of people die each day, and the process of decomposition begins right after they pass. Many factors including moisture, oxygen, temperature, and PH can affect the rate of decomposition for a corpse. This process can be broken down into four stages; autolysis, bloat, decay, and skeletonization. Refer to figure 1 below as a reference to what these stages might look like.

Figure 1: Process of Decomposition Visualized

Source: Cohen, Alan. "Home." 5 Stages of Human Decomposition | Bio SoCal, 2 Feb. 2019, 6 March. 2022 https://biosocal.com/what-are-the-stages-of-human-decomposition/.

Autolysis

Autolysis is the first stage in the decomposition process that also known as the "fresh" stage. This stage begins 24 to 72 hours after death in which blood circulation and breathing stop, so the body cannot receive oxygen or release waste. In addition, bacteria in the intestines break down intestinal walls, which causes membrane cells to rupture from excess carbon dioxide. This causes enzymes to release and begin eating those cells from the inside out. Rigor mortis causes muscles to stiffen and small blisters to appear on the skin and internal organs. The body will appear to be shiny and over time the top layer of skin will begin to loosen. Insects may begin to lay their eggs on and in the dead body to hatch at a later period.

Like Ms. Pope's preceeding report on the digestive system, Madison Holmes uses headings for the Introduction and Conclusion, but unlike Ms. Pope she uses underlining to make those two headings visually distinct from the headings for the four stages of decomposition.

Ms. Holmes refers to her graphic in the text and includes a label, title, and full source note.

Ms. Holmes is careful to rename the topic of each phase in its textual description rather than relying on the heading alone to identify the topic.

Ms. Holmes uses parallelism in the descriptions of the phases of decomposition, metioning similar characteristics in the same order.

Bloat

Bloat is the second stage in the decomposition process. This stage happens between four and 10 days after death in which the body starts producing gases due to bacteria multiplying. As these gasses build up, the skin will begin to turn a green color, and the body may double in size. One may notice that the face, in particular, will be bloated. In addition, insects will begin to appear on and in the dead body, which leaves a potent odor called putrefaction. This scent can linger even after the body is gone.

Decay

Decay is the third stage in the decomposition process also known as "active and advanced decay" stage. This stage occurs 10 to 50 days after death in which fluids release and the decay process begins. Skin, organs, and muscles will become liquid because the body's soft tissue breaks down from the insects that feed. However, bones, cartilage, hair, and ligaments are not broken down in this process. The skin will become black in color and release fluids into the ground below. Insects will continue to break down parts of the body until all the remaining nutrients are used up. This stage is where most of the body mass will be lost.

Skeletonization

Skeletonization is the last stage in the decomposition process also known as "dry remains" stage. This stage finishes 50 days or more after decay in which collagen and inorganic components are lost. Most fluids are dried up and bones remain along with small amounts of hair. The bones will become light in color and will eventually mend with the earth.

<u>Conclusion</u>

Decomposition of living things is an essential process to keep ecosystems functioning. This process, particularly, is not seen at one time, although, it can be easily understood. The four steps: autolysis, bloat, decay, and skeletonization combine to feed insects and dispose of life that once existed.

Madison Holmes

Write an informal report of about 400-600 words that will enable someone else to complete a procedure assigned or approved by your instructor.

Your instruction set should have an introduction in which you inform your reader of required materials, provide an overview of the process, and explain the system of notation that you will use.

The body of your instruction set should consist of clearly numbered instructions. Each instruction should ask your reader to perform a single task. Each instruction should be **autonomous**. Your reader should not have to refer to anything outside of the instruction in order to understand it. Read Lists in Technical Writing on page 183 to review the basics of ordered and unordered lists.

Use **checks** or **warning notes** to help your reader along the way. It is particularly useful to provide a check at the end, that will help your reader know if he or she has completed the assignment correctly. Try to test your instruction set before handing it in. Read Testing Writing on pages 142-143.

STYLE NOTE

Do not be afraid to repeat identical syntactical structures. Sentence variety is not important in a writing situation such as this. **Parallel sentence structures** can help your reader recognize the similarity of repeated actions. Similar actions should be described in similar words.

WARNING

Your instructor may require that your instruction set be tested by someone else in the class. If that is the case and the person who tests your instruction set is unable to reproduce the procedure <u>perfectly</u>, your grade will be lowered. Thus, it is important that you pre-test your instructions and do everything you can to "idiot proof" them.

Instruct

Instructions for Building Model Y

Following are the instructions for building model "Y" out of colored plastic blocks. There are two segments of instructions. The first segment is an inventory of the blocks needed to build this model. The second segment is concerned with the actual building of the model. The only equipment needed is the listed set of blocks, which is provided. Throughout these instructions the structures on top of the blocks will be referred to as pips.

Blocks Needed

The following list of blocks is sorted according to the color of the block and the number of pips on the top of the block. The number preceding each block indicates the amount of that particular type of block you should have.

> 1-Blue block with 8 pips
> 1-Red block with 8 pips
> 1-White block with 8 pips
> 1-Green block with 4 pips
> 1-Yellow block with 4 pips
> 1-Blue block with 4 pips
> 1-Yellow block with 2 pips
> 1-White block with 2 pips
> 1-Red block with 2 pips

You should have a total of nine blocks. If not go back through the list to determine what is missing or what has been added.

Building the Model

Once you have determined that you have the necessary blocks for this model you are ready to begin building it. **Note,** once you begin building the model **Do Not** turn the model at any time. It should always stay in the same position in which it was started. Each step in this section describes the placing of a separate block.

1. Select the blue block with 8 pips and place it in front of you with one of the short sides facing you.
2. Select the white block with 8 pips and turn it so that one of the short sides is facing you. Place it on the blue block so that the left row of 4 pips on the white block is covering the right row of 4 pips on the blue block.
3. Select the red block with 8 pips and turn it so that one of the short sides is facing you. Place it so that the right tow of pips covers the 4 remaining pips on the blue block.

In this instance students were assigned to write instructions that would permit a classmate to construct a specific model with a predefined set of building blocks.

Wendy Miller effectively uses a simple system of headings to identify the sections of her report.

This initial list helps the reader check the block set.

Boldfacing is used to highlight an important warning.

Separate enumerated steps present instructions in a syntactically parallel manner: "Select …Place…." this emphasizes the similarity of the actions required.

4. Select the green block with 4 pips. Place it on top of the red and white blocks in the center. Check to see if there is one, and only one, row of empty pips all the way around the green block. If there is not, move it accordingly.
5. Select the yellow block with 2 pips. Turn it so that one of the long sides is facing you. Place the right pip of the yellow block on the green block so that it covers the left corner pip furthest away from you.
6. Select the yellow block with 4 pips. Place one corner of it on the remaining left corner of the green block.
7. Select the blue block with 4 pips. Place one corner of it on the right corner of the green block that is furthest away from you.
8. Select the white block with 2 pips and turn it so that one of the long sides faces you. Place it so that the left pip covers the remaining green pip.
9. Select the red block with 2 pips and turn it so that one of the long sides is facing you. Place is so that the left pip covers the right pip of the yellow block furthest away from you and the right pip of the red block covers the left pip closest to you on the blue block.

All of the blocks should have been used by now. If not, go back through the steps to see which one you missed.

Final Check

Now you have completed the building of model "Y." Following is a summary of what it should look like.

* On the bottom should be a blue block.
* On top of the blue block there should be a red block on the left and a white block on the right.
* Next there should be a green block centered on top of the red and white blocks.
* On top of the green block there should be two yellow pieces on the left with the smallest block being away from you and the larger block being closest to you. Then on the right there should be a blue block furthest away from you and white block closest to you.
* On the very top of the model there should be a red block that covers part of a yellow block and part of a blue block.

If anything looks like it might be out of place after looking through this list, go back through each of the steps for building the model and make sure you have done everything as indicated.

Wendy Miller

*The numbered steps are **overhung** so that the numbers are prominent along the left margin.*

Ms. Miller uses a row-by-row description as a final check giving her reader an opportunity to catch errors and correct them.

Instructions for Constructing Figure 2

These instructions will allow you to construct Figure 2, a two-dimensional rectangle constructed of twelve (12) individual blocks.

Preparing for Assembly

There are three (3) sizes of blocks used in Figure 2. The first size is a small square block. They will be referred to as 1x1 blocks, with the first number representing width and the second representing height. There are four (4) of these sized blocks in three (3) different colors- two (2) red blocks, one (1) yellow block, and one (1) blue block. The second size is a rectangular block which is the size of two 1x1 blocks placed side by side with the touching sides perfectly lined up to make a 1x2 rectangle. When referred to as being a vertical rectangle, these rectangular blocks will measure 1x2. When referred to as being a horizontal rectangle, they will measure 2x1. There are five (5) individual 1x2 rectangular blocks- one (1) red, two (2) yellow, and two (2) blue. The third size is a large square. It is the size of four small squares (1x1 blocks) put together to make one solid, perfect square. The large square measures 2x2. There are three (3) of these squares- two (2) red, and one (1) yellow.

The following list gives the inventory of colors and sizes.

Size	Color	Quantity
1x1	Red	(2)
1x1	Yellow	(1)
1x1	Blue	(1)
1x2	Red	(1)
1x2	Yellow	(2)
1x2	Blue	(2)
2x2	Red	(2)
2x2	Yellow	(1)

These pieces will be assembled clockwise. To assist with assembly, sketch out a rectangle that is 6x5. All blocks will be placed inside of this sketched rectangle. Be sure to keep the width horizontal and height vertical for all blocks as well as the reference sketch at all times throughout construction of the 6x5 rectangle.

Assembling the Rectangle

During assembly the top side of all blocks must be parallel to the top edge of the reference sketch, therefore making all remaining sides of the block parallel to its respective side of the reference sketch. The width will always be listed before height. We will begin with the blocks along the outer perimeter of the rectangle, starting in the top left corner and progress clockwise.

1. Place the single blue 1x1 small square block with both the top side and left side touching the sketched perimeter in the upper left corner.

2

2.   Place a blue rectangular block horizontally so it measures 2x1. The top width touches the sketched perimeter and the left height touches and lines up perfectly with the right height of the previous small blue square block.

3.   Place a yellow rectangular block horizontally so it measures 2x1. The top width touches the sketched perimeter and the left height touches and lines up perfectly with the right height of the previous blue 2x1 rectangle block.

4.   Place a red 1x1 small square block with both the top side and the right side touching the sketched perimeter in the upper right corner. The left side should also touch and perfectly line up with the right side of the previous yellow rectangle

5.   Place a yellow 1x1 small square block with the top side touching and perfectly lined up to the bottom of the previous red small square. The right side should touch the right side of the sketched perimeter.

6.   Place a yellow 1x1 small square block with the top side touching and perfectly lined up to the bottom of the previous yellow small square. The right side should touch the right side of the sketched perimeter.

7.   Place a blue rectangle measure 1x2 vertically with the top width touching and lining up perfectly with the bottom of the previous yellow small square. The right height should touch the right sketched perimeter and the bottom width should touch the bottom sketched perimeter, making up the lower right corner of the 6x5 rectangle.

8.   Place a yellow 2x2 large square with the right height lined up perfectly and touching the left side of the previous blue rectangle. The lower width should touch the lower sketched perimeter.

9.   Place a red 2x2 large square with the right side height touching the left height of the previous yellow large square. The lower width should touch the sketched perimeter.

10. Place a yellow 1x2 rectangle vertically with the right height touching the left height of the previous red large square. The bottom width should touch the lower-sketched perimeter and the left height should touch the left-sketched perimeter.

11. Place a red 2x2 large square with the left height touching the remaining area of the left sketched perimeter

12. Along the right side of the previous 2x2 large square imagine placing an invisible 1x2 rectangle vertically with the left side of the invisible rectangle touching the right side of the red 2x2 square. Line up the top width of the 1x2 with the top width of 2x2 to make one continuous line along the top.

13. Place the remaining piece, a red 1x2 rectangle vertically with its left height touching the right height of the invisible 1x2 rectangle. Line up the top width of the 1x2 red rectangle with the top width of the 1x2 invisible rectangle to

Mr. Toles uses an enumerated list to help his readers keep track of their place in the instruction process. See Lists in Technical Writing on page 183.

He uses the same syntactic pattern in each individual instruction. This parallelism helps his reader recognize the similarity of the actions. He is careful to describe the alignment and placement of each piece precisely.

__Warning:__ Mr. Toles repeatedly refers to "the previous [piece]" in his instructions. Because he is always referring to the piece that has been placed in the preceding step, it is not a problem, but be careful to make instruction steps self-contained. Avoid forcing your reader to look back at a previous step in order to understand the current step. If Mr. Toles had been referencing "the red rectangle from step 5" in step 9, it could cause mistakes.

make one continuous line along the top.

Final Check

Use the following steps to check your work. If any do not match your final assembled rectangle, please refer to the appropriate steps above to review your work.

1. The height of the final rectangle should measure 5 units tall and the width should be 6 units long.

2. Starting in the upper left hand corner and progressing clockwise, the colors around the perimeter should be as follows- blue in the upper left hand, blue, yellow, red in the upper right hand, yellow, yellow, blue in the lower right hand, yellow, red, yellow in the lower left hand, red.

3. Two yellow 1x1 blocks on the right perimeter make a 1x2 vertical rectangle when viewed together. Touching this new yellow rectangle's left edge and lining up with both top edges is an invisible 1x2 vertical rectangle. Proceeding to the left from this invisible rectangle are a vertical 1x2 red rectangle, another invisible 1x2 vertical rectangle, and finally the red 2x2.

Matthew Toles

Write a memorandum addressed to your instructor in which you evaluate the instruction set assigned to you.

Your memorandum may be divided into paragraphs, and it may use headings, but neither is required. Your memorandum should include an **introduction**, that explains the situation and the purpose of the memorandum; a specific, **evaluative description** of the instruction set you tested; and **detailed recommendations** regarding improvements and/or aspects of the instruction set that should be emulated. Alternatively, you may use an **introduction, strengths, needed improvements** structure, as in the following examples.

Avoid vague judgments in either case. Convince your reader by using specific references or quotations. If you tested the instruction set and it did not work, you will need to show specifically why it failed and how it could be fixed .

FORMAT REQUIREMENTS:

Use the proper format for a memorandum as described on pages 172-173. You are allowed to arrange the top matter in a variety of ways, but the addressee, the sender, the date, and the subject must be clearly displayed. Highlight your subject line and be sure that it clearly describes the subject of your memorandum.

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If the instruction set was unsuccessful, explain exactly how it could be fixed.

Of course, if it failed because you misread it, you will have a tougher time explaining.

<div style="text-align:center">**Memorandum**</div>

To: Dr. Carl Brucker

From: Tyler Bell   *TBS*

Date: February 17, 2022

Subject: **Evaluation of Instructions for Building Model DW1**

On February 14, 2022, I tested the instructions for building Lego Model DW1. I was able to successfully construct the model with the instructions given. I have noted some improvements that could be made to the set as well as some of the instructional set's strengths.

Suggested Improvements:

Despite the instruction set leading me to a successful model, there were a couple of steps that could be more clear or effective for the reader.

- Step 4 could benefit from mentioning the color of the blocks so that it is not confusing which block is being used at the moment. For example, "Select (1) of the blue square blocks, placing it on top of the left side of the red rectangle block, connecting the front two pegs on the long side of the red block and two pegs on the blue block."

- The final check for the layer with the blue blocks could be misread as the two blocks being parallel with each other. I would recommend that the check include a hint/warning similar to "the two blue blocks should be placed in an uneven position."

Strengths

- The hints and checks written with every step made double-checking each step easy. It even helped me make a correction in the middle of the building process instead of during the final check.

- The parentheses helped differentiate between instructions and hints. The overall organization and structure of the set was well done and easy to follow.

- The final check being written layer by layer going up the model made the final check easy to go through after the instructions.

MEMORANDUM

To: Dr. Carl Brucker, Head
            Department of English

From: Juanita Fox ^{JF}

Date: October 8, 1996

Subject: **Evaluation of Instructions for Building Model AB**

On October 1, 1996, I tested the instruction set, prepared by Jeremy D. Aish-man, for building Model AB. Despite some uncertainty regarding the placement of the two final pieces, I was able to build the model successfully. In this memo, I have suggested some changes to improve the instruction set and noted some of its strong points.

Suggested Changes

When carefully followed, the instruction set was easy to complete, but a few changes in its content could be made to avoid confusion that could arise.

- The first block of instructions, "Preparing the Lego Block," should note there are three sizes of blocks to help familiarize the reader with the materials they will be using.

- The "Note" at the end of step 10 which tells the reader to place the block at a 45 degree angle should be part of the actual step. This is important information that should not be noted separately as a check for that step.

- Step 11 contains the same problem listed in step 10 and should be changed also.

Strong Points

The instruction set also has some strong points which enables the reader to build the model correctly.

- The bold type of the enumerated instruction steps allows the steps to stand out, which makes the steps easy to follow in the proper sequence.

As part of the introductory paragraph, Juanita Fox unambiguously states the outcome of her test.

The suggestions and comments are placed in bulleted lists and stated with efficient precision. A bulleted list is acceptable here because the items do not have a necessary sequence. An enumerated list would have the advantage of giving each suggestion a unique identifier such as "suggestion 2."

Brucker, October 8, 1996, page 2

- The "Note" at the end of some of the instruction steps, such as Step 2, provides helpful information to avoid confusion. The "Note" also provides a way to check to see if the step was executed properly.

Although a few changes could be made, the instruction set is logical and clear enough to follow in order to build a lego model correctly.

A n a l y z e

Your instructor may supply you with a questionnaire and data set to use on this assignment, or your instructor may have you write and administer a short questionnaire as part of a group or individually.

IMPORTANT NOTE: If your instructor assigns you to create and administer a questionnaire that will be administered to people outside your class instead of using a prepared data set, you will need to receive approval from Tech's Institutional Review Board. Review Questionnaires and Surveys on page 222.

Write a **memo report** of 500-1000 words in which you present and analyze the data supplied by your instructor or that you have gathered. If you create a questionnaire in a group, the reports are to be written individually. Your report should be organized into three main sections:

1. **Introduction:** a specific and thorough description of the circumstances of data acquisition, including what questions were asked and any other information that will guarantee a full understanding of how the data was gathered.

2. **Presentation of data:** a full presentation of the data, including a full discussion in words and at least one table. (See below.)

3. **Analysis:** a thoughtful discussion of the meaning of the results reported in the second section. This could include speculation regarding the causes, suggested actions that should be undertaken, or predictions based on the information you have gathered.

FORMAT REQUIREMENTS:

Your report should use memorandum format on pages 172-173. Remember to include the second-page headers. Your report must include at least one table. Read Tables pages 186-189.

CALCULATION NOTE:

Percentages are usually more informative than raw numbers, but be careful how you calculate percentages to be sure that they are clear and accurate. See Calculating Percentages on page 188.

Subject: Survey Regarding ATU Library Hours

To: Dr. Carl Brucker, Head

From: Karl Vesecky, Jr. ^KV

Date: November 30, 2003

PURPOSE

A group of four students in the Technical Writing class constructed a survey asking about the participants' feelings towards the ATU library hours. The library is a place where every student has been at one point or another, so this topic seemed valid.

PROCEDURE

The following questions appeared on our survey:

1   What is your age?
       [ ] Under 18 [ ] 18-23 [ ] 24 or over
2   Do you live on or off campus?
       [ ] On [ ] Off
3   Do you have access to a personal computer outside of the library?
       [ ] Yes [ ] No
4   Do you think the library hours should be:
       [ ] Left as they are.
       [ ] Open Later
       [ ] Open 24 hours a day.

After combining all of the surveys that were completed, it was found that forty-two people participated in our survey. These surveys were separated by whether or not the participant lived on or off campus. These two groups were then separated by whether or not the participant had or didn't have access to a computer outside of the library. These two groups were again separated by their answers to the fourth question on the survey.

Table 1 was created by separating the participants by age and whether or not they lived on or off campus. The possible responses for each group were one

Brucker, November 30, 2003, page 2

of three choices: leave the hours as they are, have the library stay open later, or to have the library remain open 24 hours a day. The totals for each were then converted into percentages and recorded in the table.

In creating Table 1, I decided to leave out the question concerning whether or not the participant had access to a personal computer outside the library. I believe this question did not affect the results much, because some participants might have feelings towards the hours even if they had access to a computer. The library houses a lot more means of research besides computer access.

Table 1: Survey of Responses Concerning Library Hours

Age	Library Hours Should Be:		
	Remain Unchanged	Open Later	Open 24 hours
Under 18 Live On Campus	0%	50%	50%
Under 18 Live Off Campus	0%	0%	100%
Under 18 Total	0%	33%	67%
18 – 23 Live On Campus	29%	53%	18%
18 – 23 Live Off Campus	38%	31%	31%
18 – 23 Total	33%	43%	23%
24 & over Live On Campus	…	…	…
24 & over Live Off Campus	33%	44%	22%
24 & over Total	33%	44%	22%
Grand Total	31%	42%	26%

RESULTS

No participants surveyed fit the category or 24 & over who live on campus so no information was recorded in that category.

Note that any memo longer than one page requires an informative header on the second and all subsequent pages.

Mr. Vesecky references his table in his text.

Mr. Vesecky puts a label and a descriptive title above the table.

Rows and columns are clearly identified with headings. Percentages are calculated correctly. The use of subtotals and a grand total add useful information.

Cells with no data are marked with ellipses.

Mr. Vesecky explains the reason for not including one of the data categories.

Brucker, November 30, 2003, page 3

Thirty out of 42 (71%) of the participants surveyed fell into the age group 18-23. Three out of 42 (or 7%) were under 18, and 9 out of 42 (21%) were over 23.

People who were under 18 and lived on campus were split 50-50 on having the library stay open later and it remaining open 24 hours. Those people who were under 18 living off campus tallied in at 100% saying the library should stay open all day and night.

Those participants falling in the category of age 18-23 living on campus proved that they would like the library to stay open later by a response of 53% of the vote. Those who are age 18-23 living off campus reported that they believe the hours are fine the way they are and should remain unchanged.

The nine surveyed people over the age of 24 (who all live off campus) responded by a margin of 44% saying that they would like the library to keep their doors open longer than they currently do.

CONCLUSION

The issue of whether or not the library should change its hours can't be determined on the responses of forty-two people, but just by this survey it can be seen that the library might want to review its hours policy. A majority of people in each category believe the library should stay open later if not 24 hours.

To avoid starting a sentence with a numeral, Mr. Vesecky writes out "Thirty" as a word. He consistently uses the % symbol although most editors would prefer he use a number followed by the word "percent."

Mr. Vesecky's textual presentation of results is often wordy and awkward, but it communicates the most important results and is arranged in a logical order from youngest to oldest.

Mr. Vesecky's conclusion is brief but manages to present the basic message of the survey results clearly.

To: Dr. Carl Brucker

From: Hunter Preis   HP

Date: October 22, 2021

Subject: Questionnaire Regarding Clothing and Personal Preference

PURPOSE

A group of students from the Fall 2021 Technical Writing class developed a questionnaire relating to the personal preferences of the survey participants. Questions pertaining toward exercise habits, clothing, and shoes were included along with personal identifiers.

PROCEDURE

The following questions appeared on the Questionnaire:

1.Do you think you are an introvert or an extrovert?

[ ] Introvert [ ] Extrovert

2.What year are you in college?

[ ] Freshman [ ] Sophomore [ ] Junior [ ] Senior

3.What is your gender identity?

[ ] Male [ ] Female [ ] Other

4.Are you from a more rural area or an urban area?

[ ] Rural [ ] Urban

5.Do you exercise often?

[ ] Yes [ ] No

6.Do you dress more comfortable or stylish?

[ ] Comfortable [ ] Stylish

7.What type of shoes do you prefer?

[ ] Tennis Shoes [ ] Sandals [ ] Boots

After all the questionnaires had been filled out and completed, it was found that twenty-one individuals participated in the survey. The questionnaire was separated by whether a student identified as an introvert or an extrovert. These two groups were then further split by gender identity. After the participant responses had been divided, we identified whether each student was from a rural or urban area, whether or not they exercised often, whether they dressed more comfortable or stylish, and what type of shoes they preferred.

Table 1 was constructed by separating the participants by whether they were an introvert or an extrovert, and if they were male or female. There were no participants who identified as "Other." I decided to leave out what year of college each participant was in because I felt that it would not add any valuable information or have any

impact on the answers to the rest of the questions. The table shows the percentage of participants who chose each option based on personal identifiers. The total percentages for the answers to each question are displayed on the bottom row.

Table 1: Questionnaire Responses Concerning Clothing and Personal Preference

Introvert or Extrovert, Gender		Number of Participants	Are you from a more rural area or urban area?		Do you exercise often?		Do you dress more comfortable or stylish?		What type of shoes do you prefer?		
			Urban	Rural	Yes	No	Stylish	Comfortable	Tennis Shoes	Sandals	Boots
Extrovert	Male	6	17%	83%	33%	67%	33%	67%	33%	50%	17%
	Female	6	50%	50%	83%	17%	17%	83%	83%	17%	0%
Introvert	Male	4	25%	75%	100%	0%	50%	50%	50%	50%	0%
	Female	5	20%	80%	60%	40%	20%	80%	40%	40%	20%
Combined Total		21	29%	71%	67%	33%	29%	71%	52%	38%	10%

RESULTS

From all of the data collected, it was determined that 12 out of 21 (57%) of participants identified as an extrovert, while 9 out of 21 (43%) of participants identified as an introvert. Out of all extroverts, 6 out of 12 (50%) were male and 6 out of 12 (50%) were female. Out of all introverts, 4 out of 9 (44%) were male and 5 out of 9 (56%) were female.

It was determined that 71% of the participants reported being from a rural area with the majority of those being extroverted males. Furthermore, it was found that 67% of all participants exercised often with the majority of those being extroverted females. With regard to clothing, 71% of students surveyed reported that they dressed more comfortably. Again, extroverted females made up the majority. Lastly, it was determined that tennis shoes were the most preferred shoes with 52%, followed by sandals at 38%, and boots at 10%.

Of the extroverted males, 17% were from an urban area, 33% exercised often, and 67% dressed comfortably. Extroverted males who prefer sandals totaled 50%, tennis shoes totaled 33%, and boots totaled 17%. Of the extroverted females, 50% were from an urban area, 83% exercised often, and 83% dressed comfortably. Extroverted females who prefer tennis shoes totaled 83%, and sandals totaled 17%. Of the introverted males, 25% were from an urban area, 100% exercised often, and 50% dressed comfortably. Introverted males who prefer sandals totaled 50%, and tennis shoes totaled 50%. Lastly, of the introverted females, 20% were from an urban area, 60% exercised often, and 80% dressed comfortably. Introverted females who prefer sandals totaled 40%, tennis shoes totaled 40%, and boots totaled 20%.

Mr. Presie includes a header with the recipient's name, date, and page number on the second and third pages of his memo.

Mr. Preis refers to his table in his body text.

Mr. Preis uses stacked rows and columns to permit the inclusion of a lot of data in one table. Rows and columns are clearly labeled and the aggregate and disaggregate percentages are calculated correctly.

In his thorough textual presentation of results, Mr. Preis includes both raw numbers and percentages. He carefully avoids beginning any sentence with a numeral. As in Mr. Vesecky's report, Mr. Preis consistently uses the % symbol. Most editors would prefer he use a number followed by the word "percent."

Brucker, October 22, 2021, page 3

CONCLUSION

The survey shows that there is a fairly even split between males and females as well as whether they identify as introvert or extrovert. It appears that most students are from a rural area. It also appears that the majority of students exercise often, and it should be noted that all of the introverted males exercise often. The majority of students like to dress more comfortably, and as a result, tennis shoes are the most preferred footwear choice followed closely by sandals. It can be concluded that an extremely small percentage of students surveyed prefer boots.

Mr. Preis includes the header on this third page.

Mr. Preis's conclusion highlights a few trends indicated by the data.

To: Dr. Carl Brucker, Head

English Department

From: Charlotte L. Hipp

Date: March 15, 2011

Subject: Hearing Difficulties in Older Congregation

Charlotte Hipp used this assignment to gather information on a perceived problem at her church. She felt that some hearing-impaired members were unable to fully benefit from the services.

PURPOSE

A questionnaire was developed and used to survey the congregation of First Presbyterian Church, Heber Springs, Arkansas, to determine the number of members having difficulty hearing speakers in the sanctuary and for those having difficulty, to learn if they would be willing to use a church-provided hearing device.

PROCEDURE

The questionnaire contained the following questions:

1. Are you male or female?

2. Is your age over 65?

3. Do you have difficulty hearing the minister speaking from the pulpit?

4. Do you wear a hearing aid?

5. Would you wear a church-provided hearing device?

When starting a sentence with a number, Ms. Hipp writes the number out in words. She then appends the numerical version in parentheses.

Sixty-four (64) questionnaires were distributed to the congregation of First Presbyterian Church, Heber Springs, and sixty-two (62) questionnaires were completed and returned. The questionnaires received were separated first by gender and then by age group. The next separation came by splitting up those who had difficulty hearing the minister or others speaking from the pulpit. As no one under the age of 65 answered "Yes" for question three and would have no need for a church-provided hearing device, this group was not included in Table 1.

RESULTS

More females than males attend First Presbyterian Church, Heber Springs, Arkansas, and reported as having the most difficulty hearing in the sanctuary. Of the 53 members over 65, sixty percent were female. Thirty-four percent of the 32 females and 33 percent of the 21 males reported having difficulty hearing the minister or others speaking from the pulpit. Twenty-two percent of

Brucker, March 14, 2011, page 2

the females and 24 percent of the males stated they wore hearing aids. Sixteen percent of the females and 19 percent of the males advised they would wear a church-provided hearing device programmed to the church amplifier. The numbers and percentages for these items are reflected in Table 1.

Table 1. Survey of Hearing Difficulties and Possible Solution, FPC, HS

	Females Over 65		Males Over 65		Total Over 65	
	Number	Percentage	Number	Percentage	Number	Percentage
Total Surveyed	32	60%	21	40%	53	100%
Do you have difficulty hearing the minister sppeaking from the pulpit?	11	34%	7	33%	18	34%
Do you wear a hearing aid?	7	22%	5	24%	12	23%
Would you wear a church-provided hearing device programmed to the church amplifier?	5	16%	4	19%	9	17%

CONCLUSION

The survey reflected there are members of the congregation of First Presbyterian Church, Heber Springs, Arkansas, that have difficulty hearing speakers from the pulpit. Based on the information gathered from the survey, especially that 9 of the 18 members who have hearing difficulty are willing to wear a church-provided hearing device programmed to the church amplifier, there is a definite need for action. A presentation is being prepared and will be presented to the church deacons within the next few weeks recommending that 9 hearing devices be purchased and made available to the congregation. These devices should provide hearing-impaired individuals an opportunity to clearly hear what is being said during worship services and greatly improve their worship experience.

This paragraph includes several numbers. Ms. Hipp writes out as words the numbers that start sentences, but all other numbers are represented by numerals.

The stub column of her table writes out the full text of the questions. This prevents the reader from having to look back to her copy of the questions on the first page.

The numbers in the final paragraph are single words and would often be written as words, but Ms. Hipp decides to be consistent in her use of numerals.

Ms. Hipp's conclusion is straightforward and factual. She reports the actions that will proceed from the report.

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Write an informal report of 500-1000 words in which you describe an object or a mechanism.

Select a topic that is relatively simple so that you will be able to fully and precisely describe it in the length of this report.

Your report should have a three-part structure:

1. **Overview of the Mechanism or Object:** provides the reader with necessary background and a description of the general appearance.

2. **Description of Major Parts:** provides the reader with detailed and parallel descriptions of the major parts and their functions.

3. **Description of the Mechanism in Operation or the Object in Use:** typically describes one full cycle of operation, but may describe the uses to which an object can be put.

This report may be submitted to Turnitin.com, so read Plagiarism on pages 220-221.

FORMAT REQUIREMENT;

Your report must include at least one figure with visual elements: a diagram, photograph, or infographic. Be sure that your figure is accurately labeled and titled. Review Graphics in Technical Writing on page 185, Diagrams and Photographs on pages 212-213, and Infographics on page 214.

Tech Writing Arkansas
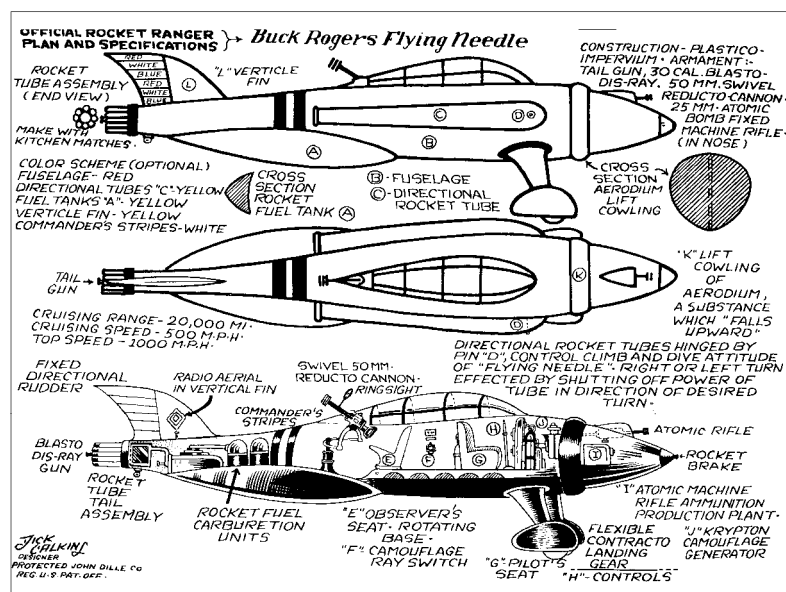
Description of Tabla

General Description

Tabla is an Indian percussion instrument that produces rhythm and has long captivated the audience with its euphonic spell. Tabla comprises two drum sets. The right-hand drum, which is responsible for the treble audio component, is called dayan, and the left-hand drum, which is responsible for producing bass, is called bayan. The dayan is a conical drum shell carved out of a solid piece of hard wood and has one open end covered by a composite membrane. The bayan is a hemispherical bowl-shaped drum made of polished copper, brass, bronze, or clay. Like the dayan, a composite membrane covers the bayan's open end. Both drums stand about 25 centimeters high. The dayan's head measures approximately 14 centimeters across, while the bayan's head measures 22 centimeters across.

Major Parts

As Figure 1 indicates, the major parts of the tabla are the main body, pudi, gajra, kinar, syahi, maidan, vadi, guli and birha. Each of the parts is described
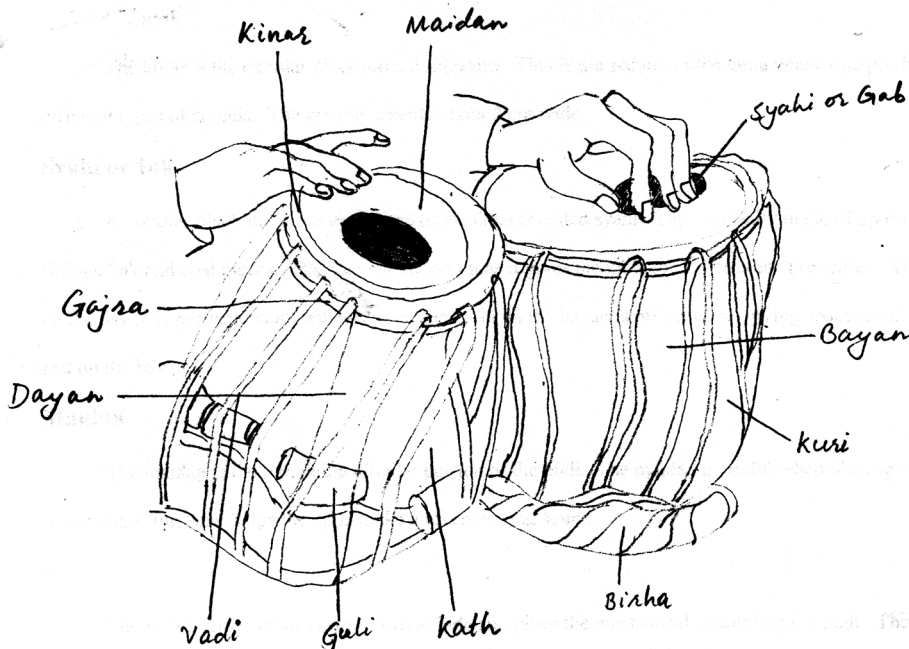
© Sajeed Poudyal

below.

Figure 1: Tabla and Its Major Parts

Sajeed Poudyal opens his objective description with a "General Description" that gives his reader on overview of the tabla

Throughout this report Mr. Poudyal supplies his reader with specific details regarding measurements or the composition of parts.

Mr. Poudyal's original illustration is placed early in the report, so that readers will have it for reference as they read the descriptions of the individual parts. The careful labeling of the individual parts is particualrly important. Of course, if this illustration were not origianl, it would require a source note. Mr. Poudyal indicates its originality by including a copyright notice.

2

Main Body (Kath)

The main body of tabla is called kath and is made of sheesham wood, babhul wood, or mango wood. A log of wood is selected and cut and made hollow from so that it is about half an inch thick. The diameter of the drum gradually decreases from the base to the top. The base of the tabla is solid.

Pudi

The drumhead called pudi comprises the maiden, syahi and gajra. It is the most important part of the tabla, the part from which the percussive sound is produced. Pudi is usually made from goat hide or deer hide.

Gajra

Gajra is the area that appears woven around the perimeter of the pudi. The gajra holds the pudi over the main body of the tabla.

Kinar or Chati

The kinar is the circular piece around the gajra. This is the section of the tabla where one produces different types of sounds. The kinar is usually about 2 centimeters wide.

Syahi or Ink

A circular black ink piece on the top of the tabla is called syahi. This is usually made of minute iron filings, ink and coal pieces. The syahi is important as it gives the table multi-harmonic properties. The syahi on the dayan is perfectly centered; however, the syahi on the bayan is off centered, giving space for the palm to rest on the bayan.

Maidan

The maidan is the remaining circular portion of the pudi. The maidan is useful when playing open sounds like "tun" and helps the tabla make a reverberating sound.

The descriptions of the individual parts are brief, stressing composition and purpose.

Mr. Poudyal uses a two-level system of headings with the second-level distinguished by italics.

Each item is renamed in the text, so the reader does not have to rely on the headings for meaning.

Suggestion*: Instead of changing the syntactic pattern in describing the syahi, Mr. Poudyal could have started this section "The syahi is a circular black ink …"*

3

Vadi

The vadi is made of cow or buffalo hide and gives the mechanical strength to the pudi. The vadi is about 1 centimeter wide and 35 to 40 feet long.

Guli or Gatte

The Guli or gatte are cylindrical sliders that are used for raising and lowering the pitch of the tabla. The pitch of the tabla can be raised or lowered by pushing the guli downwards or upwards respectively. There are ususally 8 gulis on the tabla.

Birha

The Birha is the support on which the tabla and dagga rest.

How Tabla Produces Sound

Both drum sets, dayan and bayan, are played simultaneously with both hands in strict rhythmic patterns. These rhythmic patterns are formed by producing a combination of sounds playing against the various parts of the tabla. Sound from the tabla is produced as a direct result of impact of the hand and fingers against the various sub divisional components of the tabla set.

Some editors would suggest that the "8 gulis" in the paragraph to the left should have been "eight gulis." Others would suggest that he use the numeral to be consistent with the numerals used with measurements.

Description of My Sony PlayStation 3 Controller

GENERAL DESCRIPTION

The PlayStation 3 (PS3) is a seventh-generation video game console and the third home console in the PlayStation series produced by Sony Computer Entertainment, Inc. The PS3 was first released on 11 November, 2006 in Japan and was subsequently released on 17 November, 2006 in the United States.

One of the unique characteristics of the PS3 is its controller. Not all PS3 controllers are the same, so I will discuss my controller specifically. It is a metallic blue, Sony-brand controller, complete with both Sixaxis and DualShock 3, both of which will be explained later. This differs from the first standard version of the controller that Sony released, which is black and does not include the DualShock 3 technology. The PS3 controller is used to maneuver the interface menu and play the games.

MAJORS PARTS

As Figures 1 and 2 illustrate, the PS3 controller has various parts that perform various input functions, along with three unique output notifications.

Figure 1: Diagram of my Sony PlayStation 3 Controller (Front View)

Kendall Tubb's introduction provides context and clearly identifies the subject of her description.

She is careful to note that she is describing her particualr controller rather than a generic controller. This allows her to be precise and use her direct observations.

Ms. Tubb is careful to reference the figures in her text.

Ms. Tubb uses original photographs to which she has added labels; therefore, no source note is required. She has added a copyright notice to the photos.

Figure 2: Diagram of my Sony PlayStation 3 Controller (Top View)

2

Ms. Tubb places the two figures before the description of parts in her text. This makes sure that readers know where to look as parts are described.

PS Button

Unlike most of the other buttons on the controller, the PS button is only used in relation to the PlayStation 3 console, as opposed to having additional use during games. If pressed while the PS3 is off, it allows the player to turn the console on from afar. If pressed while playing a game, it will bring up the XrossMediaBar (XMB), which is the base interface menu of the console.

Ms. Tubb uses a two-level system of headings. The first level is bold-faced, all caps, and left-justified. The second level is bold-faced and left-justified.

START Button

The START button isn't used in the XMB, but it does have use in games. Oftentimes, this button is only used to pause the game or to open an in-game menu. For example, in *The Elder Scrolls V: Skyrim*, START is used to open the pause menu.

SELECT Button

The SELECT button also isn't used in the XMB, but it has varied use in games. For example, in *Skyrim*, SELECT is used to enter wait mode, while in *The Last of Us*, it is used to open the backpack inventory.

Ms. Tubb is careful to rename each part she describes in her textual description. She does not rely on the heading to inform her reader what she is describing.

Left Analog Stick/L3 and Right Analog Stick/R3

The two joysticks on the PS3 controller are called the left analog stick and the right analog stick. While at rest, they stay in the center of their ball-and-

Writing Arkansas Tech

3

socket-style positions. They can be pressed in any direction. In the XMB, the left analog stick is used to navigate the menu, while the right analog stick is not used. In games, the left analog stick allows the character to move in space, while the right analog stick often moves the camera around the character in third-person games such as *Folklore* or *The Last of Us* or turns the character's body in first-person games such as *The Elder Scrolls* series or the *Fallout* series.

When the player presses either of the analog sticks straight down while still in their resting position, the player has just pressed L3 or R3. These buttons have no function in the XMB, but in games, they sometimes go unused and sometimes have various functions, most often toggle functions or camera functions. For instance, in *Skyrim*, L3 is used to toggle sneak mode on and off, and R3 is used to switch between first- and third-person point of view. However, in *Journey*, neither button is used.

Directional Buttons (Directional Pad/D-Pad)

The group of four arrow-looking buttons on the left side of the controller contains the directional buttons (also called the directional pad or d-pad). These buttons perform the same function as the left analog stick in the XMB, but in games, they are often only used to navigate menus (such as in *Skyrim*) or for a quick-change of some feature (such as weapons in *The Last of Us* or lock-on targets in *Folklore*).

Triangle, Square, Circle, and X Buttons

The group of four buttons on the right side of the controller contains the Triangle, Square, Circle, and X buttons. In the XMB, Triangle, Square, and Circle have no function, but X is used to make selections. In games, these buttons have a wide variety of uses. For example, in *Folklore*, all four buttons are used for a variety of customizable attack and defense moves, whereas in *Skyrim*, Triangle is used to jump; Square is used to draw or sheath your weapon; Circle is used to open the character menu; and X is used to select items, people, and options.

L1 and R1 Buttons

L1 and R1 are found on top of the controller. They are each marked with a "1" and have no use in the XMB. In games, they have various uses, such as using L1 to aim and block and using R1 to attack in *Fallout 3* or using L1 to lock-on targets and using R1 to absorb weakened enemies' powers in *Folklore*.

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L2 and R2 Buttons

L2 and R2 are found on top of the controller. They are each marked with a "2" and have no use in the XMB. In games, they have various uses, such as using either L2 or R2 to sprint in *Skyrim* or using L2 to sprint and using R2 to enter listen mode in *The Last of Us*.

Sixaxis

Sixaxis is a Sony-brand gamepad located inside the PS3 controller. There is a notification on the top of the controller that allows one to know that the controller has the Sixaxis function. Sixaxis was first produced for PS3 controllers and allows the controller to operate wirelessly. A unique function of Sixaxis technology is that it allows the controller to recognize its placement in space in regards to whether it is lying flat or tilted in some direction. This tilt-recognition capability is not used in many games, but *Journey* takes advantage of Sixaxis by allowing the player to simply tilt the controller in order to move the camera around the character.

DualShock 3

The first PS3 controllers did not include the DualShock 3 capability, but Sony later added it to their official PS3 controllers. DualShock 3 is also a Sony-brand gamepad located inside the controller. There is a notification on the top of the controller that allows one to know that the controller has the DualShock 3 function. DualShock 3 allows the controller to vibrate due to certain in-game occurrences. For instance, in *The Last of Us*, frequent building collapses, object collisions, and explosions all cause the controller to vibrate using DualShock 3.

USB Connector

The USB connector is the plug-in located on the top of the controller. Because PS3 controllers run on rechargeable batteries, this is where the player can plug the controller into the console to recharge it while playing.

Port Indicators

The four numbered squares on the top of the controller are the port indicators. When the controller is turned on, a red light will illuminate the square that corresponds with which port that controller is registered as, meaning which player is using that controller. If only one person is playing, then that controller will be

Ms. Tubb's descriptions of the Sixaxis and DualShock 3 break from the pattern of other descriptions by including a brief history of their introdcution to the system. Ideally each description would include the same elements.

5

player one, but if multiple people (up to four) are playing, then each controller will be assigned a port (one through four).

OPERATION OF PS3 CONTROLLER

Once the player has turned the PS3 on, either using the button on the console or the PS button on the controller, he or she can use either the directional buttons or the left analog stick to maneuver the XMB and then use X to select the operations he or she desires. When the player has started a game, he or she can use the analog sticks, various buttons, and perhaps even the Sixaxis and DualShock 3 capabilities to perform game-specific functions. Some games, such as *Journey*, only use a select few of the available buttons and also utilize the Sixaxis tilt-recognition capability and DualShock 3 vibration. Other games, such as *Skyrim*, use all the buttons and the DualShock 3 vibration but do not utilize the Sixaxis tilt-recognition capability. Although different games use the functions of the PS3 controller in different ways, games come with instruction manuals that explain how the controller's various capabilities are utilized in that specific game.

Kendall Tubb

Ms. Tubb uses the "he-or-she" construction to avoid sexual bias, but some readers will resist this construction's binary assumption. She could have used a plural construction to achieve the same end without the awkwardness of the he/she usage--"Once players have turned the PS3 on ... they can use either..." This would also avoid the shift in number error of writing "the player ... they." See Gender Neutrality and third Person Pronouns on pages 218-219.

Description of My Slightly Rusted Cheese Grater

General Description

My hand-held cheese grater is a somewhat old-fashioned kitchen device that I sometimes facetiously call a knuckle grater instead. I use my cheese grater to grate cheese, and sometimes vegetables, in up to three different ways. This appliance often saves me money by allowing me to buy less-expensive block cheese and grate it at home, rather than buying the expensive pre-shredded cheese. Because my grater is made of metal, it is slightly rusted, though posing no immediate health hazard.

Description of Major Parts

As Figure 1 indicates, my cheese grater is made up of a handle, four metal plates, and a circular shaped metal framing around the bottom for balance and stability.

Front   Back   Side Panel # 1   Side Panel # 2
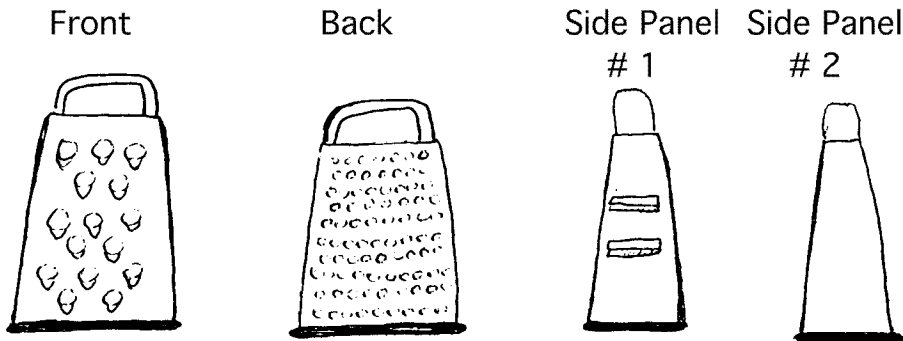
Figure 1: Front, Back, and Side Views of My Cheese Grater

<u>Handle</u>

The handle of my cheese grater is made of metal and shaped like an upside-down, slightly elongated "U." Its primary function is to give me something to hold to assure that the appliance will not move while I am in the process of grating cheese.

Michelle Boren's report follows the three-part plan suggested in the assignment: overview, description of major parts, description of object in use.

Ms. Boren's hand-drawn figure demonstrates that even simple diagrams can be effective; however, she should have included a label for the handle.

Usually an assignment of this sort would be written completely in the third person, but because this is a personal object and Ms. Boren needs to describe herself using it, the first person is appropriate.

Front Panel   2

The front panel of my cheese grater is made of metal and contains 24 holes, slightly protruding at an angle to allow the grated cheese to fall down the inside of the grater to be collected in a pile after the grater is lifted. This panel is specifically designed to grate cheese in larger pieces for use such as pizza toppings.

Back Panel

The back panel of my cheese grater is made of metal and contains 125 smaller holes, also slightly protruding at an angle to allow for the collection of the cheese in the bottom of the grater. This panel is specifically designed to grate cheese in smaller pieces for use as garnish or salad topping.

Side Panel #1

Side panel # 1 is made of metal and contains two rectangular-shaped graters. This panel is specifically designed to allow one to grate slices off a block of cheese.

Side Panel #2

Side panel # 2 is made of metal but contains no graters. This panel completes the structural integrity of my cheese grater.

How I Use My Cheese Grater

To use my cheese grater, I place it in the center of a plate on the kitchen countertop. I then take a block of cheese in my right hand and hold the handle in my left hand, pressing down firmly so the grater does not move. I take the block of cheese and rub it in downward strokes against the chosen panel. I do this until the block of cheese is grated all the way down, or I have grated the amount needed for the intended recipe. I usually start with a big block of cheese so I can grate as much as I need and still have my knuckles intact.

Michelle Boren

Ms. Boren's descriptions of parts are parallel and concise. In each instance she describes the physical condition and its purpose. She includes specific details such as the precise number of holes.

Boren's light-hearted conclusion shows that successful reports do not have to be deadly serious.

Description of a Medieval Knight's Suit of Plate Armor

General Description

Throughout the Middle Ages, knights needed armor for two reasons: to protect themselves in battles, tournaments and jousts and to display their standing as an important member of society. Medieval plate armor is different from medieval chain armor in that it utilizes iron and steel plates instead of thousands of interlocking rings and leather. The helmet is a common component of plate armor that most readers know. However, other pieces fit together to create medieval plate armor into the protective, socially identifying suit that it is.

Description of the Major Parts

As Figure 1 indicates, the major parts of medieval plate armor are the helmet, the pauldrons, the breastplate, the rerebraces, the vambraces, the gauntlets, the cuisses, the poleyns, the greaves and the sabatons. Each of the parts is described after Figure 1, which is below.

Figure 1: The Major Parts of Medieval Plate Armor
Source: "Knight Armor and Weapons." *Ducksters.com*. 2014. http://www.ducksters.com/history/middle_ages/knight_armor_and_weapons.php.

Mr. Garrett's brief introduction identifies the subject of the report while providing a brief historical context.

Mr. Garrett references his figure in the text.

The figure is appropriately placed at the start of the description of the parts.

Mr. Garrett's Source note provides complete information. It has been modified to meet the 2021 MLA format standards.

The Helmet

The helmet illustrated in Figure 1 is an armet type of helmet. It fully covers the wearer's head. In addition, it has a visor that opens for the wearer to get a better view, to get a breath of fresh air or just to help take the helmet off. It is not to be confused with close helm that came later in the medieval period and opens in more than one place than the armet helmet does.

The Pauldrons

As an evolution of the spaulders (which only cover the shoulders), the pauldrons cover the area around the shoulders as well as areas of the armpits, the back and even the chest. Also differing from a spaulder, a pauldron is a connected piece of layered metal, in order to cover the larger area of protection.

The Breastplate

The metal breastplate, or also known as a cuirass, covers the front torso and is connected to another piece armor of that partially protects the spinal area of the back. This back piece also serves as a way of holding the breastplate in place, tightening it and taking it off.

The Rerebraces

This rerebraces protect the area of the upper arm from the elbow up to the pauldron. This area is movable because it must keep the all-important elbow protected (the articulated joint that moves with and protects the elbows is called the cowter, which is not on Figure 1).

The Vambraces

The vambraces protect the area of the forearm up to the rerebraces and the cowter. This long piece of metal (or some knights wore leather) wraps around the forearm, usually being connected by lacing up strings. Some metal vambraces even have their own cowters.

The Gauntlets

The gauntlets can be stylized as the gloves of the knight. Plate armor gauntlets are fully articulated in order to allow free movement of the fingers

and the hands in hand-to-hand combat. Gauntlets also protect the ever-important hands, and even serve as weapons of their own (because of their sharp metal edges) when no other suitable weapon is nearby.

The Cuisses

     The cuisses protect the thigh areas of the legs down to the knees. Some cuisses are one piece of metal, while others are connected, layered pieces. Some cuisses even had their own poleyns.

The Poleyns

     The poleyns sole job is to protect the knees. They are flexible, in order to provide movement (though sometimes not enough) to the entire leg. Mainly, the poleyns are connected either to the cuisses or to the greaves.

The Greaves

     The greaves protect the tibia area of the leg, from the knee down to the foot. They were especially strong in order to protect the ever-important legs from being cut out from under the knight. Some even had connected sabatons.

The Sabatons

     The sabatons protect the knight's feet; they are his shoes. Some even appear like metal shoes with flattened areas for the toes. Others, however, are pointed were the toe areas form and serve both as a fashion statement and as a weapon.

Medieval Armor in Use

     Medieval armor was used for a number of reasons during the Middle Ages. Battles, jousts and tournaments called for critical protection from weapons such as swords, maces, pikes, poleaxes and many others, especially long bows and cross bows during battle. Yet, these suits of iron and steel were not perfect or impenetrable. The angles of the joints of the human body caused a lack of protection in nearly every suit, with differing suits leaving differing areas vulnerable (such is the neck, the armpit, the elbow and the knee). Skilled knights understood these weak spots and knew how to exploit them with their weapons.

By Taylor Garrett

Mr. Garrett arranges his descriptions in a logical order, moving from the helmet down the suit of armor.

Mr. Garrett's efficient conclusion provides a useful commentary on the limitations of the armor that has been described.

O u t l i n e

Write a decimal outline that accurately reflects the <u>information</u> contained in the article assigned by your instructor. This means that you should not include introductory or summary material.

Your outline must adhere to the following restrictions:

1. Never subdivide a topic into fewer than <u>two</u> parts.
2. Be sure that all headings at the same level are syntactically parallel.
3. Be sure that your outline includes all of the important topics discussed in the original.
4. Be sure that your outline accurately reflects the logic of the original.
5. Try to make your outline informative by including abbreviated definitions or explanations.

Be alert for stacked classifications. If, for example, an article states that all gleebs are drippy or droopy and, furthermore, that there are three types of gleebs: green gleebs, gray gleebs, glossy gleebs, the following representation would be **imprecise.**

1.0   Gleebs
    1.1   Drippy Gleebs
    1.2   Droopy Gleebs
    1.3   Green Gleebs
    1.4   Gray Gleebs
    1.5   Glossy Gleebs

The following would be one accurate version**:**

1.0   Attitudes of Gleebs
    1.1   Drippy
    1.2   Droopy

2.0   Appearance of Gleebs
    2.1   Green
    2.2   Gray
    2.3   Glossy

© Allison Brucker

Anatomy and Function of the Eyeball

by John Eden

John Eden's explanation of the eyeball is taken from his work <u>The Eye Book</u>. This book attempts to answer the many questions that the average reader might have about eyes, glasses, and contact lenses. Eden is an M.D. and a practicing ophthalmologist.

The human eye is, of course, a dual organ—two eyes working together to transmit visual information to the brain. Although it is certainly possible to see with only one eye, it takes two normally functioning eyes to achieve normal vision.

Your eye is made up of numerous kinds of highly specialized cells, which perform different functions. It is equipped with muscular, fibrous connective, circulatory, and nervous systems of its own. Although they are similar to those systems that work throughout your body, they are designed to fill the special needs of the eyes.

The normal adult eyeball is an elliptical sphere, which means it is more egg-shaped than perfectly round. It has three distinct concentric tissue layers. The first serves to protect your eye's delicate internal structures, and it consists of the sclera—the opaque white of the eye—and the cornea—the transparent layer that lies in front of the pupil and iris.

The sclera covers about five-sixths of the surface of the eyeball. It is interrupted only by the cornea in front of the optic nerve, which enters the eyeball at the back. Although not much thicker than the page you are reading, the cornea and sclera are composed of extremely tough tissues. I will not say it is impossible to pierce them, but it takes a very sharp object traveling at high speed to do it.

A thin membrane called the conjunctiva, which is not technically a part of the eyeball, separates the exposed front and unexposed back portions of the eyeball. It covers the front part of the sclera and then laps over and continues forward onto the inner surface of the upper and lower eyelids. The conjunctiva thus closes off the back part of the eyeball, making it impossible for anything to get lost in your eye or travel back into your head.

The second of the three layers is called the uveal tract, and its main functions are circulatory and muscular. The uveal tract is made up of the iris, the ciliary body, and the choroid.

The iris is the round, colored part of the eye that surrounds the pupil, and it is responsible for what we call the color of our eyes. The main function of the iris is to permit more or less light to enter your eye. The pupil itself is simply the hole surrounded by the iris, and it is through this hole that light passes into your eye. The involuntary muscles of the iris respond primarily to the stimulus of light, constricting to make a smaller hole when light is bright and dilating to make a larger hole when light is dimmer. This action is like that of the iris diaphragm in a camera. But please don't take this analogy too literally. The human iris is not a mechanical device whose opening can be varied whenever you decide to do it. The action is involuntary. The muscles of your iris do not snap nearly shut when light is very bright and zoom open when light dims, but the

macula. This tiny area, which represents only a small part of the total retina, is its most vital part. It is responsible for your sharp central vision, and it is what permits normal 20/20 vision; the rest of the retina receives peripheral, or side vision, and delivers an image that is not so sharp as that coming from the macula.

Although blood vessels crisscross almost the entire retinal surface, the macula cannot be fed in this manner, since the highly sensitive receptor cells would be obscured by the blood vessels. Small capillaries feed into the edge of the macula, but the exchange of oxygen and carbon dioxide in the center takes place by absorption through cell walls. Nature's solution to the problem works quite well as long as nothing interferes with the delicate process, but it does make the macula more vulnerable to damage than the rest of the retina.

In addition to its receptor properties, the retina is able to adapt to light and dark. The iris performs the task of admitting or excluding light from the interior of your eye, but in addition to this, certain cells of the retina—the familiar rods and cones—undergo photochemical changes to enable you to see in various light levels. When you go from the daylight outdoors into a more dimly lit room, the rods in your retina are ac-

tivated and the cones deactivated to adjust to the lower level of light; when you return to the sunlight, the cones are again activated, and the rods function less so you can adjust to the brighter light. It takes a bit of time for your retina to adjust to the light change—an hour for complete light or dark adaptation, though you will see well in much less time—which is why when you go inside on a sunny day the room often seems quite dark for a while until your eyes adjust to the new light level. The cones are also responsible for your ability to perceive colors.

All the visual information collected and recorded by your eye is transmitted to the brain by the optic nerve, which enters the eye at the back of the retina. Because there is no retinal tissue at that point, this results in a blind spot, an area that cannot receive visual messages. Your eye doctor can locate and measure your blind spot by covering one eye at a time and performing a special test, but under normal conditions you do not notice your blind spot because the area it cannot see is seen by your other eye. However, even if you use only one eye, your blind spot is not a practical reality since it is so small.

**Decimal Outline
of
"Anatomy and Function of the Eyeball"
by John Eden**

1.0 The two eyes function together to transmit visual information to the brain.

   1.1 The highly specialized cells in the eye perform different functions.
   1.2 The muscular, fibrous, connective, circulatory, and nervous systems in the eye function specifically for the eye.

2.0 The eye consists of three distinct concentric tissue layers.

   2.1 The first, a protective layer, serves to protect the eye's delicate internal structures.

      2.1.1 The sclera, the opaque white of the eye, protects the eye.
      2.1.2 The cornea, the transparent layer that lies in front of the pupil and iris, also protects.
      2.1.3 The conjunctiva, the layer that covers the front part of the sclera, prevents things from getting lost in the eyes.

   2.2 The second layer, the uveal tract, functions in a circulatory and muscular manner.

      2.2.1 The iris, the round, colored part of the eye, permits more or less light to enter the eye.
      2.2.2 The ciliary body, the organ between the iris and the choroid, functions muscularly.
      2.2.3 The choroid, the layer behind the ciliary body, carries blood to nourish various parts of the eye.

   2.3 The third and innermost layer of the eye, the retina, receives and passes messages along to the brain.

      2.3.1 The macula, the tiny area slightly to the outer side of the eyeball, gives the sharp central vision.
      2.3.2 The rods and cones, certain cells in the retina, enable vision at various light levels.

3.0 The optic nerve, the nerve entering the eye at the back of the retina, transmits the visual information to the brain.

Staci Young

Staci Young's title accurately reflects the subject of her outline, including the article title and the author.

*Ms. Young uses complete sentences at each level of her outline. This guarantees **syntactical parallelism** and makes her outline informative. Complete sentences are not, however, a requirement of the assignment.*

Remember that the rule about never subdividing a topic into fewer than two parts applies to the first level of the outline as well. Thus, an outline without an entry for 2.0 would be in error.

Suggestion: *using boldface or underlining to highlight important terms might make this information more accessible*

Abstract

Write an informative abstract of the article that is assigned to you in class. Your abstract will be limited to 100, 125 or 150 words, depending on the length of your source article.

Remember that unlike a **descriptive abstract**, which describes the subjects covered in an article, an **informative abstract** summarizes the subjects, methods, and conclusions of the original. In effect, it is an abbreviated substitute for the original.

Your informative abstract should use the same voice as the original article. In other words, you should not speak of the article in the third person.

Begin by reading the article for understanding. Then reread the article, underlining important statements. Reread the underlined material and eliminate redundancies. Type the remaining underlined material into a file. This is the basis for your abstract.

Because your abstract is clearly identified as a compressed version of the original article, the usual restrictions regarding plagiarism do not apply to this assignment. In this instance, you may include the exact words from the original without using quotation marks.

Determine whether the resulting document needs to be shortened or lengthened. Revise and edit your abstract with two goals in mind: **efficiency**–keep the ratio of information to words as high as possible by using embedding, parallelism, and precise diction; **coherence**–transform your collection of fragments into a coherent whole by logical sequencing and judicious use of transitional phrases.

Embedding Exercise

Write a sentence with as few as 11 words that includes all of the information in the following six sentences with 28 words:

The house is mine
My house is old.
My house is blue.
My house is on Elm Street.
My house number is 901.
My house has two stories.

See pager 246 for suggested answer.

The Preservation of Historic Glazed Architectural Terra Cotta

by **de Teel Patterson Tiller**

This article was excerpted from a Preservation Brief published by the Technical Preservation Services Division of the Department of the Interior.

Glazed architectural terra cotta was significant in the development of important architectural idioms in this country—specifically, the "Chicago School," the High Rise and the Historic or Beaux Arts styles. In fact, glazed architectural terra cotta is one of the most prevalent masonry building materials found in the urban environment today. Popular between the late 19th century and the 1930s, glazed architectural terra cotta offered a modular, varied and relatively inexpensive approach to wall and floor construction. It was particularly adaptable to vigorous and rich ornamental detailing. However, with changing vogues in materials and architectural styles and rising production costs, glazed architectural terra cotta fell into disfavor and disuse by the mid-20th century.

Today, information on the maintenance, rehabilitation and replacement of glazed architectural terra cotta is limited, as are sources of new glazed architectural terra cotta. This report, then, will discuss some of the major deterioration problems that commonly occur in historic glazed architectural terra cotta, methods of determining the extent of that deterioration and recommendations for the maintenance, repair and replacement of the deteriorated historic material.

WHAT IS TERRA COTTA?

Generically, the broadcast definition of terra cotta refers to a high grade of weathered or aged clay which, when mixed with sand or with pulverized fired clay, can be molded and fired at high temperatures to a hardness and compactness not obtainable with brick. Simply put, terra cotta is an enriched molded clay brick or block. The word *terra cotta* is derived from the Latin word *terra cotta,* literally, "cooked earth." Terra-cotta clays vary widely in color according to geography and types, ranging from red and brown to white.

Terra cotta was usually hollow cast in blocks that were open to the back, like boxes, with internal compartment-like stiffeners called webbing. Webbing substantially strengthened the load-bearing capacity of the hollow terra-cotta block without greatly increasing its weight.

Terra-cotta blocks were often finished with a glaze; that is, a slip glaze (clay wash) or an aqueous solution of metal salts was brushed or sprayed on the air-dried block before firing. Glazing changed the color, imitated different finishes, and produced a relatively impervious surface on the weather face of the final product. The glaze on the terra-cotta unit possessed excellent weathering properties when properly maintained. It had rich color and provided a hard surface that was not easily chipped off. Glazing offered unlimited and fade-resistant colors to the designer. Even today, few building materials can match the glazes on terra cotta for the range and, most importantly, the durability of colors.

TYPES OF TERRA COTTA

Historically there are four types or categories of terra cotta that have enjoyed wide use in the history of the American building arts: 1) brownstone, 2) fireproof construction, 3) ceramic veneer, and 4) glazed architectural.

Brownstone terra cotta is the variety of this masonry material used earliest in American buildings (mid - to late 19th century). The brownstone type is a dark red or brown block either glazed (usually a slip glaze) or unglazed. It was hollow cast and was generally used in conjunction with

other masonry in imitation of sandstone, brick or real brownstone. It is often found in the architecture of Richard Upjohn, James Renwick, and H.H. Richardson, and is associated with the Gothic and Romanesque Revival movements through such ornamental detailing as moldings, finials and capitals.

Fireproof construction terra cotta was extensively developed as a direct result of the growth of the High Rise building in America. Inexpensive, lightweight and fireproof, these rough-finished hollow building blocks were ideally suited to span the I-bean members in floor, wall and ceiling construction. Certain varieties are still in production today, although fireproof construction terra cotta is no longer widely employed in the building industry.

Ceramic veneer was developed during the 1930s and still used extensively in building construction today. Unlike traditional architectural terra cotta, ceramic veneer is not hollow cast, but is as its name implies; a veneer of glazed ceramic tile is ribbed on the back in much the same fashion as bathroom tile. Ceramic veneer is frequently attached to a grid of metal ties that has been anchored to the building.

Glazed architectural terra cotta was the most complex development of terra cotta as a masonry building material in this country. The hollow units were hand cast in molds or carved in clay and heavily glazed (often in imitation of stone) and fired. Sometimes called "architectural ceramics," glazed architectural terra cotta was developed and refined throughout the first third of the 20th century and has been closely associated with the architecture of Cass Gilbert, Louis Sullivan, and Daniel H. Burnham, among others. Significant examples in this country include the Woolworth building (1913) in New York City and the Wrigley Building (1912) in Chicago.

Late 19th and early 20th century advertising

promoted the durable, impervious and adaptable nature of glazed architectural terra cotta. It provided for crisp, vigorous modeling of architectural details as the molds were cast directly from clay prototypes without loss of refinement. Glazed architectural terra cotta could accommodate subtle nuances of modeling, texture and color. Compared to stone, it was easier to handle, quickly set and more affordable to use. Thought to be fireproof and waterproof, it was readily adaptable to structures of almost any height. The cost of molding the clay and glazing and firing the blocks, when compared to carving stone, represented a considerable saving, especially when casts were used in modular fashion—that is, repeated over and over again. Maintenance of the fired and glazed surface was easy; it never needed paint and periodic washings restored its original appearance.

With the passage of time, many of the phenomenal claims of the early proponents of glazed architectural terra cotta have proven true. There are many examples throughout this country that attest to the durability and permanence of this material. Yet present-day deterioration of other significant glazed architectural terra-cotta resources ultimately belie those claims. Why? Historically, the lack of foresight or understanding about the nature and limitations of the material has, in many instances, allowed serious deterioration problems to occur that are only now becoming apparent.

CHARACTERISTICS OF GLAZED ARCHITECTURAL TERRA COTTA AS A BUILDING MATERIAL

Glazed architectural terra cotta has many material properties similar to brick or stone. It also has many material properties radically different from those traditional masonry materials. It is those differences that must be considered for a better understanding of some of the material characteristics of glazed architectural terra cotta

when it is used as a building material.

Difficult to Identify

Glazed architectural terra cotta probably comprises one of the largest if not the largest constituent material in some of our urban environments today. However, the infinite varieties of glazing have hidden this fact from the casual observer. One of the attractive features of glazed architectural terra cotta in its time was that it could be finished (glazed) in exact imitation of stone. In fact, many building owners and architects alike are often surprised to discover that what they presumed to be a granite or limestone building is glazed architectural terra cotta instead.

Two Separate Systems

Historically, glazed architectural terra cotta has been used in association with two specific and very different types of building systems: as part of a traditional **load-bearing** masonry wall in buildings of modest height, and as a **cladding material** in High Rise construction. As cladding, glazed architectural terra cotta often utilized an extensive metal anchoring system to attach it or to "hang it" onto a wall framing system or super-structure. In the first instance the anchoring was limited; in the second, the anchoring was often extensive and complex. Likewise, in the first instance, deterioration has generally been limited. However, where glazed architectural terra cotta was used as cladding, particularly in high rise construction, present-day deterioration and failure are often severe.

Complexity of Deterioration

Deterioration is, by nature of the design, infinitely complex-particularly when glazed architectural terra cotta has been used as a cladding material. Deterioration creates a "domino"-like breakdown of the whole system: glazed units, mortar, metal anchors, and masonry backfill. In

no other masonry system is material failure potentially so complicated.

Poor Original Design

The root of deterioration in glazed architectural terra-cotta systems often lies in a misapplication of the material. Historically, glazed architectural terra cotta was viewed as a highly waterproof system needing neither flashing, weep holes, nor drips. This supposition, however, has proved to be untrue, as serious water-related failure was evident early in the life of many glazed architectural terra-cotta clad or detailed buildings....

**Informative Abstract
of
"The Preservation of Historic
Glazed Terra Cotta"**

by de Teel Patterson Tiller

Glazed architectural terra cotta, an enriched molded clay brick or stone, is one of the most widely used masonry building materials in the United States. Usually hollow cast blocks with internal webbing for strengthening, terra cotta is glazed, giving it excellent weathering properties. Four types are used today: brownstone, fireproof construction, ceramic veneer, and glazed architectural. The durable, impervious, and adaptable nature of the glazed architectural terra cotta was promoted in the late 1800s and early 1900s. However, a lack of information and understanding of the masonry has led to some deterioration problems. Glazed architectural terra cotta is very difficult to identify because of its similarities to brick and stone. It has been used specifically as load-bearing masonry and as cladding material in high-rise construction, where deterioration has been more severe. The deterioration problem is complicated and often is connected to the misapplication of the material

Suzanne Lippard

Suzanne Lippard's title fully identifies the subject of her abstract, including article title and author.

Ms. Lippard is able to use the exact words of the original—"an enriched molded clay brick or stone"—without using quotation marks because this entire paragraph is presented as a compressed version of Tiller's article.

Subordination, series, and other embedding techniques are used to increase the efficiency of the prose.

Suggestion: This abstract still needs work on coherence. The sentences do not all connect smoothly with each other.

Write a letter of application and a résumé in response to one of the advertisements supplied by your instructor. You must use the real facts of your education and experience.

Your letter might use the four-paragraph format outlined below:

1. An introductory paragraph that identifies yourself and states your interest in the specific position. You may also indicate your source information regarding the position or the person who referred you to the position.

2. A body paragraph in which you briefly discuss your education. Try to relate your education to the specific needs of the employer.

3. A body paragraph in which you briefly discuss your work experience. Try to relate your work experiences to the specific needs of the employer. If you consider your work experience stronger than your educational background, discuss it before you discuss your education.

4. A brief concluding paragraph in which you indicate your availability for and interest in an interview. Include your telephone number and/or email address.

Your résumé should use headings, underlining, boldface, indentation, and careful sequencing to create an **accessible, organized,** and **readable** document. Your résumé should include **contact information, educational background,** and **work experience**. You may choose to include sections on references, special skills, awards, or community involvement.

Two basic types of résumés are **reverse-chronological** and **functional.** The reverse-chronological lists educational background and work experience in reverse chronological order–the most recent first. This creates a narrative of your experience. The functional résumé emphasizes skills and accomplishments. It is particularly useful if there are gaps in your work experience or you are changing careers. Many successful résumés are **hybrids**, combining reverse-chronological and functional elements.

See Writing Persuasive Application Letters and What Employers Ask When Reading Application Letters on page 159.

A
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Electronic Applications

The examples of application letters and résumés on the followings pages use fictitious names and information. All of the other examples in this edition of *Arkansas Tech Writing* are actual assignments written by Tech students in sections of ENGL 2053 Technical Writing.

This assignments asks you to create a printed letter and résumé, but today applications are often completed and submitted online. Services such as LinkedIn are important tools. Tech's Office of Career Services can help students with résumé preparation and provide useful advice regarding job interviews and searches.

Job Application

110 East Fifth St.
Russellville, AR 72801
April 22, 2016

Mr. James Purdy, Director
Boy Scouts Council of Arkansas
1247 Menafee Drive
Hot Springs, AR 72798

Dear Mr. Purdy:

I am writing you in regard to your recent opening for an Administrative Assistant to the Director. I will graduate from Arkansas Tech University in May, 2017, with a Bachelor of Science degree in Emergency Administration and Mangement.

My studies at Arkansas Tech have allowed me to develop a broad range of technical and interpersonal skills. In addition to developing my oral and written communication skills and studying crisis managment and preparedness, I have completed a series of certifications, including the FEMA Professional Development Series.

My work with the Tech Public Safety Office and my externship with Best Organization Ever have given me important practical experience with working effectively with a range of clients and creating informative documents. Off campus, my work as a volunteer firefighter has taught me responsibility and the benefits of teamwork.

I have been actively involved in Boy Scouts since 2008, serving on camp staff for six years and as Assistant Camp Director for the past two years. I am currently an Assistant Scoutmaster for Pack 248 in Russellville, Arkansas.

I feel that my training and work experience, combined with over six years of Scouting, could be valuable to the Council in achieving its future goals. I have enclosed a copy of my résumé and look forward to talking to you in person.

Sincerely,

Joseph Student

Joseph Student

enclosure: résumé

This example uses the modified block format for this letter shown on page 166.

The purpose of his letter is stated at the beginning.

This example uses three body paragraphs. In addition to paragraphs on education and work experience, a separate paragraph on the scouting experience is added due to its special relevance to this position.

The letter concludes with an assertion of interest in the position and encouraging his reader to consider an interview.

Although the contact information is on the included résumé, it might not be bad to include them in the final paragraph of the letter as well.

JOSEPH STUDENT

110 East Fifth St.; Russellville, AR 72801; 479.968.8019; joe.student@gmail.com

QUALIFICATIONS

- Microsoft Office
- Disaster Preparedness
- Safety Policies & Procedures
- Crisis Management
- Oral & Written Communication
- Operations Continuity
- GIS Mapping

EDUCATION

Bachelor of Science in Emergency Administration and Management Anticipated May 2017
Arkansas Tech University, Russellville, AR

- Criminal Justice minor
- EAM Student of the Year
- Dean's List, GPA 3.9
- President, Association of Emergency Managers

PROFESSIONAL EXPERIENCE

Student Worker   Aug. 2013 – present
Public Safety, Arkansas Tech University, Russellville, AR

- Edited campus Emergency Procedure Guide and Parking Map for new school year.
- Checked automated car registration system and mailed tags to students and staff.

Externship   June 2014-Aug. 2014
Best Organization Ever, Hope, AR

- Drafted emergency evacuation plans and distributed materials to office staff.
- Assisted with staff training for response to fire, extreme weather, and other unanticipated emergencies.
- Developed tracking system to improve efficiency and communication between departments.

COMMUNITY INVOLVEMENT

Volunteer Firefighter   Oct. 2013-present
Pope County Volunteer Fire Department, Russellville, AR

- Respond to calls as on-call firefighter for community outside Russellville city limits.

Assistant Scoutmaster and Assistant Camp Director
Pope County Boy Scout Council, Russellville, AR

TRAINING AND CERTIFICATIONS

- First Aid/CPR, 2012 – present
- Arkansas CLEST (Law Enforcement)
- Basic Disaster Life Support
- LEAD Academy, 2014
- First Person Shooter
- Emergency Medical Technician

FEMA Professional Development Series Certifications

- Emergency Planning (IS-35.B)
- Fundamentals of Management (IS-230.C)
- Decision Making & Problem Solving (IS-241.A)
- Leadership and Influence (IS-240.A)
- Effective Communication (IS-242.A)

14 Parkway Blvd.
Russellville, Ar 72801

May 18, 2016

Ms. Jennifer Borden
Personnel Director
Resorts International, Inc
Kansas City, Kansas 70254

Dear Miss Borden:

I saw your advertisement for a junior management position, and I wish to apply for the job. Enclosed is my résumé along with three references for your consideration. I will graduate from Arkansas Tech Unviersity, with a Bachelor of Science degree in Business Administration in May of 2017.

I have over six years of experience supervising staff. At the time of my honorable discharge from the U.S. Navy, I was the lead petty officer over twelve men and women. The last four years I have employed as many as 22 employees at a time, and feel I have learned the skills of motivation and teamwork. I also have four years experience in management in operating a small business, increasing profits and revenues for five consecutive years.

I started my degree by taking online classes while I was still serving in the Navy. Since my discharge, I have completed classes required for my degree while working full-time and starting to raise a family. In 2015, I was selected to be one of the presenters at Arkansas Tech's Small Business Forum, attended by business leaders from the River Valley.

I feel that my maturity, work experience, and dedication would be a considerable asset to Resorts International and the new Blue Lake Resort. I look forward to an interview and hope to hear from you soon. You can reach me at (501) 967-8019 after 4:00 p.m. if you have any questions.

Sincerely,

Sally Student

Sally Student

enclosure:

This example uses the block format shown on page 167.

The letter clearly states the purpose at the start.

This letter places work experience first because it is the strongest part of the application. The letter emphasizes management and supervision experi- ence rather than nuclear technology knowledge to fit this position.

The letter makes an effort to connect her qualifications to the needs of the employer.

The letter's tone is assured and staight- forward.

Sally Student

14 Parkway Blvd.
Russellville, Ar 72801
Home Phone 479 967-8019
sally.student@suddenlink.net

WORK HISTORY

2012-Present   *Co-owner/operator, Positive Fabrication, Inc.*
- Oversee payroll, purchasing, accounts payable and receivable.
- Directly involved in hiring, quarterly statements and planning.

2008-2012   *Reactor Operator, USS Arkansas (CGN-41) U.S.Navy*
- Operated and did maintenance on a 75 megawatt reactor.
- Responsible for training in Reactor Controls Division.
- Lead petty officer for twelve men and women.
- Honorably discharged as an E-5.

2005-2007   *Sales Represeantative*, Arkansas Paper
- Responsible for wholesale marketing in Western Arkansas
- Prepared monthly reports for corporate office

EDUCATION

2011-2017   Bachelor of Science in Business Administration (anticipated)
Arkansas Tech University
- Vice President, Business Adminsitration Club
- Presenter, Arkansas Tech Small Business Forum, 2015.

2007-2008   Reactor Operators License, Navy Nuclear Power School, Orlando, Fl.
2007-2008   Electronic Technician, Navy Nuclear Field "A" School, Orlando, Fl.

SPECIAL SKILLS

- Microsoft Office
- Experience with accounting and bookkeeping
- Experience with personnel management

This résumé includes a photograph. This is not a required element, but is becoming more common as employers use online resources such as Linkedin.

*This is an example of a **reverse chronological** résumé that appends a short section on skills.*

The bulleted lists in the work history section do not attempt to list all activities, but emphasize those that seem most signficiant and relevant.

The names, positions, phone numbers, and email addresses of three references are included on a second page that can be used when appropriate.

Sally Student

14 Parkway Blvd.
Russellville, Ar 72801
Home Phone 479 967-8019
sally.student@suddenlink.net

REFERENCES

Dr. Felicia Cramdon
Professor of Business Adminsitration
Arkansas Tech University
Russellville, AR 72801
(479) 964-0393
fcramdon@atu.edu

Captain Arnold Manfred
U.S. Navy retired
253 Highway 27
Danville, AR 72833
(479) 264-8413
captain.arnold@gmail.com

Mr. Frederick Gareth
President
First Bank of Yell County
912 Front Street
Dardanelle, AR 72834
(479) 967-2151
fgareth@yellbank.com

Be sure that all of the individuals listed on a references page have agreed to recommend you and agreed to have the contact information you list distributed to employers.

Recommend

Either as part of a group or individually you will be asked to review a number of application letters and recommend the best candidate.

If you are part of a group, they should discuss the applications and reach a consensus regarding the strongest candidate and that candidate's greatest assets.

The group or you individually will write a recommendation memo that will:

1. briefly describe the situation (a single sentence might do);

2. clearly state the recommendation;

3. describe **in detail** supporting reasons for their recommendation. This should not include disparaging comments regarding the candidates who are not being recommended.

FORMAT REQUIREMENT:

The memo should list the names of everyone in the group, and each member should intial his or her name.

MEMORANDUM

TO: Dr. Carl Brucker, Head
English and Foreign Languages
            VS   *RG*   *MK*
FROM: Vicky Smith, Rex Garner, and Mary Keener

DATE: August 13, 1986

SUBJECT: **Recommendation to Hire Jim Brooks as Administrative Assistant**

On August 13, 1986, we reviewed the applications for administrative assistant. Although all applicants had some excellent qualifications, Jim Brooks' communication skills were the deciding factor in recommending him for this position.

His educational background includes a bachelor's degree with teacher certification in social studies, and he is awaiting certification in English. His apparent success in expressing himself well enough to attain honors in his field at Arkansas Tech University and the courses which are required for teaching certification distinguish him from the other candidates in the area of communication skills. The effective presentation of his application letter also demonstrated his ability to communicate.

Although not as strong as some of the other applicants in supervisory skills, Brooks has had some leadership experience. Brooks was also the only applicant who listed any familiarity with the Scouting program or who indicated an objective to work in the field of communications.

Overall, Brooks impressed us as the most qualified of the four candidates for the position. We recommend that he be placed as Administrative Assistant and be evaluated in six months to see if he has developed the necessary supervisory skills.

Vicky Smith, Rex Garner, and Mary Kenner's memo has a clearly defined subject line that accurately forecasts the content.

At the start, the memo briefly identifies the situation.

Sufficient support for the group's recommendation is supplied, but more specific details would be helpful.

The group is careful to present this as a recommendation rather than a decision for which they do not have authority.

P r e s e n t

Create a well-organized, logical presentation using Powerpoint (or similar software). Use a minimum of ten (10) slides and a maximum of twenty (20) slides. Make sure that the formatting and look of the slides remains consistent.

This assignment will familiarize you with basic Powerpoint techniques. Other purposes may depend on the topic the teacher chooses. The Powerpoint slideshow may be an assignment to further explain the Process Analysis or share the results of the Research Report with the class. Another possible assignment may be to create a presentation about yourself or a topic of special interest to you.

The first slide of the presentation must include your name, the course name and section number, and the title of the presentation. The second slide is a preview or outline of the presentation. You must include at least two (2) images or clipart items. You must also have at least one (1) animation effect in the slideshow. You may also include sound effects, video, word art, links to external files, and original art/images. If you use external files or links, please be sure they are included in the overall file folder you turn in for this assignment. If the class meets online, the teacher may ask for you to narrate your presentation or to use Microsoft Producer (combines the PPT and video/audio into one show).

For classes that meet in a brick-and-mortar setting, students may turn in the assignment via a flashdrive or CD or some other approved method. For courses that meet online, the assignment must be submitted electronically using Blackboard or some type of FTP function. You will be submitting the presentation as the original PowerPoint presentation so make sure that all of the files used are kept in one folder. Make sure that your folder is labeled with the first initial of your first name, underscore, then your last name (e.g, Jane Doe's presentation would be saved as J_Doe.ppt in the folder J_Doe).

Search the web for tips on creating effective PPT slideshows.

Common Tips:

• Rehearse when using the timed slideshow feature and/or if there is a time limit.

• Avoid using too many words on the slide.

• Check font size (readability) and color contrasts.

• Make sure the images you use are of enough quality and are not blurry.

• Avoid reading from the slide; employ key words/concepts.

• Consider putting your initials in one of the lower corners of each slide to show your audience that you authored the slide.

See Basic Powerpoint Communication Rating Sheet on page 144.
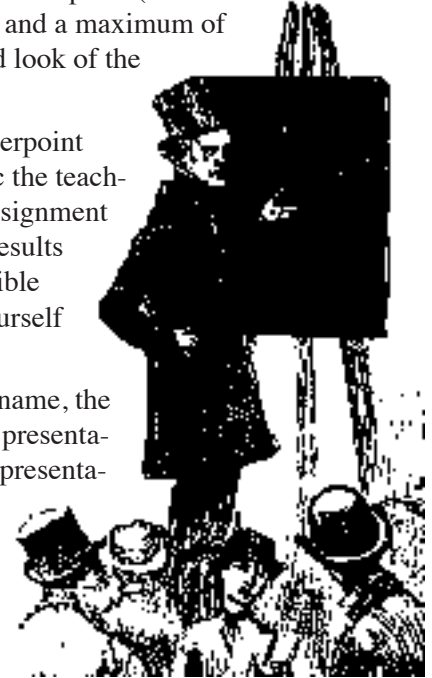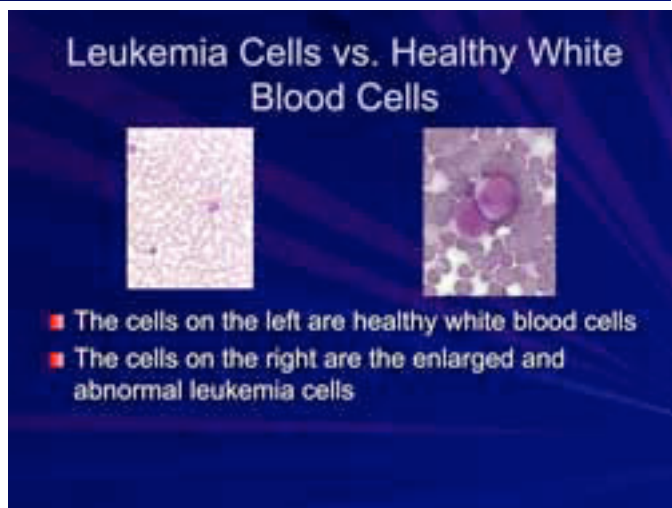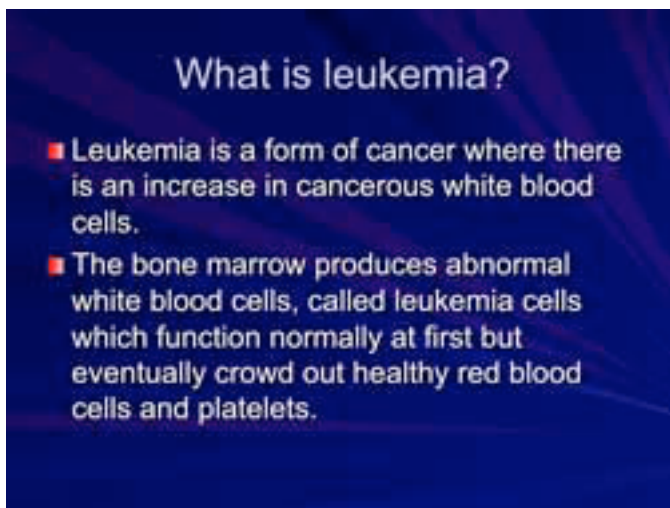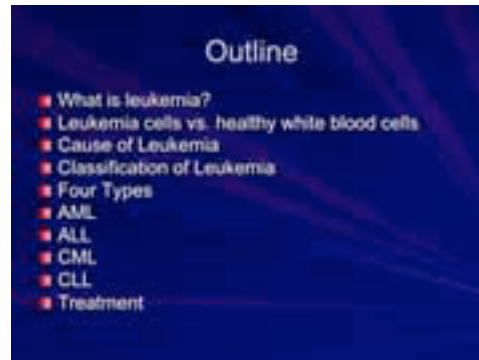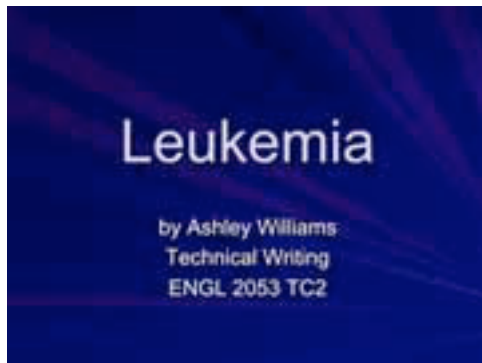
Slide 1 – The first slide includes important introductory information: the title, the presenter's name, and course. In some cases, this page would also include the date of the presentation.

Slide 2 – The second slide provides an outline of the presentation. This overview lists the order in which the presenter will proceed through the presentation. Ashley animates bulleted lists by having items appear on mouse click.

Slide 3 – This slide provides the definition of Leukemia that the presenter will use throughout the slideshow. As this information is commonly available, no citation is needed as long as Ms. Williams is not using someone else's words. She should, however, consider including a source for the images used in the presentation.

Slide 4 – Provides a comparison between healthy cells and those attacked by Leukemia.

Slide 5 – Lists some potential causes of Leukemia.

Cause

- The cause of leukemia is not completely clear.
- Could be a result of genetics
- Exposure to radiation, benzene, and other chemicals toxic to bone marrow could also be factors contributing to the development of leukemia

Slide 6 – Further defines Leukemia by classification. Ms. Williams emphasizes important terminology by using different text color.

Classification of Leukemia

- Leukemia can be classified in two different ways.
- It can be classified as acute if it is quick on-set and rapidly gets worse or it is called chronic if it is slow on-set and slow to progress
- It can also be classified as lymphocytic if it affects lymphoid cells or myelocytic if it affects myeloid cells.

Slide 7 – Specifies the four types of Leukemia.

Four Types of Leukemia

- Acute Myelocytic Leukemia (AML)
- Acute Lymphocytic Leukemia (ALL)
- Chronic Myelocytic Leukemia (CML)
- Chronic Lymphocytic Leukemia (CLL)

Acute Myelocytic Leukemia (AML)

- *Acute*- meaning quickly progressing
- Affects the myeloid cells
- Form of leukemia in which there are too many immature blood-forming cells in the blood and bone marrow.
- Most common in adolescents and young adults, but can also occur in children.
- Symptoms= flu-like, weight loss, small red spots on skin, easy bruising, and bleeding

AML Cells
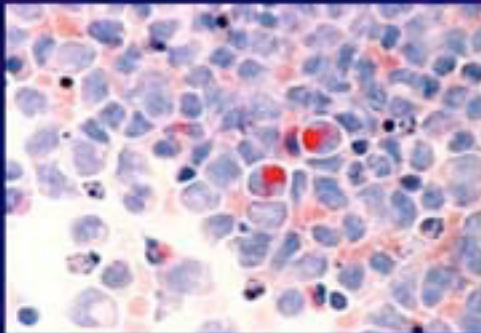
Acute Lymphocytic Leukemia (ALL)

- Rapidly progressing, sudden on-set form of leukemia affecting the lymphoid cells
- Immature lymphocytes (cells of the immune system) predominate in the blood and bone marrow
- ALL is the most common occurring cancer among children. Most cases are in children ages 2-3 years old.

Slide 8 – Develops the first type of Leukemia (AML). This slide begins a conistent pattern of a text slide followed by an illustration.

Slide 9 – Image of AML Leukemia-attacked cells.

Slide 10 – Develops the next type of Leukemia (ALL).

Slide 11 – Image of ALL Leukemia-attacked cells.
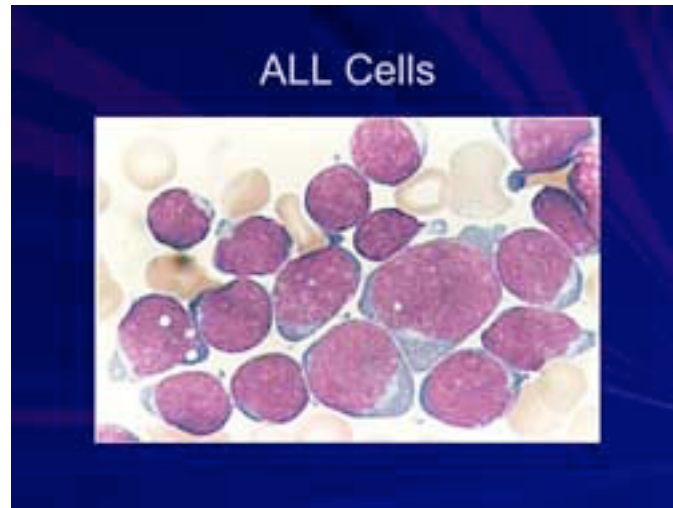
Slide 12 – Develops the third type of Leukemia presenter listed (CML).

Slide 13 – Images of CML Leukemia-attacked cells.

*<u>**Suggestion:**</u>*
Ms.Williams might have modified her graphic so that the four types were labeled by the appropriate image.
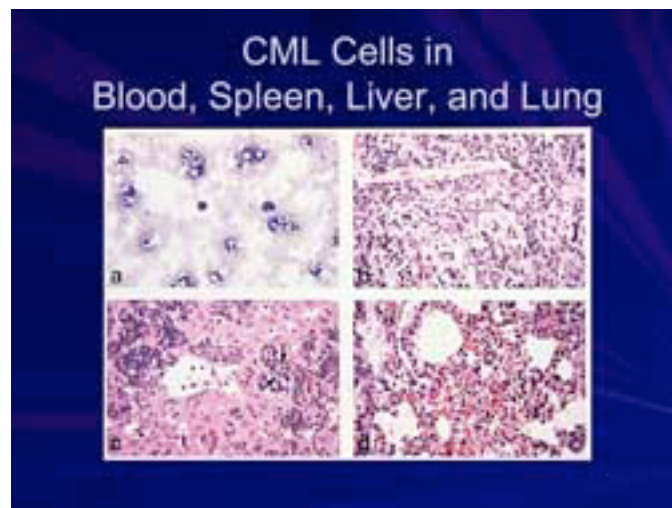
Chronic Lymphocytic Leukemia (CLL)

- Slow progressing
- The most common form of leukemia
- Abnormal numbers of relatively mature lymphocytes predominate in the bone marrow, lymph nodes, and spleen but do not fight infection.
- Can cause anemia and easy bruising and bleeding
- Most common in people 60 and older
- No signs and symptoms at first but as the abnormal cell count increases signs of fatigue, swelling of lymph nodes and enlargement of the spleen and liver occur.

CLL Cells
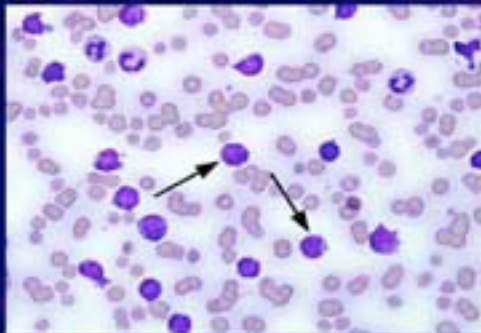
Treatment

- All forms of leukemia are treated with chemotherapy.
- Patients undergo two courses of chemotherapy
- If course 1 is effective the patient can go into remission meaning that the signs of the disease are disappearing. Then course 2 is administered to decrease the number of leukemia cells.
- If signs start to come back and more cells start to form this means the patient is having a relapse and they will have to have more therapy.

Slide 14 – Develops the fourth type of Leukemia listed (CLL).

Slide 15 – Image of CLL Leukemia-attacked cells.

Slide 16 – Discussion of the treatment available for the four types of Leukemia and concludes the presentation as promised in the outline. This "final" slide not only marks the conclusion of the visual presentation, but it also invites audience interaction through questions and comments.

Write a formal research report with 1000-2000 words of body text. Your report must contain the parts listed below:

1. title page.
2. letter of transmittal.
3. table of contents.
4. table of figures.
5. informative abstract.
6. 1000-2000 words of body text (4-8 pages) utilizing appropriate and consistent system of headings.
7. at least one graph or chart.
8. at least one table.
9. glossary (if needed).
10. appendices (if desired).
11. list of references.

You may select <u>any topic</u>, but selecting a topic that fits your interests or major may make it easier for you to put forth the effort required to produce a document of which you will be proud. Once you have selected your topic, try to limit it to an appropriate length for this assignment. Often, reading an entry in a general reference work is an efficient way to get an overview of your subject that can help you identify the specific area of your greatest interest.

Research must be a part of your project, but you may supplement your review of relevant literature with data you gather yourself. Your report must list a minimum of three references, and each of these references must be cited in the body of your text. You may use any of the four documentation methods described in the textbook beginning on page 224.

Of course, you will conscientiously avoid plagiarism. This report may be submitted to Turnitin.com, so read Plagiarism on pages 220-221.

In general, you can use the following report as a model, but each part of the report will be discussed in class.

This project extends over several weeks. An early start will allow you to show me drafts or discuss ideas before the report must be handed in. It will also give you time to solve any last minute formatting problems you might face.

The Origins of Basketball

Prepared for

Dr. Carl Brucker
Technical Writing Instructor
Arkansas Tech University

By
Jacob Partridge

November 29, 2021

It is important that your title clearly indicate the content of the report. It is more important to be informative than to write a "catchy" title.

The precise spacing of information on the title page may vary, but it should not be crowded to the top or the bottom of the page.

The letter of transmittal gives you an opportunity to customize your report for different readers. By emphasizing the topics of special interest to individual readers, you increase the usefulness of your report.

A letter of transmittal should explain the purpose of the report. It also provides you with an opportunity to explain any particular problems that limited or redirected your research.

175 River Mtn. Rd
Delaware, AR 72835

November 29, 2021

Dr. Carl Brucker
Department of English and World Languages
Arkansas Tech University
Russellville, AR 72801

Dr. Brucker:

The following is my research report that I have written for the assignment in Technical Writing. The topic I have chosen for my report is the origins of the sport known as basketball. This topic is one that I've always found interesting and didn't know much about until I did this report. Basketball is also my favorite sport, so I thought it would be fitting to learn more about the history of this sport.

This report gathers a brief overview about the creation of basketball, and how it further developed into a game. One of the main focuses of this report is to describe where and when it was created, and to identify the person who created basketball. The report will also summarize and explain how the sport of basketball has changed and risen in popularity ever since it was created. The overall goal of this report is to give a clear history about the beginnings of basketball and a brief overview of how the sport has evolved over time.

Sincerely,

Jacob Partridge

Jacob Partridge

iii

Table of Contents

All heading entries in the table of contents must appear in the text exactly as they are presented in the table of contents.

In this report, Mr. Partridge creates a simple two-level system of headings, using capitalization to distinguish the primary and secondary levels.

It is not necessary to represent every heading in your report in the table of contents, but it is usually helpful to do so. Every entry on your table of contents should lead to a heading in the report.

Leader dots *help the reader line up page numbers on the page. In your word processing program you can set a right-justified tab with automatic leader dots.*

iv

Table of Figures and Tables

Mr. Partridge includes three graphics in his report. Note that the informative titles are written out here exactly as they appear in the text.

Table and figures are listed in the order in which they appear in the text. They are numbered in separate sequences; thus, this report includes Figure 1 and Table 1.

v

Abstract

In December of 1891, physical education teacher James Naismith created a game to entertain his students over the winter break. With a set of 13 rules, 2 peach baskets, and a soccer ball, Naismith created the game of basketball. Word about basketball spread throughout Springfield College, gaining lots of success and popularity with students. With a few small changes to the game since then, basketball has grown into a global phenomenon throughout the world. Naismith's legacy is remembered today, with basketball being played by millions of people around the world every year.

*This is an **informative abstract** because it attempts to summarize the information of the report, rather than merely list the subjects covered as a **descriptive abstract** would.*

The abstract is the most often read and therefore the single most important part of a formal report.

INTRODUCTION

One of the Most Popular Sports in the World.

Basketball is one of the most popular and one of the most known sports that is played around the world. Millions of players from different countries around the world play basketball every year, but it originated from the United States. As some sports such as football were becoming too harmful and physical for some people, a new sport needed to be created that wasn't so injurious to students. The eventual sport that was created to meet this need is known to be basketball.

Statement of Purpose

This report was created to give a brief history over the creation and the development of the sport known as basketball. The research for this report is compiled of various sources of information from the internet, whose references are included throughout this report.

Audience

The intended audience of this paper is Dr. Brucker. The secondary audience is anyone who is interested in learning more about the origins of basketball. People who like or play basketball may also find this information interesting and useful.

WHEN AND WHERE BASKETBALL WAS CREATED

It was the year of 1891 when basketball was first created, in Springfield, Massachusetts. It was created by a Canadian named James Naismith, who was a physical education instructor at the "International YMCA Training School, which is now Springfield College" (Singh). Naismith intended to create a new game that was simple but also complex enough to keep students and players interested. Naismith also wanted his hypothetical game to be able to include multiple players, and he wanted the game to be able to be played safely inside a building.

Naismith's supervisor wanted him to create an indoor game so that athletes could stay in good shape during the winter, so Naismith went to work. Naismith looked for two square boxes that could be used as goals, but he met a janitor who gave him two peach baskets instead. Naismith decided to attach the peach baskets to the lowest balcony rail on each side of the gymnasium. Naismith figured out a way for the game to work and what the rules needed to be. Students would form into different teams and compete to get a ball into the basket and return it to play at each end of the balcony.

For the new game that he created, Naismith would eventually create a list of thirteen rules. After he figured out what the game would entail, Naismith explained the game to his class. There were eighteen students, so Naismith divided them into two teams of nine students. Every time a point was scored the game would be stopped so that someone could get the ball from the basket. After a while, the bottom of the fruit baskets was cut off, so that the soccer ball that was used could just fall through the basket.

Pagination restarts in Arabic numerals at the beginning of the body text. Although the first page of body text is page 1, the number is usually not included until the second page.

The body of Mr. Partridge's report is divided into two-levels. The level of a particular section heading is typographically clear.

*Thoughout the report Mr. Partridge uses MLA documentation style, giving the author's last name by which the full source listing is alphabetized on the Works Cited page in a **parenthetical reference** following the cited material. If his online sources had page numbers those would havebeen included in the citations.*

Specific sections on purpose, audience, and scope are not required, but the introduction of any formal research report should supply the reader with necessary background and an understanding of the rationale of the project.

2

NAISMITH'S 13 RULES OF BASKETBALL

The 13 rules that Naismith wrote were originally intended to be just for his students. However, these rules would be eventually adopted and expanded on by various people as basketball grew in popularity. The thirteen rules are detailed in Table 1 below to help provide a greater understanding to how Naismith thought out the game of basketball.

Table 1: Naismith's 13 Rules of Basketball

Naismith's 13 Rules of Basketball	
Rule #1	
Rule #2	The ball may be batted in any direction with one or both hands, but never with a fist.
Rule #3	A player cannot run with the ball, the player must throw it from the spot on which he or she catches it.
Rule #4	The ball must be held in/between the hands, the arms or body can't be used.
Rule #5	No shouldering, pushing, tripping, or striking in any way the person of an opponent shall be allowed. The first infringement of this rule by any player shall count as a foul. The second shall disqualify the player until the next goal is made, unless evidence of intended injury, then no substitute is allowed.
Rule #6	A foul is striking at the ball with the fist, in violation of Rules 3,4, and such as described in Rule 5.
Rule #7	If either side makes three consecutive fouls, it shall be counted as a goal for the opposing side.
Rule #8	A goal shall be made when the ball is thrown or batted from the rounds into the basket and stays there, providing those that defend the goal fail in touching or disturbing the goal. If the ball rests on the edge, and the opponent moves the basket, it shall count as a goal
Rule #9	When the ball goes out of bounds, it shall be thrown into the field of play by the person who first touches it. In case of a dispute, the umpire shall throw it straight into the field. The thrower-in is allowed five seconds; if it is held longer, it shall go to the opponent. If any side persists in delaying the game, the umpire shall call a foul on the infringing side.
Rule #10	The umpire shall be judge of the players and shall note the fouls and notify the referee when three consecutive fouls have been made. He shall have power to disqualify the players according to Rule 5.

\

Tables are traditionally labeled above, whereas figures are labeled at the bottom. Note that figures and tables are numbered in separate sequences as they appear in the text.

Naismith's 13 Rules of Basketball	
Rule #11	The referee shall be judge of the ball and shall decide when the ball is in play, in bounds, to which side it belongs, and shall keep the time. The referee shall decide when a goal has been made and keep an account of the goals.
Rule #12	The time shall be two 15-minute halves, with five minutes' rest between the halves.
Rule #13	The side that makes the most goals in that time shall be declared the winner. In case of a draw, the game may, by agreement of the captains, be continued until another goal is made by a team.

Source: "Happy 125th Birthday Basketball." Stateline Sports Network. www.statelinesportsnetwork.net/2016/12/21/happy-125th-birthday-basketball/. Accessed 21 Nov. 2021.

When Naismith created his thirteen rules for his game of basketball, he wrote them down on a document which is now preserved today (see Figure 1 below). The document has been passed down for generations and is worth millions of dollars now.
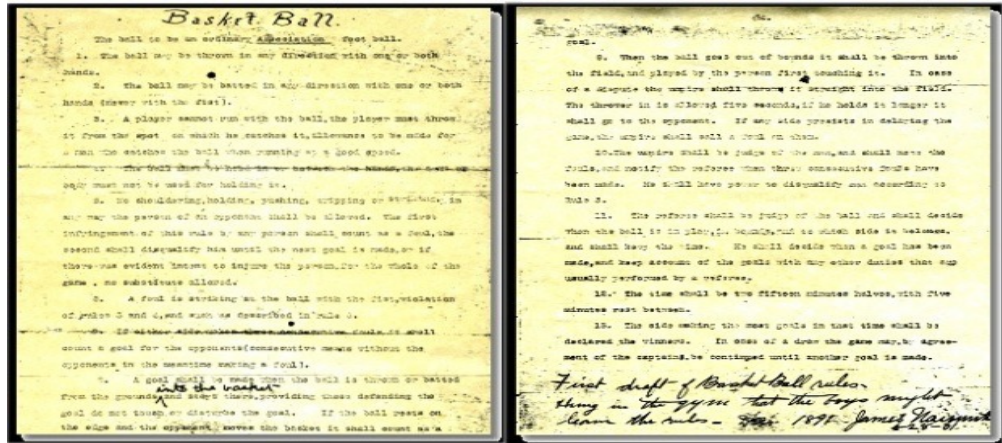
Figure 1: **Naismith's Written Document of the 13 Rules of Basketball**

Source: "Happy 125th Birthday Basketball." Stateline Sports Network. www.statelinesportsnetwork.net/2016/12/21/happy-125th-birthday-basketball/. Accessed 21 Nov. 2021.

THE PUBLIC DISCOVERS BASKETBALL

The First Ever Basketball Game

Naismith held the first ever basketball game with his students in December of 1891, and it was clear that the rules needed some improvement. There were several injuries, including "several black eyes, one separate shoulder, and one player knocked unconscious" (Team BeAnInspirer). Naismith would eventually refine his 13 rules,

specifically that players with the ball are not allowed to run, to decrease the chances of any players getting hurt.

The Growing Popularity of Basketball

By early 1892, word about the new game that was created spread around Springfield College. Other students started to play this game, including women. Every day, people would come to Springfield College to watch students play a game around noon. Some students lived far away from the college, so they took their knowledge of basketball and spread the rules and ideas of it throughout the U.S. It also helped that Springfield College was a part of the YMCA (Young Men's Christian Association), which led to the news of basketball being spread to other colleges that were a part of the YMCA. During World War I, a lot of the Americans who learned how to play basketball shared their knowledge to people in different countries. As a result, basketball became a worldwide sensation in the years that followed.

HOW BASKETBALL CHANGED

The Many Colors of the Basketball

When Naismith originally created basketball, a soccer ball was used by the players. However, the laces on a soccer ball were a lot weaker on a hard floor than they were with grass. As a solution, a "brown soccer ball without laces was created, and this ball was then known as an early basketball. During the early 1950s the color of the basketball would be changed from brown to orange, so it could be "more visible to audiences and spectators" (Upton).

The New and Improved Basketball Hoop

After a few years of using peach baskets for the game, the basket goals for basketball received a new upgrade. In 1906, the peach basket was replaced with a "metal rim with a closed netting" (Eitel). Like the peach basket, the player would have to get the ball out of the net of the metal rim. Eventually a whole was cut in the net to allow the ball to just go through the net, representing a new way for a point to be scored in a basketball game.

The Basketball Dribble

As basketball began to grow in popularity, Naismith continued to improve on the game he created. In 1898, Naismith was hired as "the first men's basketball coach at the University of Kansas" (Klein). During his time as a coach there, he made one important change to his rules. In 1901, the dribble was introduced as a part of the game. Originally in the past, players would just carry the ball around and try to pass it to each other. With this new rule, players could dribble the ball on the floor as they try to move throughout the court and pass it to another team member.

CONCLUSION

The Legacy of Naismith and Basketball

Even though Naismith (see Figure 2 below) died on November 28th, 1939, his legacy has lived on for generations. His creation of basketball is still one of the most popular sports played around the world. It has been estimated that at least "more than 450 million people play the game" globally every year (Zarum). In 1959, Springfield College established the Naismith Memorial Basketball Hall of Fame, in honor of Naismith and his legacy. Naismith's story will continue to be remembered for years to come, and most importantly, his creation of basketball will be played for generations to come.

Figure 2: James Naismith with a Basketball

Source: "James Naismith: Person Who Discovered Basketball Game." FeedByMe. www.feedbyme.com/james-naismith-person-who-discovered-basketball-game-google-created-doodle/amp/. Accessed 24 Nov. 2021.

6

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Singh, Abhishek. "History of Basketball: Origin and Invention." Chase Your Sport, 8 Sept. 2021, www.chaseyoursport.com/Basketball/History-of-Basketball-its-Origin-and-Invention/2986.

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Upton, Chad. "Basketball Was Originally Played with Soccer Balls." Broken Secrets, 6 March 2017, brokensecrets.com/2017/03/06/basketball-was-originally-played-with-soccer-balls/.

Zarum, Dave. "James Naismith." The Canadian Encyclopedia, 26 July 2019, www.thecanadianencyclopedia.ca/en/article/james-naismith.

Mr. Partridge uses the Modern Language Association documentation style based on the ninth edition of the MLA Handbook. See pages 228-231.

This list of works cited is not numbered, but arranged alphabetically with the author's last name overhung to the left.

Each work is listed one time, and only works that have been cited in the text are included.

Mr. Partridge could have included appendices or a glossary at the end of his report.

The Impact That Killed the Dinosaurs

Prepared for

Dr. Carl Brucker
Technical Writing Instructor
Arkansas Tech University

By
Brent Hogan

May 1, 1999

1277 Bakers Creek Rd.
Russellville, AR 72802

May 1, 1999

Dr. Carl Brucker
Department of English
Arkansas Tech University
Russellville, AR 72801

Dear Dr. Brucker:

The following research report was assigned by you for the final assignment in the Technical Communications class. I have chosen to do my research report on the extinction of the dinosaurs relating to the asteroid collision theory. This subject interests me because, with the length in time involved, I still cannot grasp the notion that something so catastrophic could have happened to the earth to wipe out almost all life. It has fascinated me since childhood, and I hope others are fascinated as well.

The information included involves trying to grasp the space of time that separates the present and the asteroid impact, the development of the theory, gathering of evidence, and a picture of what the dinosaurs would have experienced. I hope that by supplying these details, the reader can gain a full view of the events in the past and their discovery in the present.

Sincerely,

Brent Hogan

Brent Hogan

As part of his letter of transmittal, Brent Hogan explains his choice of topic and previews his approach to the topic.

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Table of Contents

Mr. Hogan creates a simple two-level system of headings by using capitalization.

iv

Table of Figures and Tables

Mr. Hogan's report includes the minimum number of graphics required by the assignment: one table and one figure.

The titles are presented here exactly as they appear in the text.

v

Abstract

In 1980, Luis and Walter Alvarez came forth with the theory that dinosaurs suffered mass extinction due to an asteroid impact 65 million years ago. The theory developed because they found a layer of iridium, a rare earth element, at the same depth in different areas of the world. At first the theory had few supporters until 1989 when scientists found a huge crater off the Yucatan Peninsula in Mexico. The crater was estimated at being 65 million years old. The asteroid caused the sun to be blocked for decades, leaving many species to become extinct.

*Mr. Hogan's short **informative abstract** tries to summarize the most important information in the report.*

INTRODUCTION

Description of Mass Extinction

The extinction of the dinosaurs or the "K-T extinction" is one of the most talked about and most theorized mass extinction events in history. Since the discovery of dinosaur fossils almost two hundred years ago, scientists have wondered how long ago did they live; how long ago did they die; and what brought on their extinction?

Past mass extinction is indicated by the presence of a dead zone, a geological layer containing few fossil remains between layers with evidence of extensive life. The dead zone represents the time of a mass extinction and its aftermath" (Studying 1997).

The date of the mass extinction can be determined by several different methods: radioisotope analysis of igneous rocks, magnetism of rocks, positions of the rocks, and index fossils. Chemical analysis of the dead zone "reveals much about conditions at the time of the extinction" (Studying 1997). Altered forms of quartz or an overabundance of rare elements help substantiatethe theory of a mass meteor collision.

Audience

The primary audience intended for this paper is Dr. Brucker. The secondary audience is intended for anyone who may want to learn about the collision that killed the dinosaurs. This paper is not intended for professional paleontologists or scientists that are in the field of dinosaur study.

The Distance in Time

The distance in time can be very tough to visualize. Ten years seems like a long time, but a million years is just a number. If we imagine a walk through time in which each step equals 1000 years, the following table,which was developed by Dr. Dale Gnidove and published in the Columbus Dispatch, shows you how far one would walk to witness certain important events in the history of Earth (Poling, Walk, 1999) .

Suggestion:
Preferably each heading should be followed by some text.

Mr. Hogan uses APA style (author-year) for his documentation. APA and the author-year version of CBE style are often used in the life sciences. See pages 232-235.

Mr. Hogan forces an early page break here, so the table on the following page will not be interrupted.

Table 1: A Walk Through Time

Approximate Distance	Time (in years)	Event
2 steps	2,000	the time of Christ
10 steps	10,000	the final days of the mammmoths, mastodons ans saber-toothed cats at the close of the last great Pleistocene glaciation.
30 miles	65 million	the K-T extinction that included the non-avian dinosaurs
100 miles	225 million	the appearance of the first dinosaurs and mammals
120 miles	245 million	the great Permian extinction that wiped out most life on earth including the total eradication of Trilobites
140 miles	300 million	the appearance of the first reptiles
170 miles	360 million	the appearance of the first insects
200 miles	435 million	the appearance of the first land plants
205 miles	440 million	the appearance of the firstr vertabrates
270 miles	579 million	the appearance of the first animals with hard shells
280 miles	600 million	the appearance of the first multi-cellular animal
650 miles	1400 million	the appearance of the first nucleated cells
1800 miles	3900 million	the formation of the sldest rocks known today
2100 miles	4600 million	the formation of the Earth itself

Source: Poling, J. (4 January 1999). A walk through time. Retrieved 1 May 1999, from http://www.dinosauria.com/jdp/misc/walk.html.

THE THEORY

How the theory developed

The theory of an asteroid killing the dinosaurs was first proposed by Luis Alvarez and his son, Walter Alvarez. They were on a geological expedition in Italy when they "accidentally discovered a band of sedimentary rock that contained unusually high levels of a rare element, iridium.....Chemical dating techniques put the rock at around 65 million years old. Coincidentally — or not, that is around the time the dinosaurs died out" (Alvarez).

Traditionally, tables are labeled at the top.

Use a consistent unit of measurement in a table if possible.

Source notes for online sources in APA style should include the name of the author (if known), the date on which the information was posted (if known), the title of the site or web page, the date on which you accessed the page, and the complete URL (Universal Resource Locator). Mr. Hogan includes the retrieval date, but the current seventh edition of the Publication Manual of the American Psychological Association (2020) suggests that retrieval information is only needed when an online source is designed to change e.g. Facebook pages or a Twitter profile.

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They developed the theory based on the even distribution of iridium in different parts of the world. Their hypothesis states that "the iridium...was the result of a giant asteroid that hit Earth, sending smoke, dust, and iridium into the atmosphere" (Alvarez). They theorized that the resulting low temperature caused by the blocking of the sun killed many species, including dinosaurs. When the airborne pollution finally settled, it left the fine layer of iridium. (Alvarez).
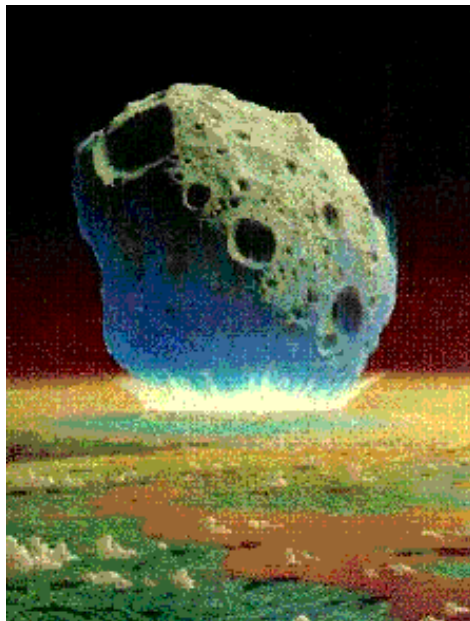
Figure 1. Artist 's Rendition of Asteroid Collision
Source: Maas, A. (1 January 1999). Retrieved 1 May 1999, from http://execpc.com/~maas/extinction/asteroid.html.

Evidence

The Alvarez meteor theory was not widely accepted until 1989 when scientists first discovered evidence of a huge impact crater in the Gulf of Mexico. The crater was located north of Chicxulub, off Mexico's Yucatan Peninsula. Later studies found evidence of debris washed out of the Gulf by waves that went inland as far as what is now Arkansas (Poling, More, 1999).

The asteroid is widely believed to have had a diameter of six miles or more. (See Figure 1). "It gouged a crater 150 to 180 miles wide" (Poling, More, 1999). Soil, water, sulfur, and rock were lifted into the atmosphere, blocking the sun's light. Volcanic activity increased, and there were numerous

Mr. Hogan integrates his graphics by referring to them in the body text of his report.

massive earthquakes and wildfires.

Richard D. Norris, head of the ocean drilling expedition off the Yucatan Peninsula, said that "the expedition recovered three core samples that have the unmistakable signature of an asteroid impact" (Poling, More, 1999). He was referring to a brown layer found in the core samples that is thought to be the remnants of the asteroid.

Norris also stated that when the asteroid impacted it "would have instantly been reduced to vapor and thrown high into the sky.....then snowed down, like a fine powder, all over the globe"(Poling, More, 1999). Indeed, brown deposits having a high content of iridium like those in the core sample have been found elsewhere .

WHAT THE DINOSAURS EXPERIENCED

Jeff Poling bases the following description of what the dinosaurs may have experienced on information taken from a Peter Shultz and Steven D'Hondt's article in <u>Geology</u> (Poling, K-T, 1999).

1. A brilliant flash erupted in the southeast as the asteroid rammed into Mexico's Yucatan Peninsula, gouging out a crater about 120 miles wide and vaporizing the upper crust.
2. A brilliant, hot plume of vapor and incandescent "sun-bright" debris arced across the sky at about 7 to 10 per second, then crashed onto North America
3. Scalding heat killed countless land-dwelling plants and animals. For example, 90 percent of known types of leaf-bearing trees and plants became extinct, according to the fossil record.
4. A slower yet still high-velocity cloud of dust, debris and molten material then swept over North America.
5. Finally, an hour or more after the impact, more dust began fall from the sky, perhaps for days, as material was dispersed around the globe. (Poling, K-T, 1999)

Because Mr. Hogan uses several sources by the same author, he includes a key word from the web page title in his parenthetical citations.

5

CONCLUSION

The few species that did survive the asteroid impact are believed to have dwelled in the water and in the air. Some are even believed to be the ancestors of some of today's birds. Whichever trail the dinosaur population took, whether to extinction or evolution, the impact off the Yucatan Peninsula altered the coarse of all life on earth. And if not for the impact, the human race may never have evolved to unravel this story.

Mr. Hogan's report is brief, but it is an effective example of a report that meets the assignment's basic requirements. The research reports in this course do not need to be lengthy or develop original data. They do need to be presented correctly and include all the required parts and formatting.

6

References

Alvarez finds evidence of dinosaur-killing asteroid. (n.d.). *A Science Odyssey: People and Discoveries*. Retrieved 1 May 1999, from http://cgi.pbs.org. wgbh/aso/databank/entries/do80di.html.

Maas, A. (1 January 1997). Death by cosmic collision. Retrieved 1 May 1999, from http://www.execpc.com/~maas/extinction/asteroid.html.

Poling, J. (12 December 1998). A walk through time. Retrieved 1 May 1999, from http://www.dinosauria.com/jdp/misc/walk.html.

Poling, J. (4 January 1999). K-T extinction event mystery may be solved. Retrieved 1 May 1999, from http://www.dinosauria.com/jdp/impact/impact. htm.

Poling, J. (6 January 1999). More evidence for asteroid impact found. Retrieved 1 May 1999, from http://www.dinosauria.com/jdp/impact/wham. htm.

Studying extinctions. (1997). Retrieved 1 May 1999, from http://www.Zoom-Dinosaurs.com/subjects/extinction/Study.html.

In APA style, this page is called "References" instead of "Works Cited" as in in MLA style.

Mr. Hogan relies entirely on web-based sources and too heavily on sources from the same individual.

<u>Suggestion:</u> Try to use more diverse source material.

In APA style, the author's name is rewritten for each individual source and arranged chronologically by the date of publication.

Note that the online articles with no known author are alphabetized by their titles.

For information on APA style see pages 232-235.

A New World Power:
The History of the Atomic Bomb during World War II

Mr. Holt's title page spaces necessary information in order to present a balanced appearance.

Prepared for

Dr. Carl Brucker
Technical Writing Instructor
Arkansas Tech University

By
Mark R. Holt

December 20, 2014

13 Pawnee Ct.
Maumelle, AR 72113

July 1, 2016

Dr. Carl Brucker
Department of English
Arkansas Tech University
Russellville, AR 72801

Dr. Carl Brucker:

The following is my research report that I have written at your request for Technical Writing. The topic I have chosen for my report is the atomic bomb and its role during World War II. This topic is one that has always fascinated me, and to understand the origins of such power can better help understand the start of the modern age.

Mr. Holt's letter provides a brief and direct summary of his purpose for writing and the focus of the report.

This report gathers a brief overview of the history of the atomic bomb from its conceptualization to its eventual use to attempt to end World War II. One of the main focuses of this paper is the U.S. Military research into nuclear armament during World War II, A project known as the Manhattan Project by most. The goal is to give a brief but clear early history of the atomic bomb.

Sincerely,

Mark Holt

Mark Holt

Research Report

iii

Table of Contents

Front matter is paginated with small Roman numerals.

Each entry on the Table of Cotents mirrors a heading in the text of the report. The wording is identical and the boldfacing and capitalization are the same as the headings in the report.

Mr. Holt creates a two-level system of headings, using capitalization to distinguish the levels visually.

iv

Table of Figures and Tables

The items are listed in the order in which they appear in the text. Some more extensive reports might have separate Table of Figures and Table of Tables.

All of the titles listed here exactly duplicate the titles in the text.

The capitalization of the titles for Figures and Tables are inconsistent, but the titles as presented here match the way they are capitalized in the text.

v

Abstract

The research and creation of the first atomic bomb marked a stark change in the history of humanity. The concept of the atomic bomb was at first merely just a suggestion of one of the possible uses of fissile materials such as uranium. When it was learned that the German government might actually be researching such technologies, the United States decided to do its own research. From this fear, the Manhattan Project was born, a project that ended up being one of the most costly military research projects up to that point in time. From this project came the first nuclear weapons, whose level of power was never before seen. With this power in hand, the United States decided it was the best way to end the war in the Pacific, and in doing so; the United States dropped the only two nuclear bombs ever dropped in war.

The informative abstract is the single most important part of the report because it is the section that will be read by more readers than any other part of the report. Mr. Holt decides that the overall rationale for dropping the weapons is the most important part of the report, so he focuses on that here.

INTRODUCTION

A World at War

After the end of The Great War (World War I) the political state of the world was in shambles. Germany went under a period of revolution during which the Kaiser (Wilhelm II) abdicated his throne, and was banished to exile.[1] This instability along with the demand for reparations from the allied powers led to hyperinflation in the German economy, and a depression.[2]

With the German economy in shambles, the people of Germany were desperate to see their country become great again. The National Socialist German Workers' party (the Nazi Party) took advantage of this and proposed radical ideas including the rejection of the terms of the Treaty of Versailles, and the promotion of hate in an attempt to guide their aggression.[3] Though they did not technically win any elections, the Nazi party coerced the elected president to declare Adolf Hitler to be Chancellor of Germany.

Over time, through radical propaganda and fear mongering, Hitler slowly led Germany to become imperialistic in its efforts, and Germany started invading neighboring countries to seize new territory. Many countries were willing, but when Germany got to Poland (who was backed by the the United Kingdom and France,[4] fighting broke out, thus starting World War II.

Statement of Purpose

This report was created in order to give a brief history over the development and use of the atomic bomb during World War II. The research for this report is compiled from various sources of information from the internet as wells print reports and texts.

Audience

The intended audience of this paper is Dr. Brucker. Any additional students or faculty wishing to understand a little bit about the history of the atomic bomb during World War II may also find some useful information within this report.

THE DISCOVERY OF POWER

In December 1938, two scientist, Otto Hahn and Fritz Strassmann, discovered that uranium was a material able to undergo a new concept called spontaneous fission. From this realization, it was theorized that nuclear chain reactions could be achieved creating vast amounts of energy. Leó Szilárd real-

2

ized that these chain reactions could be harnessed to create vast amounts of energy, or possibly even to create super massive bombs, with huge destructive capability. [5]

Figure 1: Einstein-Szilárd Letter
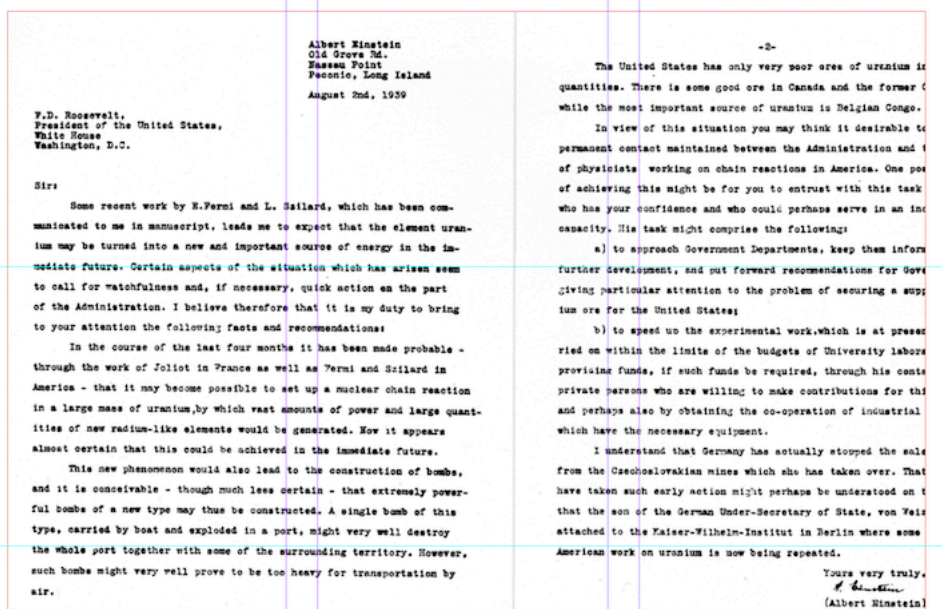
Source: Einstein-Szilárd letter. [place unknown]. Atomic Heritage Foundation; [date unknown]. [accessed 2014 Dec 8]. http://www.atomicheritage.org/einstein-szilard-letter

Szilárd learned that a German physicist had been publishing articles on nuclear chain reactions, and was concerned that Germany might be researching fission weapons to give them an advantage in the brand new world conflict (World War II). With this fear in mind, Szilárd composed a letter to the United States President Franklin D. Roosevelt (see Figure 1), with the backing signature of notable physicist Albert Einstein. Along with warning the United States against the potential new weapon Germany was attempting to develop, Szilárd also recommended that the United States start its own research into harnessing the power of nuclear fission. [6]

Upon learning of this startling new fact, President Roosevelt appoint Lyman Briggs to the head of the Advisory Committee on Uranium. This new committee was to be tasked with investigating the potential implications of the concepts proposed by the Einstein Szilárd Letter. The committee found the theoretical weapon proposed by the letter could become a major threat. [7] After this conclusion, President Roosevelt made an Executive order, creating the Office of Scientific Research and Development. [8]

This graphic does not reproduce clearly in this publication. If this were the original report, it would be better to exclude the graphic unless a clearer version could be included.

Mr. Holt's source note includes the name of the page, sponsoring organization, date on which it was accessed, and the URL. Missing information is indicated in square brackets.

THE MANHATTAN PROJECT

The Manhattan District Project (better known as the Manhattan Project) was a U.S. Army Corp of Engineers project headed up by General Leslie Groves, whose goal was to research into and develop a fully working fission bomb. [9] The project was one of the largest military research projects ever undertake, with a cost of about $2 billion (equivalent to $23 billion in today's standard).

Clinton Engineer Works

One of the major concerns about this project was picking a suitable place to create the materials needed to make the atomic bomb. General Groves took into account a few different factors into his choice of location including population density, accessibility, and utilities. With all these factors in mind, General Groves chose a rural area in Tennessee (later named Oakridge) to be the base of operations for the materials need for the Manhattan Project. The location was named the Clinton Engineer Works, and had a low population density, with access by railroad and highway, as well as the nearby Norris Dam for a source of electricity. [10]
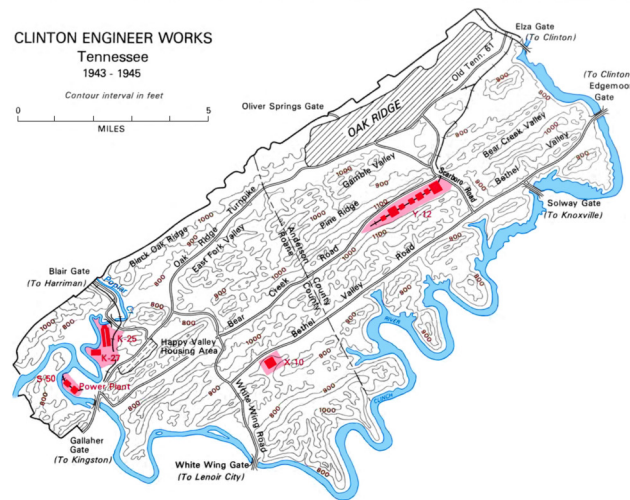
Figure 2: Map of the Clinton Engineer Works
Source: Jones E. Manhattan: the army and the bomb. New York (NY): Schneider, 2012, p. 131.

Oakridge consisted of a few main facilities directed at the completion of the Manhattan project (see Figure 2). One of the most important buildings

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Numerical styles of documentation vary. This CSE Citation Sequence style uses super-scripted numbers, but other use numbers in brackets or parentheses that may or may not be superscripted.

The source note provides the complete information that would be included in a bibliography.

Mr. Holt references the graphic in his text

was K-25. It was the building where the uranium was actually enriched, so that it would be in a form that was useable for the atomic bomb. K-25 was the largest building in the world at the time of its creation [11]

Project Y

The military needed a very isolated, remote place to both research and eventually test the atomic bomb. It was decided that the best place to achieve these goals would be in the desert, in a place called Los Alamos, New Mexico (originally dubbed Project Y). At first Groves was skeptical of the location, but after Oppenheimer showed him the location, Groves decided it was exactly the location they needed. [12]

J. Robert Oppenheimer

One of the most important people on the Manhattan project was Julius Robert Oppenheimer, a theoretical physicist who was appointed by General Groves to be the head of scientific research for the project. Groves, and many of the officers involved, where at first concerned about the choice of Oppenheimer for leading the development of the bomb, as his political beliefs were more left learning. Groves, however, was impressed with Oppenheimer's amazing knowledge in nuclear physics, and felt he was the best mind for the job. Due to his involvement in the development of the atomic bomb, Oppenheimer is often considered one of the "fathers of the atomic bomb." [9]

Codename: Trinity

In January 1944, it came to Oppenheimer's attention that it would be beneficial for a full test of the capabilities of the bomb to be administered. Grove was concerned with the idea of not being able to recover some of the plutonium-239, as it was expensive to synthesize it from the Uranium-238. Oppenheimer was eventually able to convince Groves that the only way to get accurate results would be through a full scale test, and Groves finally agreed. [13] The codename for the test was to be Trinity.

There were many sites considered for the Trinity test, but the site that was chosen was the Alamogordo Bombing Range in New Mexico (see Figure 3). The decision was made that the conditions would be best for the test on July 16, and President Harry S. Truman's insisted that the test take place before the Potsdam Conference. [13] The official test was performed like planned on July 16, 1945 at 5:29. The explosion was equivalent to that of 20 kilotons of TNT, and produced enough heat to make the desert sand turn to glass. [14] The explosion itself reached a height of 7.5 miles. [15]

Headings help readers locate particular sections of the report.

In citation-sequence numerical styles, every reference to a single source uses the same identifying number, as with source [9] here.

Mr. Holt includes textual reference to figures.
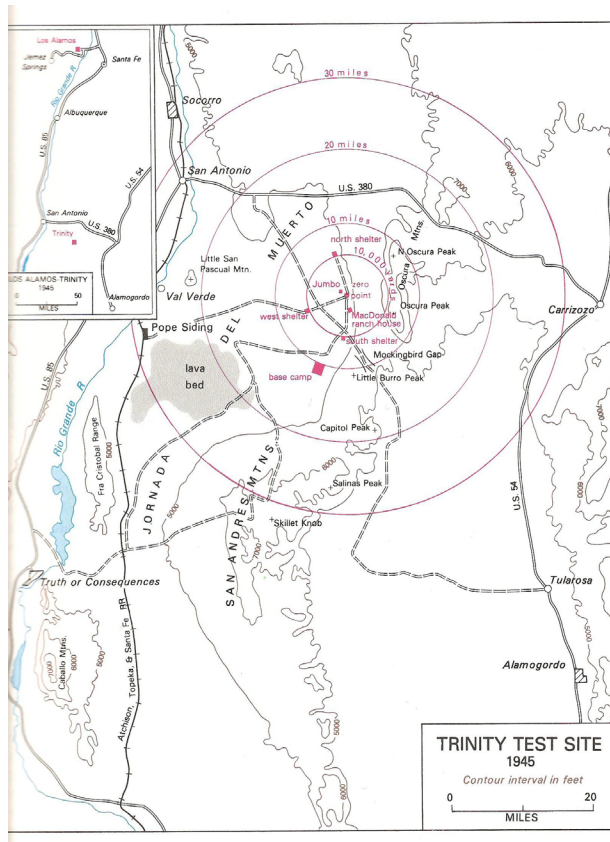
Figure 3: Map of the Trinity Test Site
Source: Jones E. Manhattan: the army and the bomb. New York (NY): Schneider, 2012, p. 131.

A WORLD FOREVER CHANGED

By August 1945, the United States had been at war with the Japanese for three year, seven months.[16] The only step left for the United States to achieve victory over Japan was to take the mainland. The United States had already been conducting firebombing on the mainland, causing the deaths of 100,000 to 200,000 deaths of Japanese citizens in Tokyo alone, but the Japanese were unwilling to give in to the demands of the allies.[12] The invasion of the mainland was going to be a costly attack, but something needed be done.[17]

August 6th, 1945

The United States came to the conclusion that the most effective

method for ending the war was to make use of the atomic bomb. A few targets were chosen as the best potential targets for the bombing. These potential targets included Kokura, Yokohama, Niigata, Hiroshima, and Kyoto, all of which met the criteria that they be at least 3 miles in diameter, the blast would be effective, and the target would not be attacked by August.[18] It was finally decided that Hiroshima was to be the first target.

At 8:15 AM August 6th, 1945, a plane by the name the *Enola Gay* dropped the Little Boy (an atomic bomb) onto Hiroshima, Japan, taking 44.4 seconds to reach the ground. Upon hitting the ground the explosion vaporized an area one mile in diameter, and created fires in an area about four miles in diameter.[19] Approximately 80,000 people died almost instantly from the blast or shortly after by the fire of the explosion.[20] Figure 4 shows before and after aerial photographs of Nagasaki. Table 1 shows comparative effects of the Hiroshima and Nagasaki bombings. Figure 5 gives a graphical representation of the relationship between proximity to the hypcenter and death rates.

Mr. Holt references all of his graphics by their unique labels in his body text.

Three Days Later

After an attempt at demanding surrender from the Japanese, the United States intercepted a message that made it clear that the Japanese were not ready to give in to defeat.[21] It was obvious to the United States that another show of power was necessary, so preparation of the next atomic bomb, The Fat Man, went underway.

Due to some delays, caused by a failed fuel pump, the original target of Kokura was engulfed in smoke from nearby firebombing raids. The crew of the *Bockscar* changed directions and headed for their secondary target, Nagasaki. When they arrived, clouds initially obscured their view of the target, but at 11:01 AM the clouds cleared and they dropped the Fat Man on Nagasaki. The resulting explosion was equivalent to 21 Kilotons of TNT, compared to Little Man's yield being equivalent to 16 kilotons.[22]

Figure 4: Nagasaki, Japan, before and after the atomic bombing of August 9, 1945
Source: U.S. National Archives. [accessed 2014 Nov 28]. http://www.archives.gov/research/military/ww2/photos/images/rg77-163.jpg

Table 1 below compares the destruction caused by the Hiroshima and Nagasaki bombs. Figure 5 compares the number of immediate deaths to the total death rate relative to distance from the hypocenter.

Table 1: Comparison of the Atmoic Boms in Hiroshima and Nagasaki

	Hiroshima	Nagasaki
Height of burst point	280 +/- 20m	500
Area where roof-tiles melted	600m	1000m
Area Where granite stone melted	1000m	1600m

Source: Hiroshima Committee, Hiroshima and Nagasaki bombing. [accessed 2014 Dec 5]. http://www.hiroshimacommittee.org/Facts_NagasakiAndHiroshimaBombing.htm

8
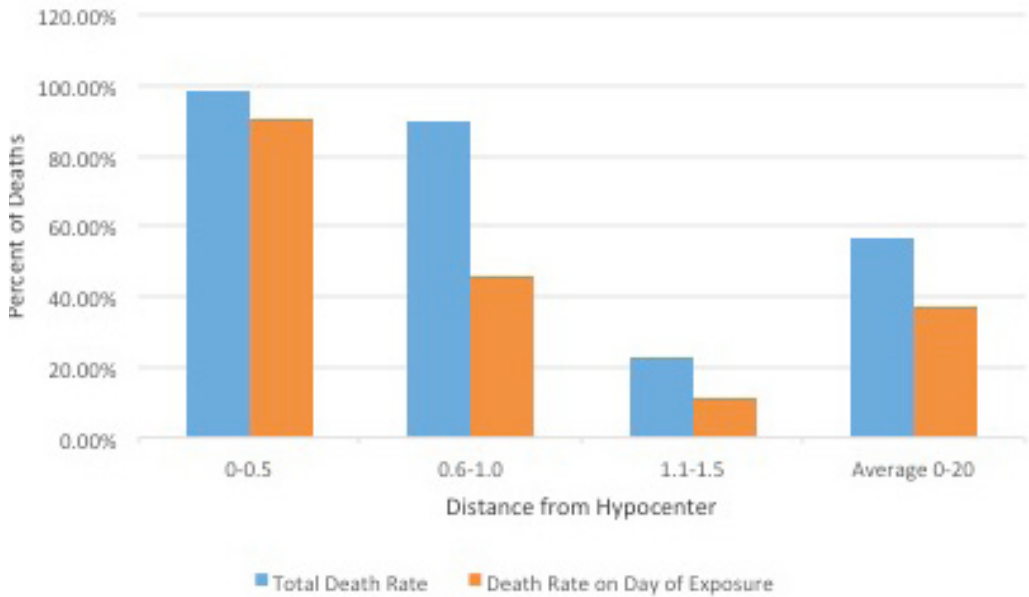
Figure 5: Relationship between the distance from the hypocenter and the Percent of Deaths in that Distance Range.

Source: Hiroshima Committee, Hiroshima and Nagasaki bombing. [accessed 2014 Dec 5]. http://www.hiroshimacommittee.org/Facts_NagasakiAndHiroshimaBombing.htm

CONCLUSION

On August 15, 1945 the Emperor of Japan gave his speech on the surrender of the Japanese people and it was broadcasted. The official surrender of Japan came on September 2, 1945. [23] Representatives of Japan boarded the USS Missouri, and signed the Japanese Instrument of Surrender. [24]

It is often argued whether or not the use of the atomic bomb was needed to end the war in Japan. Supporters of its use state that it potentially saved at least 500,000 U.S. troop lives, and possibly even prevented the Japanese from having higher casualties as well. Those opposed often state that the very idea of the atomic bomb is unethical, and that the U.S. government dehumanized the Japanese people by doing so. [25] Whether or not the bomb ended the war is uncertain, but it was certain that its creation changed the world forever, for good or for evil.

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There are many varieties of numerical documentation styles. This report uses the CSE Citation Sequence style. In most versions of numerical documentation the entries are indented instead of overhung as they are here.

Mr. Holt uses many more sources than would be expected for an assignment of this sort.

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Readability Indices

Readability indices are used to estimate how difficult a text is to read by calculating the text's complexity based on measureable characteristics such as sentence lengths, word lengths, syllable counts, and character counts. Often the results of these calculations are expressed as grade levels. Technical and professional writers use reability scores to match their writing to the reading abilities of their audiences and to maintain stylistic consistency in lengthy collaboratively written documents.

How to Compute Gunning's Fog Index

Robert Gunning's Fog Index, published in *Technique of Clear Writing,* was one of the first efforts to quantify the readability of textual material. The number that results from the following calculations is meant to correlate to grade level.

1.   Count the words and sentences in a representative passage of about 100 words

2.   Divide the number of words by the number of sentences to give the average length of each sentence

3.   Count the number of words of three or more syllables that are not (a) proper names, (b) combinations of short easy words like housekeeper or butterfly, or (c) verbs that are made three syllables long by suffixes such as -ed, -es, or -ing

4.   Add the average sentence length from step 2 and the number of "difficult" words from step 3.*

5.   Multiply the resulting sum by 0.4.

Gunning Fog Index = [(number of words / number of sentences) + "difficult words"] x 0.4

The *Bible*, for the most part, has a Fog Index of 6 or 7. *Time* magazine measures about 10. Even the *Atlantic Monthly* has a Fog Index of only 12. The average adult reader in the United States reads at the eight-grade level. Remember, just because some people have lots of schooling and can understand written matter with a Fog Index of 17-plus, doesn't mean they like to read such stuff.

* If you are using a sample much larger than 100 words, divide the number of "difficult" words by the number of words in the sample and multiply the quotient by 100. Add the resulting number to the average sentence length.

Flesch Reading Ease Formula

Readability testing of materials for adult readers was popularized in the 1940s by Rudolph Flesch. The Flesch Reading Ease Formula calculates a score of 0-100 for a selected passage. The higher the score, the easier the passage is to read. For most standard documents technical writers aim for a Flesch Reading Ease score of 60-70.

The formula for the Flesch Reading Ease score is

$$206.835 - (1.015 \times ASL) - (84.6 \times ASW)$$

where ASL = average sentence length (the number of words divided by the number of sentences) and ASW = average number of syllables per word (the number of syllables divided by the number of words).

Flesch-Kincaid Readability Index

J. Peter Kincaid adapted Rudolph Flesch's formula to create the Flesch-Kincaid Grade Level score. Like the Gunning Fog Index, the Flesch-Kincaid Readability Index purports to rate text by U.S. grade-school level. For example, a score of 8.0 means that an eight grader can understand the document. Many professionals suggest that for most standard documents that are designed to be read by a wide audience, a technical writer should aim for a score of approximately 7.0 to 8.0.

The formula for the Flesch-Kincaid Grade Level score is

$$(.39 \times ASL) + (11.8 \times ASW) - 15.59$$

where ASL = average sentence length (the number of words divided by the number of sentences) and ASW = average number of syllables per word (the number of syllables divided by the number of words).

Word Processing Programs and Readability Indices

Most word processing programs will calculate the readability of text or documents that you select. If you check show readability indices in the preferences for Microsoft Word's spelling and grammar checker, the program will calculate the Flesch Reading Ease score and the Flesch-Kincaid Grade Level for the selected passage or document. A screenshot of Microsoft Word's readability analysis of Jacob Partridges's "The Origins of Basketball" (pp. 100-110) is shown in Figure 1 on the following page.

Some Sample Readability Scores from This Text

Jacob Partridge's "The Origins of Basketball" on pages 100-110 has a Flesh Reading Ease score of 58.7 and a Flesch-Kincaid Grade level of 8.9. Figure 1 below shows the Microsoft Word dialogue box analyzing Mr. Partridge's report.

Addilin Brown's "Classification of Data by Properties" on pages 26-27 has a Flesh Reading Ease score of 34.1 and a Flesch-Kincaid Grade level of 12.7.
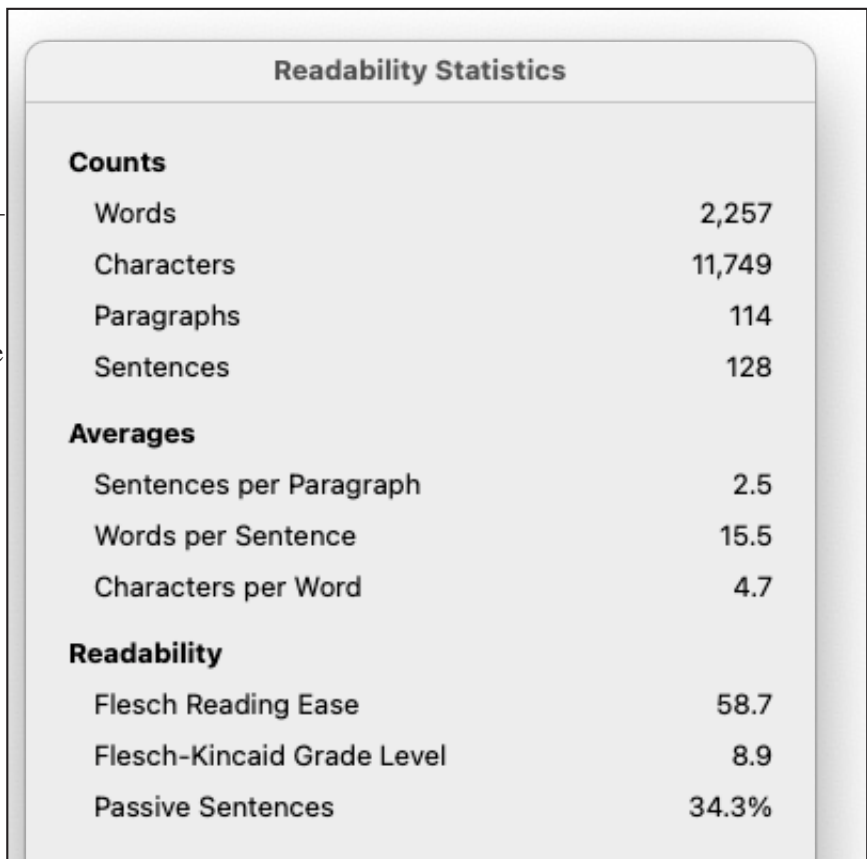
John Eden's "Anatomy and Function of the Eyeball on pages 77-78 has a Flesch Reading Ease score of 58.9 and Flesch-Kincaid Grade Level of 9.7.

Greg Grady's "The Upperclassman" on page 5 has a Flesch Reading Ease score of 70.3 and a Flesch-Kincaid Grade Level score of 7.1.

Automated Reability Index

Many other readability indices exist. The web site readabilityformulas.com – https://readabilityformulas.com/freetests/six-readability-formulas.php – is a resource that provides additional readability scores – including the Coleman-Liau Index, the SMOG Index, and the Linsear Write Formula. Examples of these scores are shown on the next two pages.

The Microsoft Word readability analysis also calculates the percentage of passive sentences. See the discussion of passive usage on pages 153-155.

Readability Statistics

Counts

Words	2,257
Characters	11,749
Paragraphs	114
Sentences	128

Averages

Sentences per Paragraph	2.5
Words per Sentence	15.5
Characters per Word	4.7

Readability

Flesch Reading Ease	58.7
Flesch–Kincaid Grade Level	8.9
Passive Sentences	34.3%

Figure 1: Microsoft Word Readability Statistics Display

Some indices present readability graphically. Figures 2 and 3 below show Fry Graph and Raygor Graph readability analyses of Jacob Partridge's "The Origins of Basketball" (pp. 100-110). Figure 4 on page 141 shows the consensus readability report for Mr. Partridge's report.
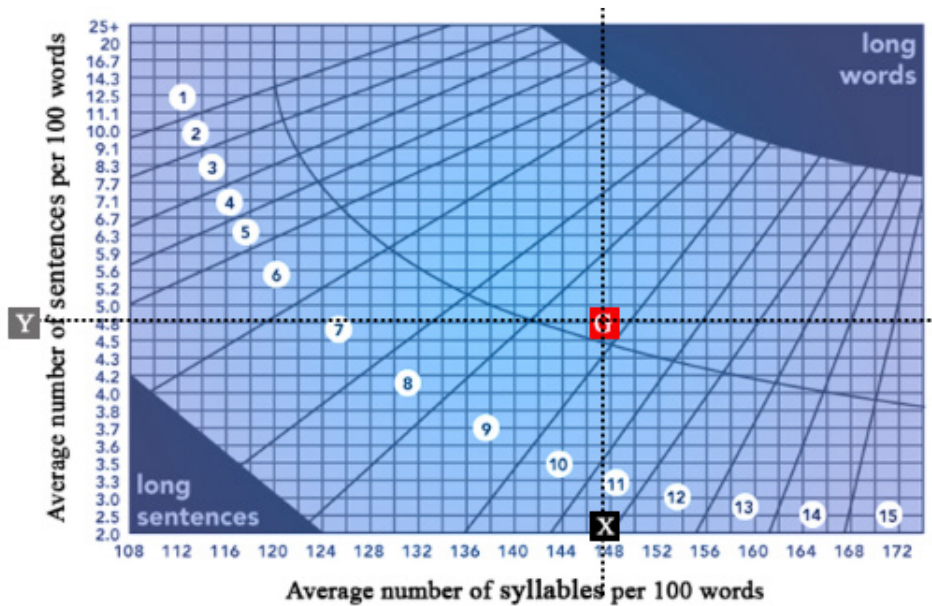
Figure 2: Fry Graph Analysis of Jacob Partridge's "The Origins of Backetball"
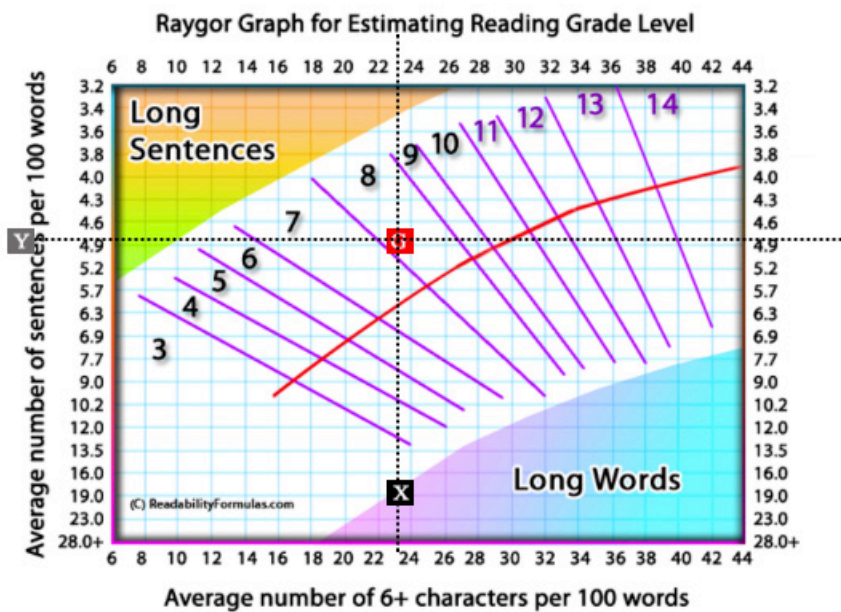
Figure 3: Raygor Graph Analysis of Jacob Patridge's "The Origins of Basketball"

Text Readability Consensus Calculator

Purpose: Our Text Readability Consensus Calculator uses 7 popular readability formulas to calculate the average grade level, reading age, and text difficulty of your sample text.

Your Results:

Your text: It was the year of 1891 when basketball was first ...(show all text)

Flesch Reading Ease score: 66.9 (text scale)
Flesch Reading Ease scored your text: standard / average.
[f] I [a] I [r]

Gunning Fog: 10.6 (text scale)
Gunning Fog scored your text: hard to read.
[f] I [a] I [r]

Flesch-Kincaid Grade Level: 9.1
Grade level: Ninth Grade.
[f] I [a] I [r]

The Coleman-Liau Index: 8
Grade level: Eighth grade
[f] I [a] I [r]

The SMOG Index: 6.9
Grade level: Seventh Grade
[f] I [a] I [r]

Automated Readability Index: 9.9
Grade level: 14-15 yrs. old (Ninth to Tenth graders)
[f] I [a] I [r]

Linsear Write Formula : 11.8
Grade level: Twelfth Grade.
[f] I [a] I [r]

Readability Consensus
Based on (7) readability formulas, we have scored your text:

Grade Level: 9
Reading Level: standard / average.
Reader's Age: 13-15 yrs. old (Eighth and Ninth graders)

Figure 4: Readability Analysis from reabilityformulas.com

Testing Writing

An effective way to discover how technical documents can be made more informative, persuasive, and usable is to test them. Tests are designed to answer two general questions:

- How can the draft be improved?
- Is the document good enough? In other words, how close is it to an acceptable final version?

The following guidelines for testing writing are based on material in the seventh edition of Paul Anderson's *Technical Communication: A Reader-Centered Approach*, 2011.

1. **Establish test objectives**. These are a series of questions about your document. Do the headings help readers access information efficiently? Are readers able to complete the task? Do readers understand the technical terms in the document? You can also establish **measurable criteria** such as saying instructions are good enough if readers are able to complete the task in less than five minutes with no serious errors.

2. **Select test readers like your target readers.** In order to do this effectively, you must have a clear understanding of the your intended audience. Consider the knowledge and cultural background of your target audience when selecting test readers. The number of test readers may depend on the type of document. A small number of test readers may give an accurate view of the effectiveness of instructions. A larger number of test readers may be needed to get an accurate picture of readers' understanding of a complicated document.

3. **To focus on usability, ask your readers to use the document in the same way that your target readers will**. As a rule, the target readers' use of the document will be of three types: (1) performing a task, (2) locating information, or (3) understanding and remembering content.

   (1) <u>Performance testing</u>: Ask your reader to perform the same task as your target readers in a setting similar to the one target readers will be in and using materials and tools that will be available to your target readers.

   (2) <u>Location testing</u>: Ask your test reader to find particular pieces of information in the document as quickly as possible. This is an effective way to test the effectiveness of headings, indices, and table of contents.

   (3) <u>Understandability tests</u>: Ask your test reader to read the document and then use a written test or interview to determine how well they understood what they read. You could, for example, ask your reader to identify a correct paraphrase of the content or to apply the information in the document to a fictional situation.

4. **To focus on persuasiveness, test how the document affects your readers' attitudes. Interview test readers**. Questions should focus on the readers' attitudes toward both the information in the document and the manner in which the document is presented. You can use open-ended questions such as "How do you feel about the company's new product?" or questions based on a scale "On a scale of 1 (very appealing) to 5 (very unappealing), how do you feel about the company's new product?

5. **Avoid biasing results.** Testing has less value if the results are biased by your actions. Refrain from intervening in the testing process and be careful to word questions in an unbiased manner. To increase objectivity, consider having someone else conduct the test for you.

6. **Consider re-testing**. Testing early in the drafting process and following up with tests of later drafts can be beneficial.

Basic Powerpoint Communications Rating Sheet

Speaker (1):_____   Topic:_____

Speaker (2):_____

Criteria for Evaluation:

Content ____/15

___/3 effective introduction (got audience attention) & preview
___/7 overall organization/development (flow)
___/2 assigned content is present
___/3 effective conclusion and/or summary
_____
_____
_____

Personal Manner of Presentation ____/5

___/2 vocal quality of delivery (dynamics/volume/enthusiasm/emphasis)
___/2 speed/pace of delivery (not rushed; did not read from slides)
___/1 exhibits understanding of the material
_____
_____
_____

Consideration of the Audience ____/10

___/2 text is easy to read (font and color)
___/5 visuals are aesthetically appealing and appropriate
___/3 the slideshow "works" properly (no hiccups, no files missing, timing is right)
_____
_____
_____

_____/30 = Total Score

Sentence Errors

Fragments, comma splices, and fused sentences are serious errors because they indicate uncertainly regarding the basic structure of writing and can lead to serious miscommunication.

Clauses: A clause is a group of words that contains a legal subject-verb combination. Clauses can be either **independent** or **dependent.**

Connectives: Four main types of words are used to connect elements in English sentences: **relative pronouns, subordinating conjunctions, conjunctive adverbs,** and **coordinating conjunctions.**

Table 1: Types of Connectives

These make a clause **Dependent**		These keep a clause **Independent**	
relative pronouns	**subordinating conjunctions**	**conjunctive adverbs**	**coordinating conjunctions**
who	although	however	and
whom	before	nevertheless	but
whose	if	then	for
that	since	therefore	so
which	when	thus	or
	before	consequently	nor
	many others	*many others*	yet

You can memorize the relative pronouns and coordinating conjunctions. You can differentiate subordinating conjunctions and conjunctive adverbs by testing to see if they can be relocated within the clause. Only the conjunctive adverbs can be moved.

For example, the conjunctive adverb "then" can be located in several places in the following sentence:

I bought new shoes; (then), I (then) went (then) to Walmart (then).

If, however, the subordinating conjunction "when" were used in the same sentence, it could have only one location:

I bought new shoes (when) I went to Walmart.

Checking Sentence Errors

With the basic understanding of clauses and connectives, you can analyze a sentence using the following process.

1. Determine how many clauses the sentences contains.
    <> Locate all "legal" verbs (excluding infinitives and participles without helping words).
    <> Match the "legal" verbs with their subjects.

2. Determine how many clauses are independent.
    <> Clauses that begin with subordinating conjunctions are dependent.
    <> Most clauses that begin with relative pronouns are dependent.
    <> Other clauses are independent.

3. Count the independent clauses.
    <> If the sentence contains no independent clauses, it is a sentence fragment.
    <> If the sentence contains one independent clause, it has no sentence errors.
    <> If the sentence contains two or more independent clauses, you need to test their connection.

4. Test the way in which independent clauses are connected.

    <> If IC, IC = comma splice.
    <> If IC IC = fused sentence (run-on).
    <> Else = no errors.

Fixing Sentence Errors

Four ways to repair a comma splice (IC, IC) or fused sentence (IC IC).
1. IC, and IC.
2. IC; IC.
3. DC, IC. or IC DC.
4. IC .IC.

Commas

Although there are many rules regarding the use of commas, the four below will cover many troubling situations and give you logical reasons for placing commas in your writing.

1. **Place a comma before a coordinating conjunction that is being used to connect two independent clauses.**

   Example: Jeffrey ate all his potatoes, but he didn't finish his salad.

2. **Place a comma after a dependent clause or long introductory phrase at the beginning of a sentence.**

   Example: When Jeffrey is hungry, he will eat anything.

3. **Separate nonessential dependent clauses with commas.**

   Essential: The man <u>who is wearing the red hat</u> will give you $100.

   Nonessential: Mr. Spry, <u>who likes red hats</u>, will give you $100.

4. **Separate interjections that interrupt your sentence with commas.**

   Example: The new textbook, however, is a major improvement.

Subject-Verb Agreement

The following sentences provide example of tricky subject-verb agreement problems.

1.   Here under the chairs (is, are) a ten-year-old cat.
2.   Each of the accelerators (is, are) compatible with this computer.
3.   Either the squirrels or the dog (is, are) digging up my garden.
4.   Both Fred and Jill (is, are) leaving for Cleveland tonight.
5.   *Invisible Man* is one of those books that (is, are) worth reading more than once.
6.   *Invisible Man* is the only one of the assigned books that (is, are) worth reading at all.
7.   Economics (is, are) my greatest academic fear.
8.   My greatest academic problem (is, are) frequent absences.

Pronoun Agreement and Reference

The following sentences provide examples of tricky pronoun agreement and reference problems. Pronouns need to agree with their antecedents in person, number, and gender. * For information on pronouns and gender neutrality see Non-Biased Language on pages 217-219.

1. Mr. Jones, Mrs. Jones, and (we, us) are going to the church picnic this afternoon.
2. Each of the students handed in (his, her, their)* assignment late.
3. The professor (who, whom) we hired has an outstanding publication record.
4. The girl (who, whom) gave us directions was pretty.
5. The new consultants told the architects that (they) would need to reexamine the construction plans. [What should substitute for "they"?]
6. Sally walked out on her boring job, her insensitive husband, and her mind-numbing degree program, pleased to be through with (it). [What should substitute for "it"?]
7. Sally told me that the recipients of the new scholarships were George and (her, she).
8. In contrast to Sally and (I, me), the new group member seemed enthusiastic.
9. (Us, We) group members will have to work together outside of class.
10. If a student completes all of the assignments, (you, he, she, they)* will probably pass.

(See answers on page 246)

Using Numbers

In general, technical and workplace writers believe that numbers are best expressed as numerals (37) rather than words (thirty-seven), but practice regarding the use of numbers in technical and workplace documents varies. Technical writers need to adhere to the style required by their employer or the audience for whom they are writing. The rules listed below follow the seventh edition of the American Psychological Association's (APA) *Publication Manual* (2020).

As examples of how other style manuals suggest different standards: the ninth edition of the Modern Language Association's (MLA) *MLA Handbook* (2021) emphasizes a greater use of words; the eight edition of the Council of Science Editors' (CSE) *Scientific Style and Format* (2014) emphasize a greater use of numerals. For example, the APA style used in the following list suggests that numerals up to nine should be written as words (eight, 99). In contrast, MLA suggest that in general use any number that can be expressed in two words should be written as a word (eight, ninety-nine), and CSE suggests that only zero and one be written as words (8, 99).

1.   Use words for numbers

      <>   that are less than 10:
              two   nine
      <>   that are free-standing fractions
              We have completed three-fourths of the project.

<>   that express time stated without a.m./p.m.
     one fifteen   nine thirty

<>   that are ordinals
     first   third

2. Use figures for numbers

<>   that are 10 or greater
     17   347,615

<>   that express fractions used as modifiers or joined to whole numbers
     3/8-in. drill bit   6 1/2

<>   that express dates
     June 11, 1991   August 12

<>   that express page numbers
     page 12   page 243

<>   that express percentages
     23 percent   5 percent

<>   that express ages
     6-year-old computer

<>   that express amounts of money
     $12.96 $247.00

<>   that express time with a.m./p.m. designation
     4:45 p.m.   8:30 a.m.

<>   that are part of a group of mixed numbers
     For that project they needed 14 actors, 2 video cameras, and 24 video cassettes.

3. Never begin a sentence with a number written as a figure.

Eighty-three percent of the respondents opposed the new tax.

4. If one number must be placed immediately before another, write out the first as words and use a figure for the second.

I ordered twenty-seven 4-gigabyte drives.

Hyphenation

1.   **Hyphenate compound modifiers that precede the noun that they modify.**

the first-place team   the team was in first place

2.   **Hyphenate adverb-participle compounds before a noun unless the adverb ends in -ly.**

the hard-driving rain   the slowly falling snow

3.   **Hyphenate ratios that are used as adjectives and precede the noun.**

a two-to-one majority   The plan was passed two to one

4.   **Hyphenate a series of compound adjectives preceding a noun.**

Our program admits sixth-, seventh-, and eighth-grade students.

Capitalization

1.   **Capitalize proper nouns, books, movies, television series, video games, languages, days of the week, months, holidays, names of organizations, races and nationalities, historical events, and names of structures.**

Iranian   Witherspoon Hall
Invisible Man   August
American Recovery Act   Memorial Day

2.   **Capitalize titles that precede a proper noun**

President Robin Bowen   Robin Bowen, president

3.   **Capitalize words such as street or college only when they are used with a proper noun.**

Arkansas Tech University   Twenty-Third Street
a two-year college   a one-way street

4.   **Capitalize directions when they denote specific location, not simple direction.**

the South   turn south at the corner

Abbreviations

1. **In formal writing, avoid abbreviating days of the week, months, names of disciplines, states, countries, or words such as street or road.**

   Tuesday, July 22, 2020   West Eighth Street

2. **Abbreviate units of measurement only after they have been spelled out in full the first time and are used often in your report.**

   The weight of insects is usually measured in grams. The sphinx moth weighs .628 g.

3. **Use only the abbreviations that you are confident your reader will understand.**

   I was driving at more than 80 mph when the trooper spotted me.

4. **Try to avoid using abbreviations in graphics.**

Clarity

◇ **Use articles, prepositions, linking verbs, and relative pronouns to avoid ambiguous and overly condensed sentences, sometimes called "telegraphic writing."**

   overly condensed: Suggestion to change Wonder Boy nickname rejected.
   revised: The suggestion to change the Wonder Boy nickname was rejected.

◇ **Avoid the wordy and ambiguous use of "There is" as a sentence opener.**

   wordy: There is a Lizzo concert scheduled in January
   revised: A Lizzo concert is scheduled in January.

◇ **Avoid "It" as a sentence opener, unless "it" has a clear antecedent..**

   wordy: It was her new attitude that landed her the position.
   revised: Her new attitude landed her the position.

◇ **When possible, state ideas positively to avoid confusion.**

   negative: The raspberry sherbert was not my first choice.
   positive: The raspberry sherbert was my second choice.

Diction

◇ **Use one word instead of a phrase**

wordy: We sold a large number of Golden Sun tickets.
revised: We sold many Golden Sun tickets.

◇ **Avoid redundant expressions.**

wordy: I received a low grade as a result of the fact that I didn't submit the final assignment.
revised: I received a low grade because I didn't submit the final assignment.

redundant: We are expectantly looking forward to the concert.
revised: We are looking forward to the concert.

◇ **Eliminate vague intensives.**

cluttered: We <u>actually</u> made <u>very</u> fashionable t-shirts, but we had to price them <u>extremely</u> high in order to <u>really</u> make a <u>true</u> profit.
concise: We made fashionable t-shirts, but we had to price them high in order to make a profit.

◇ **Avoid needless technical terminology.**

useless jargon: When all parties interface synchronously within the given parameters, the project will be rendered operative.
revised: When we coordinate our efforts, the project will succeed.

◇ **Use acronyms only when the reader already knows the meaning. Be sure to give the definition of an acronym when it is first used.**

correct: Mothers Against Drunk Driving (MADD) is sponsoring a fund raiser next week.

◇ **Be careful when using euphemisms. Avoid understating the facts.**

understated: Mr. Baxter was let go from the company because he did not meet our needs.
clear: Mr. Baxter was fired because of his repeated absences.

Tone

◇ **In adjustment or sales letters use the pronouns you and your ("you" viewpoint) to emphasize the recipients' needs and to make your writing more personal.**

impersonal tone: We will give members of the club an award for volunteering.
personal tone: As a member of the club, you will receive an award for volunteering.

◇ **Use neutral expressions to avoid being seen as sexist, racist, ageist, or ableist. Avoid the use of masculine third person singular when referring to both male and female. Read Non-Biased Language on pages 217-219.**

sexist: Are you interested in becoming a stewardess?
neutral: Are you interested in becoming a flight attendant?
sexist: Each project engineer should present his plans tomorrow.
neutral: All project engineers should present their plans tomorrow.

Voice

◇ **Use active voice to present a direct and straightforward sentence.**

inappropriate passive: The role of Spock was played by Leonard Nemoy
direct: Leonard Nemoy played the role of Spock.

◇ **Use passive voice to state a sentence concerning an unknown, unimportant, or unapparent agent.**

appropriate passive: All memos in this firm are filed in a central database.

The spelling and grammar checker in Microsoft Word and many other word processing programs will calculate the percentage of passive sentences in a piece of writing. For example, as shown on page 139, 34.3 percent of the sentences in Jacob Partridge's "the Origins of Basketball" (pp. 100-110) are passive. The article on the following pages, written by Kent Porter of Fairfield Semiconductor humorously underscores the problems inherent in using the passive voice in technical documents.

Usage of the Passive Voice
Kent Porter
Fairchild Semiconductor

Widespread popularity has been gained by the passive voice in business and technical communication. The chief reason for its utilization is that documents are given an aura of unassailable authority by it. The following memorandum is offered as an example:

It has been decided that, effective immediately, the doors to the plant will be locked at 0900 each day. Only those employees who have been issued a special pass will be permitted to enter thereafter. All others will not be admitted, and will be docked the day's pay.

From this memo, it cannot be determined—

* By whom this action was decided.
* For what reason the action has been undertaken.
* By whom the doors will be locked
* By whom the special pass is issued.
* By whom the employee's pay will be withheld.

Therefore, while a mighty dictum has been articulated by this memo, responsibility cannot be assigned to anyone; it can only be assumed that the policy was written and is administered by God.

Parallels can be found throughout technical writing. In a programming manual, for example, it is said that

Registers are loaded from memory addresses, but the memory locations from which the data are taken are not altered in the process.

From this entry, it can be concluded that these actions are not performed by anyone or anything, but instead occur as if by magic. Furthermore, it is made clear by the passive voice that the truth of these assertions is unquestionable. Statements in the passive voice are thus made to sound ponderously official.

At this point, the nature of the passive voice should be explained. Passive usage is divided into two basic categories:

Category 1: Passive without Responsible Agency
            /subject/+/form of verb TO BE/+/past participle/
Examples: Mondays have been canceled.
            Taxes should be abolished.
            Technical writing is judged to be effective when it cannot be understood (by
             anyone).

Category 2: Extended Passive
            IT/form of verb TO BE/+/past participle/+THAT
            /anticipated outcome, expressed in the passive/
Examples: It has been decided that breakfast will be served.
            It should be noted that results may not be achieved as expected.
            It is to be supposed that reasons for the tax increases are understood.

A potential benefit accrued by usage of the passive voice is that the writer is forced to construct longer sentences than would be required by the active voice. An opportunity is thus created for the introduction of obscure, pompous words and convoluted phraseology, with the result that the aura of divine pronouncement is further magnified and the trivial is made to sound disproportionately important.

Perhaps the most significant benefit achieved by the passive voice in technical literature is that the reader is bored to tears by it. All but the most motivated are thus discouraged from reading any more than is deemed to be necessary in order to have a specific question answered. The user of the product being described is therefore prevented from learning much about it.

In short, if technical literature were to be rendered in the active voice—

  *   Its meaning would be clarified for those readers unversed in technobabble:
  *   The trivial would be revealed for what it is: and
  *   The aura of mystery with which high tech has been surrounded would be diminished.

Partition and Classification

Partition is an analytical process in which <u>one whole</u> is divided into its constituent parts.
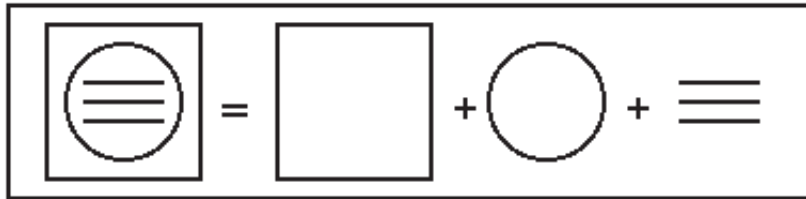
Classification is an analytical process in which <u>one consistent basis of classification</u> is used to separate <u>a defined set of distinct items</u> into categories. A classification should adhere to the following structural rules:

1. **Completeness.** Each item in the defined set must have a category into which it will fit.

2. **Exclusivity.** Each item in the defined set must fit into only one category.

3. **Appropriateness.** Even the most skillfully constructed classification is useless if it does not fit the needs of its intended audience.

In the example to the right, the set of eight Martian-Venutian Tri-Blast Specials from Buck Rogers comics is classified on the basis of <u>orientation</u>, resulting in four categories.

Category 1

Category 2

Category 3

Category 4
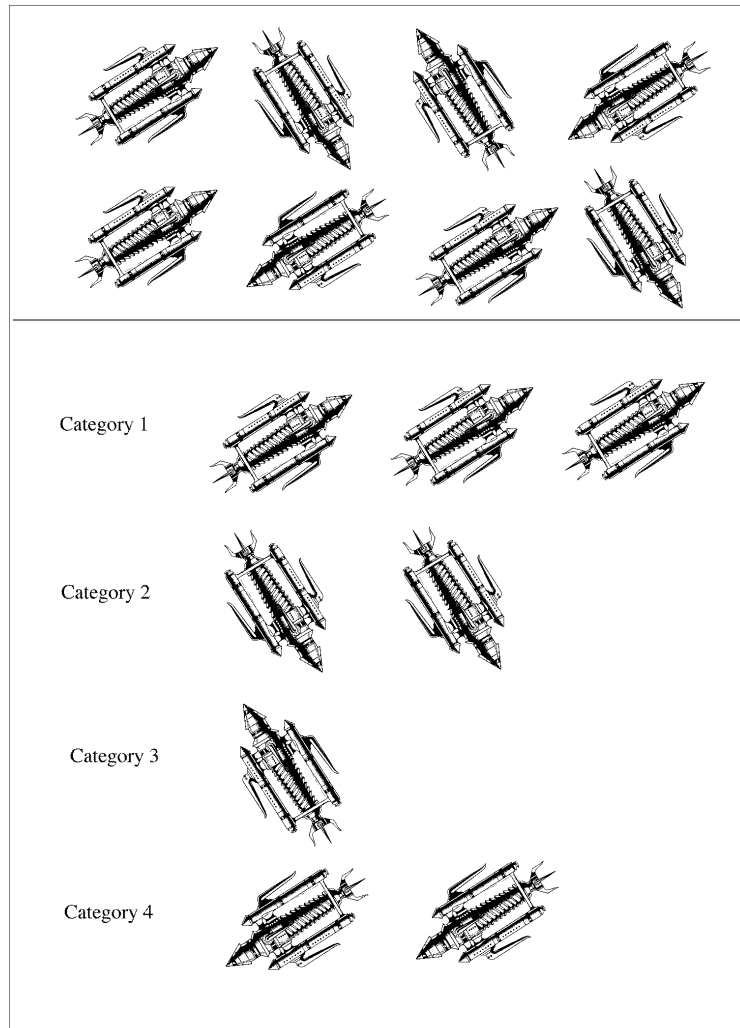
Classification Exercise

The set of twenty-four drawings on the right side of this page can be classified in many ways. Practice formulating unambiguous bases for classification. Suggesting, for example, that the drawings be classified according to "shape" is too vague; however, basing a classification on the number of sides of the interior shapes would be much clearer.

Notice that individual drawings will fall into different categories depending upon the basis for classification used.
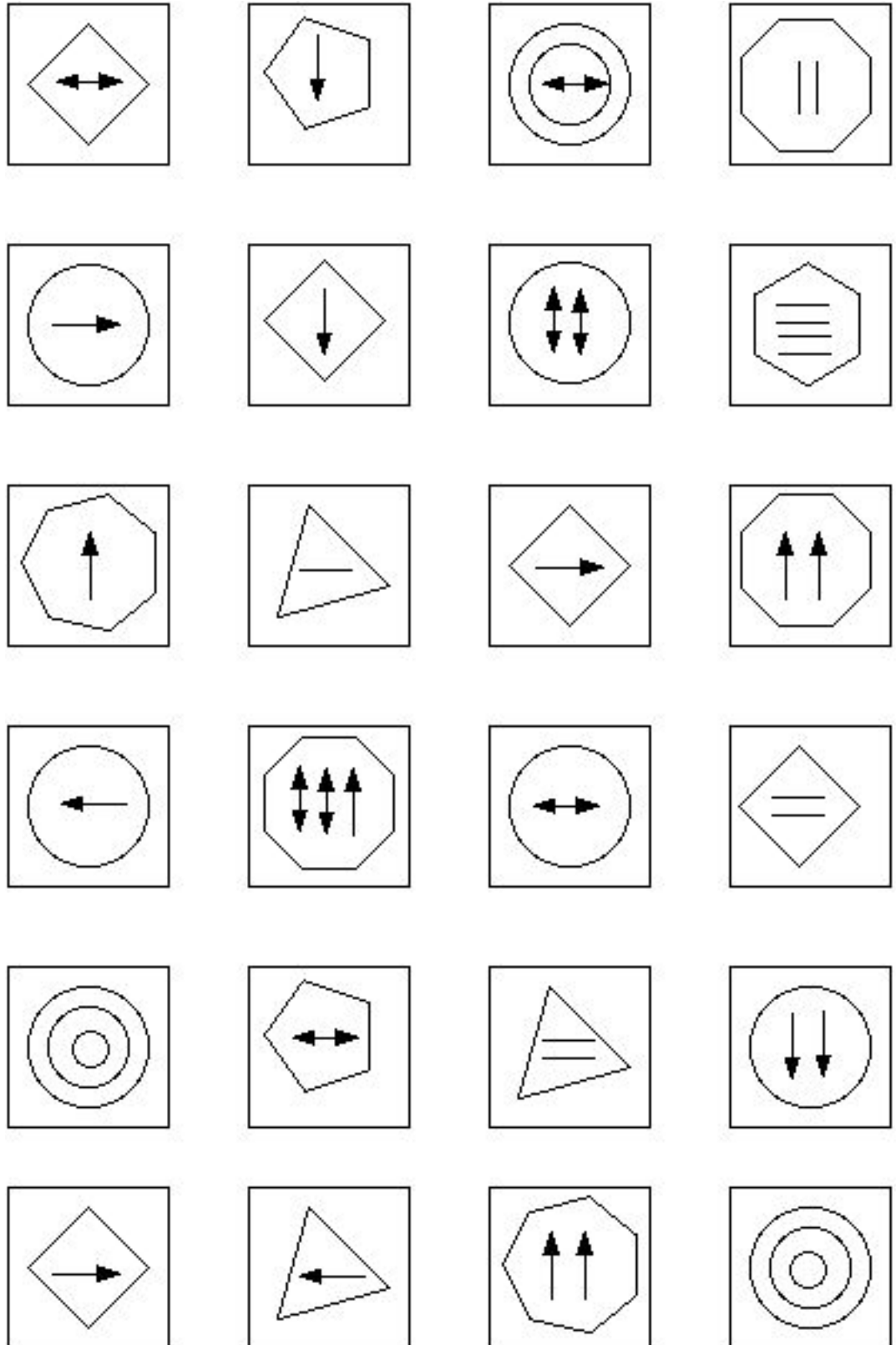
Types of Process Writing

A process is a series of actions, changes, or functions that brings about an end or a result. There are three major types of process writing.

Instructions:

<> An instruction set explains <u>how to do or make something</u>.
<> An instruction set is typically written in the <u>second person</u>.
<> An instruction set is typically written in the <u>imperative mood</u>.
<> An instruction set <u>emphasizes the reader's or the operator's role</u>.
<> **How To Mount a Deer's Head**

Process Analysis

<> A process analysis explains <u>how something works or happens</u>.
<> A process analysis is written in the <u>third person</u>.
<> A process analysis is written in the <u>indicative mood</u> and <u>present tense</u>.
<> A process analysis <u>emphasizes the process and relevant theoretical background</u>.
<> **How Deer Heads Are Mounted**

Process Narrative

<> A process narrative <u>describes how something worked or happened in one particular instance</u>.
<> A process narrative is written in the <u>third</u> or <u>first person</u>.
<> A process narrative is written in the <u>indicative mood</u> and <u>past tense</u>.
<> A process narrative <u>emphasizes the specific details of one occurrence of the process</u>.
<> **How I Mounted My First Deer Head**

Writing Persuasive Application Letters

The following tips are quoted from John Lannon's *Technical Communication*, Ninth Edition.

- *Don't come across as a jack-of-all-trades*. Relate your qualifications specifically to the job for which you are applying.
- *Avoid flattery*. "I am greatly impressed by your remarkable company."
- *Be specific*. Replace "much experience," "many courses," of "increased sales" with "three years of experience," "five courses," or "a 35 percent increase in sales between June and October 2002
- *Support all claims with evidence, to show how your qualifications will benefit this employer*. Instead of saying, "I have leadership skills," say, "I was student senate president during and captain of the lacrosse team."
- *Create a dynamic tone by using active voice and action verbs*.

What Employers Ask When Reading Application Letters

Paul Anderson [1] suggests that employers ask three questions when reviewing application letters. An effective application letter should try to respond to these concerns:

- *Why do you want to work for me instead of someone else?*
- *How will you contribute to my organization's success?*
- *Will you work well with my other employees and the persons with whom we do business?*

ID: Information Design

Saul Carliner [2] suggests that good document design is actually information design (ID) and that it works on three levels:

- *Physical:* ID helps readers find and use information by giving them a meaningful visual and physical design.
- *Cognitive:* ID helps readers understand information by logical structure and presentation that take into consideration the readers' intellectual and cultural backgrounds.
- *Affective:* ID motivates readers by getting their attention, maintaining their interest, and persuading them to act.

[1] Paul Anderson. Technical Communication: A Reader-Centered Approach, 7th Edition. Wadsworth, 2011. p. 50.
[2] Saul Carliner ""Physical, Cognitive, and Affective: A Three-Part Framework for Information Design." *Content and Complexity: Information Design in Technical Communication*. Ed. Michael J. Albers and Beth Mazur. Mahwah, NJ: Lawrence Erbaum, 2003, 39-58.

General Guidelines for Good Document Design

1. Use consistent page numbers, headers and footers. Use section breaks to create different page numbering systems, headers, or footers within a document.

2. Use adequate white space in order to keep related elements together, to emphasize important information, and to give your reader visual rest between blocks of information.

3. Use ample, consistent, and appropriate margins. As a general rule, margins should be 1 to 1.5 inches. If the document is going to be bound, the left margin should be 2 inches.

4. Use consistent line spacing throughout your document. Academic papers often require double-spacing, but workplace documents more typically use single-spacing with double-spacing between paragraphs.

5. Use lists when appropriate. Bulleted lists are effective in most instances, but numbered lists are better if the sequence of listed items is important or if it important to be able to reference a particular point in the list. Make items in a list syntactically parallel. See further information on formatting ordered and unordered lists on pages 183-184.

© Allison Brucker

6. Use standard 10- to 12-point type.

7. Use an appropriate font. Try to use no more than two typefaces in a document. Word processing programs offer many possible fonts, but most fonts can be classified as serif or sans serif. Serifs are the fine horizontal extensions to the vertical lines of a letter.

serif [Times]   sans serif [Arial]

In the United States most publications use serif fonts such as Times for body text and sans serif fonts such as Arial for headings. Sans serif fonts are also often used by designers of web pages because they are easier to read on screen. as a general rule avoid decorative fonts.

8. Use FULL CAPS infrequently or never. The absence of ascenders and descenders makes all caps more tiring to read. In addition, some people read all caps as a kind of annoying visually "shouting."

9. Use boldfacing, ruled lines, and text boxes to set off important terms, to separate sections of information, or to highlight warnings or special instructions.

Headings

Technical documents are rarely read from start to finish in a linear fashion; instead, readers tend to skip around in a document, looking for specific pieces of information. A technical writer should facilitate this searching process by making documents accessible. A logical and visually clear system of headings is one way to increase **accessibility.** A well-constructed system of headings also provides readers with visual clues to the organization of information within a document. Headings are much more useful to your reader if you are careful to make them **informative** so that they accurately communicate the contents of the sections they precede. In order to emphasize the organization of your work, make all headings at the same level **syntactically parallel**.

Insert one additional line of space above each free-standing heading. Avoid "orphaned" or "floating" headings that stand alone at the bottom of a page. Unless at least two lines of text will fit on a page below a heading, use a page break to force the heading to the next page. The meaning of the text below a heading should be independent of the heading, so do not begin the text under a heading with a pronoun referring to the heading. In long documents use running headers or footers that include the chapter or section name.

There is no prescribed method of showing hierarchy, but some general guidelines can be stated. In general, **boldfaced text** takes priority over plain text; ALL CAPITALS take priority over Title Capitals or First-letter capitals; centered text takes priority over left-justified text; larger fonts take priority over smaller fonts, and underlined titles takes priority over titles that are not underlined.

The examples that follow show some possibilities. Often the methods are used in combination. The most important rule is to be consistent in your use of headings.

Using Capitalization

PRIMARY HEADING
  τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ Ι λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Secondary Heading
  τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ Ι λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Tertiary heading
  τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ Ι λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Using Location

<div align="center">

Primary Heading

</div>

τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Secondary Heading

τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Tertiary Heading. τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Using Font Size

Primary Heading

τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Secondary Heading

τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Tertiary Heading.

τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η

Using Font Style

<u>Primary Heading</u>

τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Secondary Heading

τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η.

Tertiary Heading

τηισ ισ α σαμπλε διγνβατσ το υσε ασ φιλλερ ιν τηε παραγραπ I λικε τηισ βεχαυσε ιτ λοοκσ σο μψστεριουσ.η. .

Letter Format

Letters can be formatted in several ways, but all formats contain the same parts and should follow the same basic format rules.

General Format Rules for Letters

1. Letters should not appear cramped or crowded on the page. Leave sufficient white space.

2. Letters should be appropriately centered on the page. Avoid grossly uneven top and bottom margins.

Primary Parts of a Letter

1. **Heading:** The heading includes your address and the date. The address is omitted if you are using letterhead.

<div align="center">

12247 Excelsior Boulevard

Russellville, AR 72801

June 5, 2021

</div>

2. **Inside Address:** The inside address includes the title, name, and address of the person to whom you are writing.

   Mr. Fred Stanley

   Director of Computer Services

   Acme Data Services

   888 Highway 28

   Ramapo, NJ 01873

3. **Salutation:** The salutation traditionally includes the word "Dear," the recipient's title, last name, and a colon.

   Dear Mr. Stanley:

4. **Body Text:** Traditionally body text is single-spaced with double-spacing between paragraphs.

5. **Complimentary Close:** The first word of the complimentary close is capitalized and followed with a comma.

<div align="center">Sincerely,</div>

6. **Signature Line:** Type your name four lines below the complimentary close, providing space above it for your signature.

<div align="center">Carl Brucker</div>

Optional Parts of a Letter

7. **Attention Line:** If your letter is not addressed to an individual, you may use an attention line above or in place of the salutation.

   Attention: Customer Service Department

8. **Subject or Reference Line:** Although it is not typical of letters, a subject line may be added below the attention line if you are using one.

   Subject: Request for Return Authorization

9. **Typist's Initials:** If someone else types your letter, your capitalized initials followed by the typist's lower-case initials should appear at the left margin two lines below the signature line.

   CB/wc

10. **Enclosure Notation:** If you are including other documents with your letter, indicate their presence with an enclosure notation.

    Enclosure: DataTalk manual, demo program disk

11. **Distribution Notation:** If copies of your letters are going to be sent to readers other than the addressee, list their names next to the notation "c:" or "Copy:" one line below the enclosure notice.

    Copy: B. Brown
           F. Smith

12. **Postscript:** A postscript is a final, personal remark to the reader that is preceded by the notation "P.S." Don't overuse postscripts.

P.S. You will love the speed of these new drives.

13. **Second-Page Header:** If your letter is longer than one page, the second and all subsequent pages should start with a left-justified header that lists the recipient's name, the date, and the page number.

Stanley, June 5, 2021, page 2

Although individual companies or organizations may adopt their own letter formats, the two letter formats that are most popular in the workplace are the **modified block format** and the **block format.** The numbers on the following representations of these two formats and the **simplified format** suggested by William Pfeiffer correlate to the parts of a letter that are described above.

Modified Block Format

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Block Format

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Simplified Format *

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3 Subject line instead of salutation:

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* William Pfeiffer. <u>Technical Writing</u>. Fifth Edition. Upper Saddle River, NJ: Prentice-Hall, 2003.
p. 248.

Email and Messaging

Email is an important form of technical communication because it offers several clear advantages:

- It can be transmitted quickly.
- Its transmission can be verified
- It can be replied to readily.
- It is inexpensive.
- It facilitates the sending of multiple copies.

Because email and text messages can be composed quickly in the office or on the move, they are sometimes considered informal, but digital communication has become standard in most professional environments and technical and professional writers should consider constructing email and messages as carefully as they write any other workplace letter or memorandum.

Some Suggestions for Digital Communication

1. Think before sending

Email and messages can be composed quickly and sent instantly, so it is vital to review your message for correctness and appropriateness before sending. If a message concerns a sensititive issue, a conflict, or a serious problem, a "cooling-off" period – perhaps a lunch break – before sending might give you a chance to think through the effect of your message on your recipient, yourself, and your employer. Remember that in most organizations, emails sent throught he organization's email system are not considered private

2. Write correctly

As a general practice, write emails in complete sentences using standard capitalization and punctuation. Although workplace messages to people you know well may be informal, most professional emails and messages resemble letters or memos in terms of tone and formality, so consider avoiding the use of texting abbreviations, slang, or emojis.

3. Use standard memorandum format

Be sure that your email clearly displays the sender, recipient, and date sent. As in a standard memorandum, try to make your subject line as specific and informative as possible. Even though a specific subject line gives your reader a clear idea of the message's purpose, you should repeat the primary intent of the message in the opening of your message. Capitalize the first word of your subject line and all other words except for articles, prepositions, and conjunctions.

4. Make the context of your message clear.

Tell your reader why you are writing. If you are replying to a message, be sure to quote the previous message or summarize it in your reply.

5. Format your message for readability and accessability.

Consider using headings, sufficient white space between paragraphs, and bulleted or enumerated lists. Avoid lengthy blocks of text. Do not write in all captial letters. Activiating html in the composing preferences of your email program will permit you to use boldfacing, underlining, and italics.

6. Consider the ethics of using blind copy (bcc) messages

Although using blind copy (bcc) when sending an email to a large of number of recipients in order to avoid sharing their email addresses is good practice, secretly sending sensistive material to a additional recipient without the original recipient's knowledge can be unethical, particularly if part of office politics.

7. Use a word processing program for important messages.

Utilize the full formatting and spell checking capabilities of a word processing program for important messages. Then cut and paste the document into an email message or send it as an attachment.

8. Create goodwill by using the "you" perspective.

When possible emphasize your recipient's needs or benefits rather than your own. For example, instead of writing – "We must receive your damaged equipment before we will process a refund" – you could write – "In order for you to receive your refund promptly. please return your damaged equipment."

9. Use a signature block with email

Printed memos do not traditionally include signature lines, but professional email messages utilize signature blocks such as the following:

Carl Brucker, Professor
Department of English and World Languages
Witherspoon 149
Arkansas Tech University
Russellville, AR 72801
(479) 968-0686
cbrucker@atu.edu

Some companies supply graphic signature forms or email formatting standards, but if yours does not (1) keep each line under 60 characters to prevent unpredictahble line breaks (2) avoid using quotations, saying from popular culture, religion, politics, or poetry in professional signatures.

10. Manage your email to increase efficiency
- Do not send copies of email messages to recipients who do not want or need the information.
- Try to limit unnecessary response by letting recipients know if a response is or is not needed.
- Review all messages related to a topic before responding to be sure that a response is still relevant.
- Organize your emails using flags or folders. Save important emails as PDFs.

11. Use text and instant messages appropriately
- Do not use text or instant messages for complex or confidential information.
- Create distinct professional and personal accounts to avoid accidentally sending personal messages to professional colleagues.
- Determine what messaging service(s) are used by your organization or the professional colleagues with whom you will need to communicate.
- Be aware that your recipients or employer may save or archive your messages.

Memorandum Format

Memoranda are typically written to persons within your company or organization. Letter format is used for outside readers. Although memoranda are usually short, reports of many pages can be written in memorandum format. Memoranda are formatted to provide your reader with quick access to four important pieces of information:

1.   **the recipient's name:** The recipient's name is usually placed at the top or in some other prominent place to facilitate delivery.

2.   **the date**

3.   **the sender's name**

4.   **the subject of the memorandum.** A memorandum's subject line should give a grief but clear description of the memorandum's subject. Often the subject line is highlighted by boldfacing or underlining.

Each piece of information is typically preceded by a label. Sometimes the label for the date is omitted. Memoranda usually do not have a complimentary close or a signature line; instead, the sender initials his or her name.

Note. If a memorandum is more than one page, a page header that includes the recipient's name, the date, and the page number should appear at the top left of the second page and all subsequent pages.

Memorandum

To: Ms. Niki Schwartz
                     Director of Student Aid

CB

From: Carl Brucker, Head
                     Department of English and World Languages

Date: July 22, 2020

Subject: **Recommendation to offer Ms. Janet Pfeiffer a performance scholarship**

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Memorandum

To: Ms. Niki Schwartz   June 22, 2020
                     Director of Student Aid

CB

From: Carl Brucker, Head
                     Department of English and World Languages

Subject: **Recommendation to offer Ms. Janet Pfeiffer a performance scholarship**

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Generative AI in the Workplace

Since OpenAI launched ChatGPT in November of 2022, the use of generative AI tools in the workplace has increased dramatically. In January 2024, Glassdoor estimated that 62% of professionals were using ChatGPT or other generative AI tools at work.

Generative AI tools such as ChatGPT have numerous uses in the workplace as suggested by the list on pages 177-178 that was created by ChatGPT itself, but one important use for workers and students is as a writing assistant.

How to use ChatGPT to review your writing

1. Check with your instructor or supervisor about their policy regarding the use of generative AI tools such as ChatGPT.

2. Create a draft of your text.

3. Paste your text into ChatGPT. Provide the program with appropriate contextual information such as the audience for which the text is intended and its purpose. Ask for suggested improvement and corrections. Your request can focus on a specific area of concern such as tone, clarity, coherence, or grammar.

4. Review the response carefully, checking for accuracy and making sure that you understand the rationale behind the suggested changes.

5. Ask followup questions regarding the suggested changes.

6. Revise the text based on the feedback.

7. Resubmit the revised document for additional suggestions.

8. Review the final version of the text to be sure that it is accurate and correctly expresses your thoughts.

9. Include a recognition of your use of ChatGPTin your text or as a footer such as the following:

ChatGP was used to check grammar and suggest improvements.

Sample citations for information from ChatGPT are included in Research Methods on page 231 (MLA), page 235 (APA), page 239 (CSE/C-S), and page 243 (CMS)

How to use ChatGPT as a research assistant

Because ChatGPT is a standalone language-processing tool without live access to internet updates and its responses are based on a data pool that may be over a year old, it has difficulty providng the most up-to-date information. Nonetheless, ChatGPT and other search tools that employ generative AI can assist research when used carefully.

Examples of citations to information gathered with CahtGPT are included in Research Methods on pages 220-243.

1. Check with instructors or supervisors about their policy regarding the use of generative AI tools such as ChatGPT.

2. Ask ChatGPT to help you brainstorm topics. You can use followup questions to define a topic based on the particular context in which you are writing.

3. Ask ChatGPT to generate an outline of a report on the topic you have selected.

4. Ask ChatGPT to identify sources for the entire project or specific topics. Because ChatGPT does not provide internet links, you will need to seek out the details of the sources using a search engine. Other AI tools such as Copilot or Gemini may be more efficient as they provide the links to internet sources.

5. Ask ChatGPT to identify specific examples that support your topic.

6. Ask ChatGPT to generate complete source listing for sources. citations in the style of your report. You may need to supply ChatGPT with some needed information manually.

7. Carefully check the accuracy of the information and sources that ChatGPT supplies.

8. If you use ChatGPT to create content or review your draft, follow the guidlines on the previous page.

Potential Problems of Using Generative AI in the Workplace

There are some contexts in which the use of generative AI tools in the workplace could be problematic

1. Company Policy: Employees should be sure that the use of generative AI does not violate company policy that bans or limits its use. Employees who use generative AI in the workplace should let their employers know how and when they are using tools such as ChatGPT.

2. Disclosure of Confidential Information: OpenAI, the creators of ChatGPT, reserve the right to use conversations from ChatGPT for training purposes and the right to review information. If confidential information is included in a document created with the assistance of ChatGPT, this would result in the improper disclosure to a third party.

3. Retaining Legal Protection: A work created with generative AI assistance might not have the same legal protection that original work would have. The legal status of such work, its eligibility for copyright protection, has not yet been firmly established by our judicial system or the U. S. Copyright Office.

4. Incorrect of Biased Information: Generative AI tools are fallible, so employees should carefully review information produced using them for accuracy. Because these generative AI tools are trained on past documents, they may reflect outdated biases regarding race and gender

The above list is based on Tom Spiggle's April 27, 2023 article "Implications of Using ChatGPT in the Workplace," available at https://www.lexisnexis.com/pdf/practical-guidance/ai/the-implications-of-using-chatgpt-in-the-workplace.pdf

Other Generative AI Tools

Generative AI tools and chatbots continue to be created and improved. The following list of tools other than ChatGPT is incomplete, but is intended to give some idea of the diverse tools available for use in the workplace.

Copilot and Gemini: These tools, from Microsoft and Google respectively, provide free access to current information and links back to the sources it retireves.

Claude: Claude is a free chatbot that can accept direct uploads of files and read, analyze, and summarize them.

Perplexity: Perpelxity is a free chatbot that is particularly useful as a free search engine, suggesting prompts that can enhance a search.

Jasper: Jasper is a subscription chatbot that is designed specifically for business use.

Grammarly: Grammarly is a powerful writing assistant that can provide suggestions regarding grammar, spelling, sentence structure, diction, and overall readability.

Copyscape: Copyscape is a plagiarism detection tool.

Article Forge: Article Forge is a content creator that focuses on producing articles on suggested topics.

Hemingway Editor: Hemingway Editor specializes in suggesting ways to make writing more efficient and readable.

Stable Diffusion, Midjourney, DALL-E: These tools generate images from natural language descriptions.

Chuck, Jukebox, Morpheus, AIVA, Magenta, Riffusion: These tools generate music files.

Sora, Runway: These tools create detailed and photorealistic video clips.

ChatGPT's List of Potential Uses in the Workplace

When asked to create a list of ways in which ChatGPT could be used in the workplace, the program responded with the following:

Certainly! ChatGPT can be a versatile tool in the workplace, providing assistance across various domains. Here are several ways to use ChatGPT effectively in a professional setting:

1. **Customer Support**:
   - Answer common customer queries.
   - Provide product information and troubleshooting assistance.
   - Automate initial customer interactions.

2. **Content Creation**:
   - Generate blog posts, articles, and newsletters.
   - Create engaging social media content.
   - Draft email campaigns and marketing materials.

3. **Documentation and Reports**:
   - Assist in writing and formatting reports.
   - Summarize long documents and highlight key points.
   - Create and maintain internal documentation.

4. **Meeting Preparation and Follow-up**:
   - Draft agendas and meeting notes.
   - Summarize meeting discussions and action items.
   - Schedule meetings and send reminders.

5. **Data Analysis and Insights**:
   - Provide insights based on data inputs.
   - Generate data-driven reports and visualizations.
   - Assist in interpreting data trends.

6. **HR and Recruitment**:
   - Draft job descriptions and postings.
   - Screen resumes and shortlist candidates.
   - Schedule interviews and communicate with applicants.

7. **Training and Development**:
   - Create training materials and modules.
   - Answer employee questions and provide support.
   - Develop quizzes and assessments.

8. **Project Management**:
   - Assist in planning and scheduling tasks.
   - Track project progress and deadlines.
   - Generate project status reports.

9. **Technical Support**:
   - Provide coding assistance and debugging help.
   - Generate code snippets and scripts.
   - Offer software usage tips and troubleshooting.

10. **Research and Information Gathering**:
    - Conduct market research and competitive analysis.
    - Summarize research papers and articles.
    - Find and organize relevant information quickly.

11. **Administrative Assistance**:
    - Manage calendars and set reminders.
    - Draft and send professional emails.
    - Automate repetitive administrative tasks.

12. **Creative Brainstorming**:
    - Generate ideas for campaigns and projects.
    - Assist in naming products or services.
    - Provide creative writing prompts and inspiration.

13. **Language Translation and Proofreading**:
    - Translate documents and communications.
    - Proofread and edit text for grammar and clarity.
    - Assist with writing in multiple languages.

14. **Sales and Marketing**:
    - Generate sales scripts and pitches.
    - Provide customer insights and profiling.
    - Assist with lead generation and follow-ups.

15. **Internal Communication**:
    - Facilitate team collaboration with chatbots.
    - Draft internal memos and announcements.
    - Assist with onboarding materials and processes.

Integrating ChatGPT into these various functions can enhance productivity, streamline processes, and improve the overall efficiency of workplace operations.

Writing Online

Writing for Rapid Consumption

People tend to read digital text quickly, scanning rather than reading word for word. Given the typical online reader's brief attention span technical and workplace writers should consider organizational and formatting strategies that permit rapid consumption of information.

- <u>Use the inverted pyramid</u>. Place the most important information first and develop your writing with information in descenidng order of importance, a method traditionally used by journalists. Many online readers will not scroll down to read a full article. Typical readers may spend less than a minute on a page before leaving.
- <u>Use a simple and appropriate tone</u>. Prose that is plain, honest, and direct is most effective. Avoid inflated, unsupported claims and language that suggests bias (See Non-Biased Language pages 217-219). Avoid inappropriate humor or excessive informality. Remember that in a workplace environment, the tone of your writing represents your company.
- <u>Write concise "chunked" prose</u>. Break lengthy passages into manageable chunks. Use topic sentences and limit each paragraph to one idea expressed in three or four sentences. Keep sentences realatively short and try to use concrete nouns and active verbs.

Highlighting Information

- <u>Use heading and subheadings</u>. Headings reduce the complexity of text by highlighting structure and providing signals that readers can use to scan text quickly. See Headings on pages 161-162 for suggestions for creating effective systems of headings and subheadings.
- <u>Use bulleted and enumerated lists</u>. Bulleted and enumerated lists can break up text into digestible pieces and emphasize the parallelism of listed items. They should, however, not be overused. For details see Lists in Technical Writing on pages 183-184.
- <u>Use directional clues appropriate to the online environment</u>. Some navigation cues used in the print environment such as "on the top of this page" are not useful in an online environment in which there is no clear "top" or "bottom." Similarly, directions such as "next" and "previous" may not work if your reader has not navigated through your site in a linear fashion.
- <u>Use links</u>. Embedding links in online text can make navigation clearer for your user while avoiding interrupting or cluttering your test with supplemental information.
- <u>Provide access for people with disabilities</u>. To the extent possible limit barriers to people with impaired vision or hearing. Consider avoiding the use of frames, complex tables, animation, JavaScript, and other design elements that are incompatible with text-only browsers, screen readers, or large-print software.

Selecting Communication Media

Table 2: Selecting Communication Media on the following page lists some communication media used in professional workplace environments and their primary uses. The information in the table is from Walter E. Oliu, Charles T. Brusaw, and Gerald J. Alfred, eds. *Writing That Works: Communicating Effectively on the Job*, Thirteenth Edition. Beford St. Martin's, 2020. These communication media overlap and choices should be based on:

- your organization's policies and preferences
- your audience's preferences
- the length and complexity of the message
- the available technology
- the time sensitivity of the message
- the appropriate level of formality
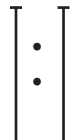
Table 2: Selecting Communication Media

Medium	Primary Use
Printed Letters	Official communication on organizational stationary with signatures.
Printed Memos	When electronic communication is not practical, recipients do not have email, or printed information needs to be posted.
Email	Messages, shared files, and online links that can be sent immediately from mobile devices without cost, easily forwarded, and saved in a permanent record.
Text Messaging	Brief messages in real time that can work with limited screen space to colleagues on the move or without access to email. Conversations can be referenced at a later time
Instant Messaging	Applications such as *Google Hangouts* and *Slack* allow immediate, synchronous communication and sharing of images and other visuals-with remote colleagues.
Phone Calls	Synchronous extended conversations in which it is useful to be able to interpret each other's tone of voice as when resolving misunderstand-ings.
Web Conferencing	Applications such a *Zoom* and *WebEx* allow meetings between geo-graphically separated participants that can include video, voice, screen displays, and instant messaging.
Faxing	Secure transmission of documents that contain signatures or other grpahic elements that must be viewed as originally created or that need to be sent to locations without internet access.
Web Posting	<u>Internally</u> for posting organization-specific information. <u>Externally</u> for posting promotional material and links to social media sites
Social Media Tools	Creation of online communities where organizations or individuals can create content, interact, and share information.
Linkedin	Professional network with a profile page that acts as a résumé, provides opportunities to engage in profession-specific discussions, permits "following" specific organizations, and posting job openings
Facebook	Broadens brand recognition with current and new customers, allows organizations to gather information regarding their employees and customers, and post announcements, videos, or links to websites.
Twitter	Allows users to "follow" individuals or organizations and track brief updates or announcements.

Lists in Technical Writing

Lists can reinforce meaning in technical ducuments by breaking up dense information into "digestible" pieces and by focusing readers' attention on each individual item. Technical writers, however, should avoid using too many lists, as this can make a document busy and fragmented. List are either ordered or unordered, but when creating either type technical writers should adhere to certain design guidelines:

- Effective lists are left aligned and overhung. This creates two vertical lines that visually align the elements in the list. Hanging indentation can be set in the paragraph format panel of word processing programs.

    - These entries are left aligned, which creates one vertical element for the reader.
    - They are also overhung, which creates a second, parallel vertical element for the reader.

- As a general rule the glyph or number at the beginning of each entry should be in the same font and size as the text in the entry.
- Entries should be syntactically parallel.

Nonparallel	Parallel
1. formulating hypothesis	1. formulate hypothesis
2. do library research	2. do library research
3. interview Professor Emily	3. interview Professor Emily
4. first draft	4. write first draft
5. revision of the first draft	5. revise the first draft
6. after we get approval, preparing the final draft	6. prepare the final draft, after we get approval

- Punctuation depends on the syntax of the entries but should be consistent. Use an uppercase letter at the start and end punctuation at the end for entries that are sentences.

    - Capitalize a sentence when entries are complete sentences.

    Use a lowercase letter at the start and no end punctuation for entries that are less than complete sentences.

    - when entries are not complete sentences

    If the entries are phrases followed by complete sentences, use uppercase letters at the start and end punctuation at the end of both the phrase and the sentence(s).

    - An opening phrase. Followed by a complete sentence.

- The most common lead-in for a list consists of a grammatically complete clause followed by a colon. The final sentence of the introductory paragraph on the preceding page is an example.

- As most people can only remember five to nine items easily, subdivide lists of more than ten items.

<table>
<tr><td>Original List</td><td>Revised List</td></tr>
</table>

Original List	Revised List
American Authors:	**American Authors:**

• Emily Dickinson
• Tennessee Williams
• Allen Ginsberg
• Theodore Dreiser
• Robert Frost
• Toni Morrison
• Flannery O'Connor
• Eugene O'Neill
• Alice Walker
• John Whittier
• John Steinbeck
	• *American Poets*
	  - Emily Dickinson
	  - Robert Frost
	  - Allen Ginsberg
	  - John Whittier
	• *American Playwrights*
	  - Eugene O'Neill
	  - Tennessee Williams
	• *American Novelists*
	  - Theodore Dreiser
	  - Toni Morrison
	  - Flannery O'Connor
	  - Alice Walker

Ordered Lists

- Ordered lists use numerals (Arabic, small Roman, large Roman) or uppercase of lowercase letters to indicate sequence or priority. Numbered lists are critical when describing a process in which one action must follow the next in a particular order. Enumeration helps readers avoid losing their place in instructions and provides a unique reference for each entry. When vertical space is limited, items can be numbered within the sentence.

  We recommend that more work on the new process be tested (1) with different fuels, (2) with the same fuels at a lower temperature, and (3) with the same fuels at a higher temperature.

Unordered Lists

- Unordered lists use glyps, typically bullets, at the start of each line. Unordered lists are appropriate when order and priority are not important; however, technical and workplace writers should consider using some organizing principle even in unordered lists (chronology, alphabetization). In the Revised list of authors above, alphabetization is used.

Checklists

- A checklist uses open boxes instead of bullets or numbers, encouraging the reader to carefully consider each step in a process or item in the list.

Graphics in Technical Writing

Graphics are important in technical and workplace documents because they are visually appealing, easy to understand and remember, and indispensable to showing some types of relationships. As it has become increasingly easy to create graphics, their importance in technical documents has increased.

Graphics can be classified into two categories: tables and figures. All effective graphics, however, have some similar qualities.

• An effective graphic is appropriate to the writing situation, matching the reader's sophistication, the requirements of the data, and the purpose of the report.

• An effective graphic is self-explanatory, exhibiting an autonomous ability to be understood on its own. It must have a clear, informative title; columns and rows must be clearly labeled; units of measurement and the time frame must be specified.

• All non-original graphics must have complete source notes. Because graphics should be understandable by themselves, the full source note should be located with the graphic. If an original graphic is created using data from a source, that source must be fully documented in a source note. To indicate that a graphic is original use the copyright symbol followed by your name and date, i.e. © Carl Brucker, 2022.

• An effective graphic is placed appropriately in the document. Usually this means placing the graphic after the discussion of the information in the text. Lengthy or merely supplemental graphics are often placed in appendices.

• An effective graphic is integrated with the text. The text of a report should introduce the graphic before it appears and explain its significance.

Tables

Primary uses of tables

- To handle large amounts of quantitative data.

- To show several variables for a single item.

- To provide precise statistical accuracy.

Parts of a table

1. **Label:** Tables are labeled at the top and are numbered consecutively from the beginning of the report. In long reports the number may include the chapter and the consecutively numbered tables in each chapter.

Table 1:

2. **Substantive Title:** The title should be unambiguous and include the time frame of the table.

Table 1: **Sales by Domestic Automobile Manufacturers, 1986-1987**

3. **Subtitle:** The subtitle is typically enclosed in brackets and is used to indicate the unit of measurement.

Table 1: Sales by Domestic Automobile Manufacturers, 1986-1987 **(in thousands)**

4. **Stub Heading:** The stub heading is the upper-leftmost cell of a table which indicates the types of labels that are included in the stub (the leftmost column of the table).

Manufacturer
    vehicle type

Ford
    sedans
    trucks
    vans

5.	**Column Headings:** The column headings are placed in the top row of the table. If the units of measurement differ in columns a parenthetical subtitle should be used under each heading. Column headings may be stacked (decked)

Manufacturer	1986				1987			
vehicle type	I	II	III	IV	I	II	III	IV

6.	**Stub Category Headings:** The stub category headings are placed in the leftmost column of the table. They identify the rows in the table and may be stacked (decked).

Ford

    sedans
    trucks
    vans

7.	**Cells:** Cells are the intersections of rows and columns into which information is placed. Numerals within cells should be right justified on the decimal place. If no value exists for a cell (not a zero value) use an ellipsis (…), NA, or a dash –. In tables with many rows, use spacing lines at regular intervals to help your reader sight across the numbers.

Ford

sedans	**23.7**	**18.4** [a]
trucks	**14.6**	**12.8**
vans	**10.1**	**11.7**

8.	**Notes:** Notes can be used to explain cell entries. Use lowercase letters for notes to avoid confusion with the numerals in the data.

    sedans   23.7   18.4 [a]

---

[a] **Strike closed assembly plants for two months.**

9.	**Source Notes:** The sources of the information included in the table should be fully documented in a cloncluding source note.

---

[a] Strike closed assembly plants for two months.
Source: U.S. Department of Commerce, *Directory of Automobile Sales*, **1989.**

Table 3: Sale by Domestic Automobile Manufacturers, 1986-1987 (in thousands)

Manufacturer vehicle type	1986					1987				
	I	II	III	IV	**Tot**	I	II	III	IV	**Tot**
Ford										
sedan	23.7	18.4 [a]	24.3	22.6	**89.0**	25.6	22.9	21.4	20.6	**90.5**
trucks	14.6	12.8	15.3	15.8	**58.5**	15.4	16.1	16.6	17.2	**65.3**
vans	10.1	11.7	10.4	11.5	**43.7**	11.9	12.8	13.1	13.6	**51.4**
GM										
sedans	27.3	29.2	28.1	28.8	**113.4**	28.3	27.7	27.4	26.9	**110.3**
trucks	17.2	17.5	17.3	17.5	**69.5**	17.8	17.6	18.1	17.5	**71.0**
vans	8.2	8.3	9.7	10.1	**36.3**	10.4	10.6	11.4	12.3	**44.7**
Chrysler										
sedans	13.8	13.7	12.4	12.1	**52.0**	11.8	11.9	11.2	10.7	**45.6**
trucks	12.5	12.3	12.1	12.8	**49.7**	13.1	12.6	12.9	12.7	**51.3**
vans	10.6	10.9	11.1	12.3	**44.9**	12.1	13.4	13.1	12.5	**51.1**

[a] Strike closed assembly plant for two months.
Source: U.S. Department of Commerce, Directory of Automobile Sales, 1989.

Calculating Percentages

Table 1 above uses raw numbers, but if you decide that percentages would be more informative, be careful how you calculate them . For example, if you surveyed ten people about their preference for McDonalds or Wendys and 3 of 5 men preferred McDonald's and 4 of 5 women preferred Wendy's, you might create a misleading table such as Table 4.

Table 4: Burger Preferences (confused)

	Prefer McDonald's	Prefer Wendy's
Men	30%	20%
Women	40%	10%
Combined	70%	30%

Indicating that 40% of women preferred MacDonalds would give your reader the false impression that less than half of the women liked MacDonalds when actually a large majority chose it. The following would be more accurate because the percentages would be calculated on the basis of the appropriate sub-group (men or women).

Table 5: Burger Preferences (clearer)

	Prefer McDonald's	Prefer Wendy's
Men	60%	40%
Women	80%	20%
Combined	70%	30%
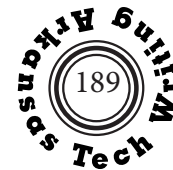
Text Tables

Although tables are particularly useful for presenting large arrays of statistical information, remember that tables can also present textual information in an organized, accessible manner.

Table 6: Tenured English Faculty in the Department of English and World Languages, 2022

Name	Degree	Where Earned	Specialization
Carl Brucker	Ph.D.	Rutgers University	American literature
Alejandra Carballo	Ph.D.	Florida State University	Spanish
Ursula Chandler	Ed.D.	Northwestern University	German/TESOL
Erin Clair	Ph.D.	University of Missouri	Modernism
Ernest Enchelmayer	Ph.D.	Southern Illinois U.	Composition/Rhetoric
Paola Gemme	Ph.D.	Penn State University	American studies/TESOL
Emily Hoffman	Ph.D.	Oklahoma State University	Creative Writing/Film
Stan Lombardo	Ph.D.	Indiana University	British literature
Scott O'Neil	Ph.D.	University of Rochester	British literature
Nelson Ramírez	Ph.D.	U. of California --Berkeley	Spanish
Mary Sharpe	Ph.D.	University of North Texas	Creative Writing
Regina St. John	Ph.D.	Ball State University	Rhetoric/TESOL
Arwen Taylor	Ph.D.	Indiana University	Linguistics/British literature
Dana Ward	Ph.D.	University of Arkansas	Spanish
Deborah Wilson	Ph.D.	Louisiana State U,	American literature
Sam Worley	Ph.D.	U. of North Carolina	American literature

Table 7: Documentation Styles

Type	Sponsoring Organizations or Style Manuals	Academic Fields That Use This Style
Author-Page	Modern Language Association	English and foreign languages
Author-Year	American Psychological Association (APA)	anthropology, astronomy, business, economics, education, linguistics, physical education, political science, psychology, and sociology.
	Council of Science Editors (CSE)	
	U.S.Geological Survey (USGS)	
Numerical	American Chemical Society (ACS)	chemistry, computer science, mathematics, physics, medicine,
	American Institute of Physics (AIP)	
	American Mathematical Society (AMS)	
	Council of Science Editors-Citation Sequence (CBE C-S)	
	Institute of Electrical and Electronics Engineers (IEEE)	
Footnote/Endnote	Chicago Manual of Style (CMS)	art, communication, dance, history, journalism, music, pholosophy, and religion
	Turabian Manual for Writers	

Figures

Figures include bar and column graphs, line graphs, charts, diagrams, photographs, and other illustrations.

Bar and Column Graphs

Primary uses of bar and column graphs

- Comparison of quantities
- Horizontal bar graphs show different items at the same time; vertical bar graphs (frequently called column graphs) show the same item over time.

Basic guidelines for creating bar graphs

- Axes should be numbered at regular intervals

- Quantity scale should begin at zero. If it does not, indicate the break with diagonal lines ———//———.

- Use tick marks (hash marks) or grid lines at regular intervals.

- Arrange items logically. Horizontal bar graphs are arranged in descending size from the top; vertical bar graphs are arranged chronologically from left to right.

- Make bars of equal width with equal though slightly smaller space between bars.

Types of bar graphs

The following pages show examples of the following types of bar graphs:

- simple bar graph
- multiple column graph
- deviation graphs
- waterfalll chart
- funnel graph

- simple column graph
- stacked column graph
- pictogram
- histogram

Simple Bar Graph
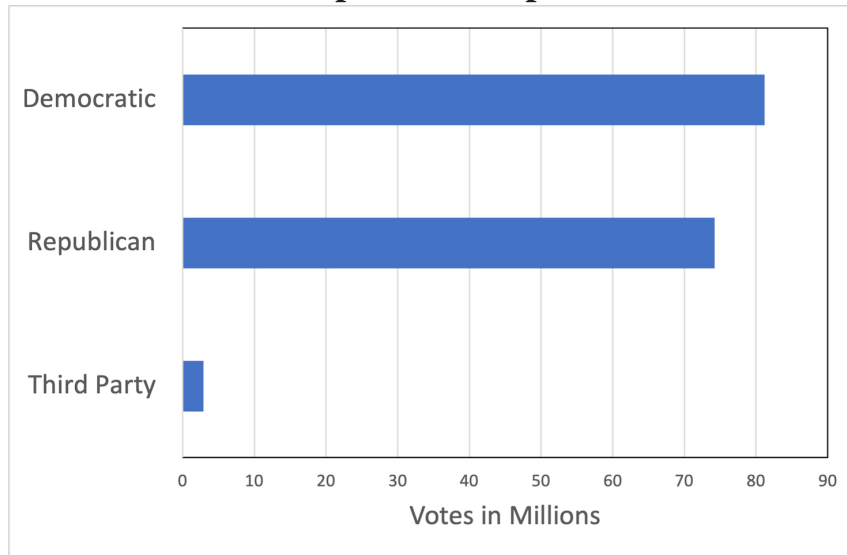
Figure 5. Votes in 2020 Presidential Election (in millions)
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Election Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-Results-1788863
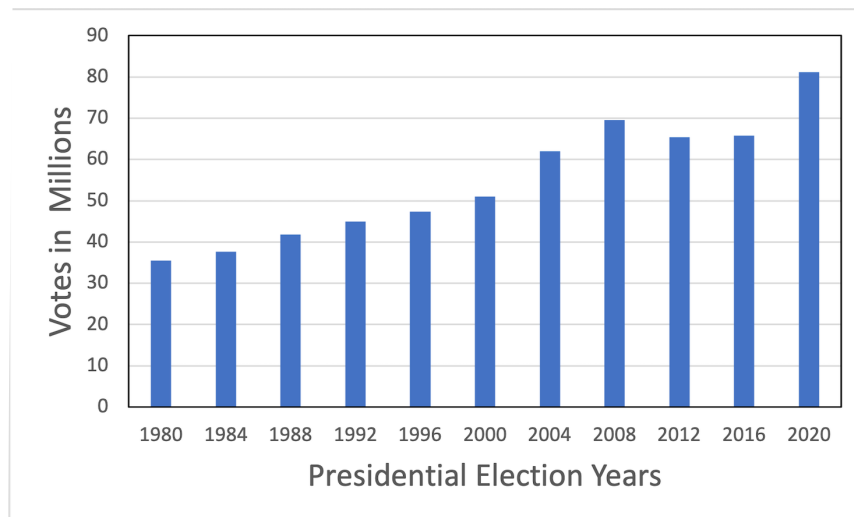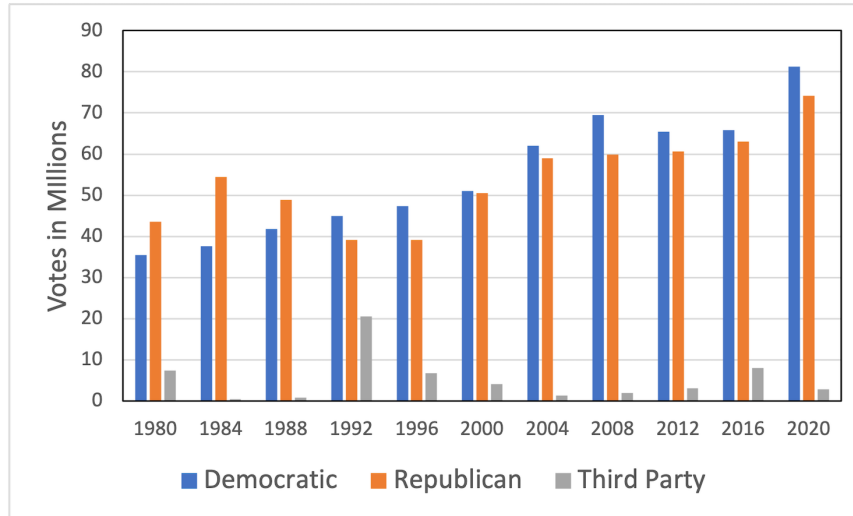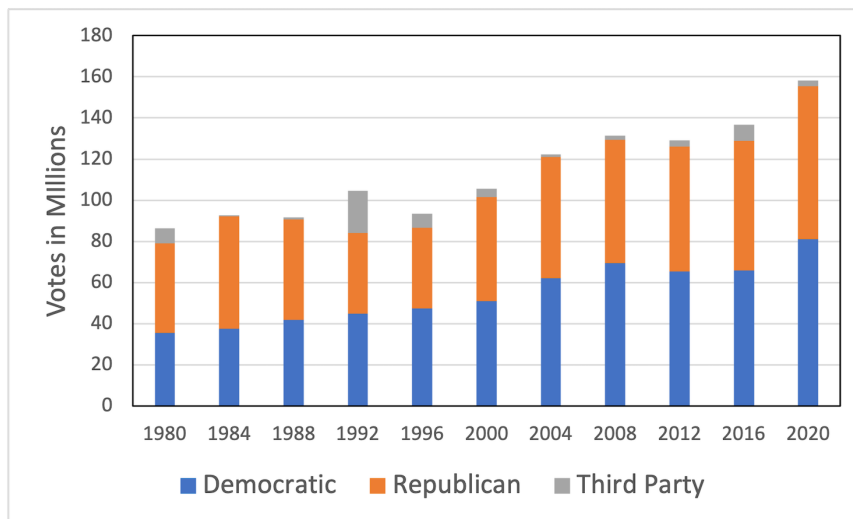
Simple Column Graph

Figure 6: Democratic Votes in Presidential Elections, 1980-2020 (in millions)
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Election Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-Results-1788863
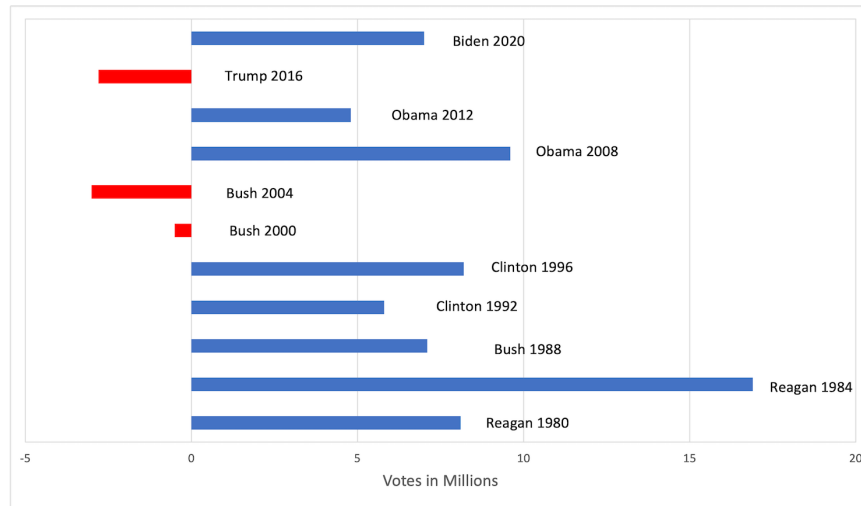
Multiple Column Graph

Figure 7: Votes in Presidential Elections, 1980-2020 (in millions)
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Election Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-Results-1788863
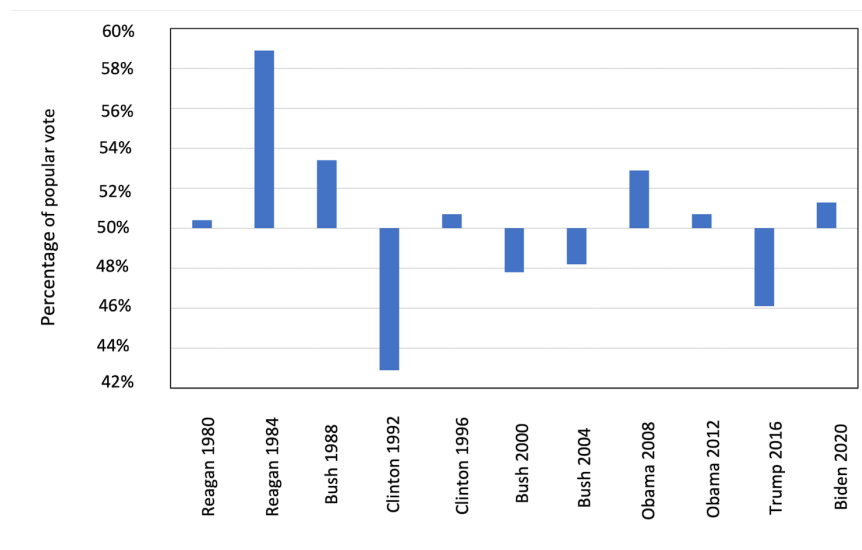
Stacked Column Graph

Figure 8: Votes in Presidential Elections, 1980-2020 (in millions)
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Election Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-Results-1788863

Deviation Graphs

Figure 9: Popular Vote Difference for Elected Presidents, 1980-2020 (in millions)
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Elec
tion Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-
Results-1788863

Figure 10: Percentage of Popular Vote for Elected Presidents, 1980-2020
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Elec
tion Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-
Results-1788863

Pictogram
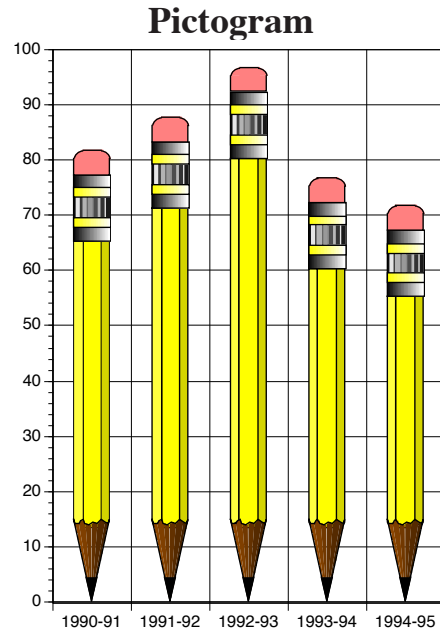
Figure 11: Students Enrolled in Honors Composition Courses, 1990-1995

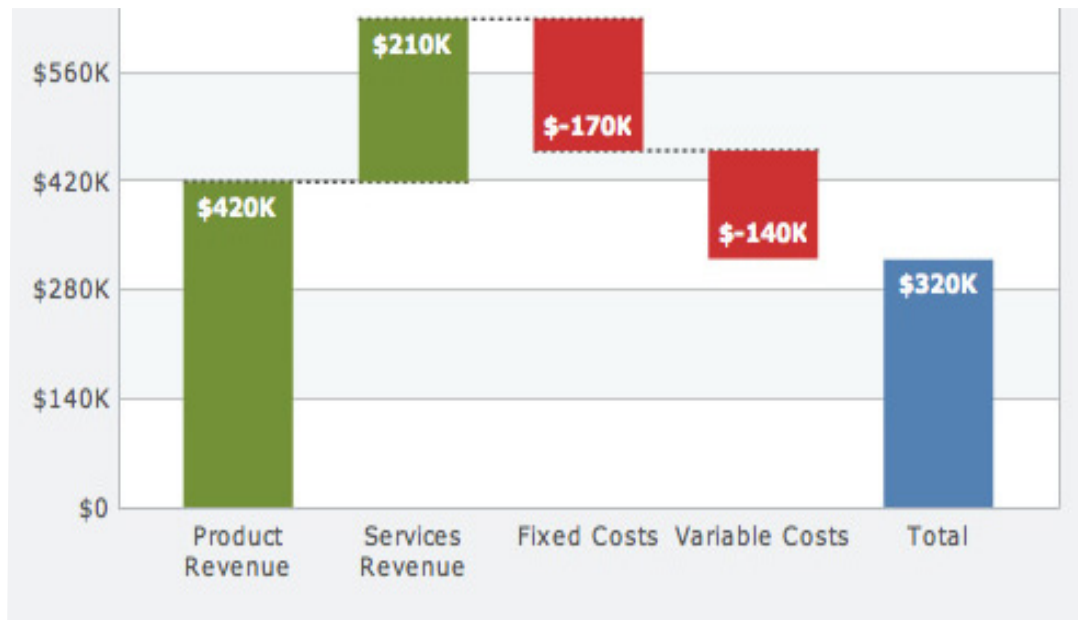**Waterfall Chart (Mario Chart or Bridge Chart)**

Figure 12: Profitability Analysis Waterfall Chart
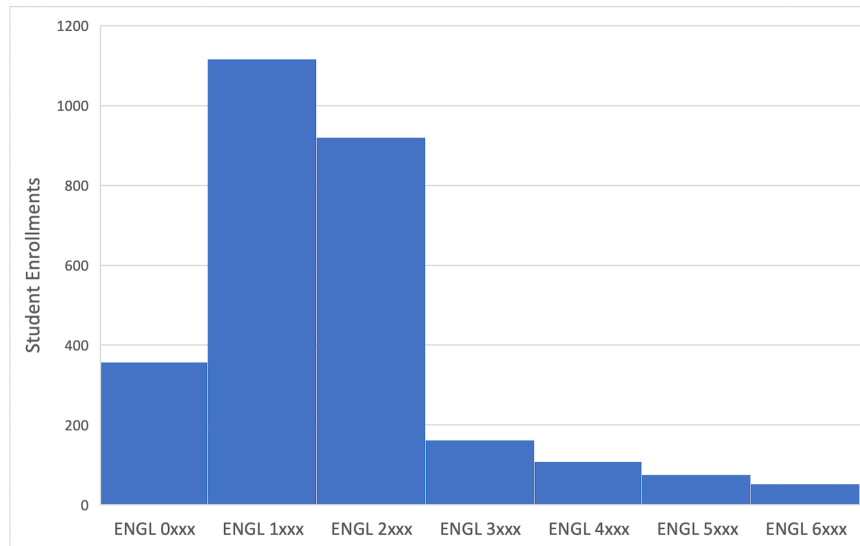**Source:** FusionCharts Blog - http://fusioncharts.typepad.com/.a/6a010534c80b99970c0115724aac3e
970b-800wi, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=7591537

Histogram

Figure 13: Enrollment of Students in English Classes, Fall 2021.

Funnel Graph

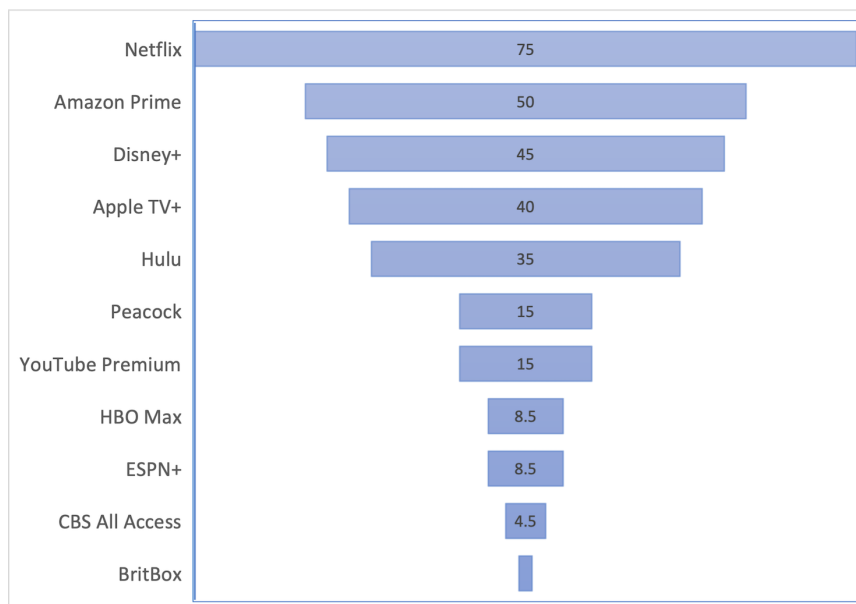|	
Netflix	75
Amazon Prime	50
Disney+	45
Apple TV+	40
Hulu	35
Peacock	15
YouTube Premium	15
HBO Max	8.5
ESPN+	8.5
CBS All Access	4.5
BritBox	

Figure 14: Streaming Service Customers, May 2022 (in millions)
Source: David Curry. Video Streaming App Revenue and Usage Statistics (2022). 4 May 2022. Businessof Apps. Accessed on 3 June 2022. www.businessofapps.com/data/video-streaming-app-market/

Primary use of line graphs

- demonstrate <u>change</u> in quantities over time

Basic Guidelines for creating line graphs

- Axes should be numbered at regular intervals.

- Quantity scale should begin at zero. If it does not, indicate the break with diagonal lines ——//——.

- Use tick marks (hash marks) or grid lines at regular intervals.

- Arrange items chronologically from left to right.

- Be careful to adjust proportions so that the importance of the data is not distorted.

- Avoid using multiple line graphs if there is a confusing amount of intersection of lines.

- Use colors or symbols to distinguish lines in a multiple line graph.

Types of line graphs

The following pages show examples of the listed types of line graphs:

- simple line graph
- multiple line graph

- stratum (area) graph
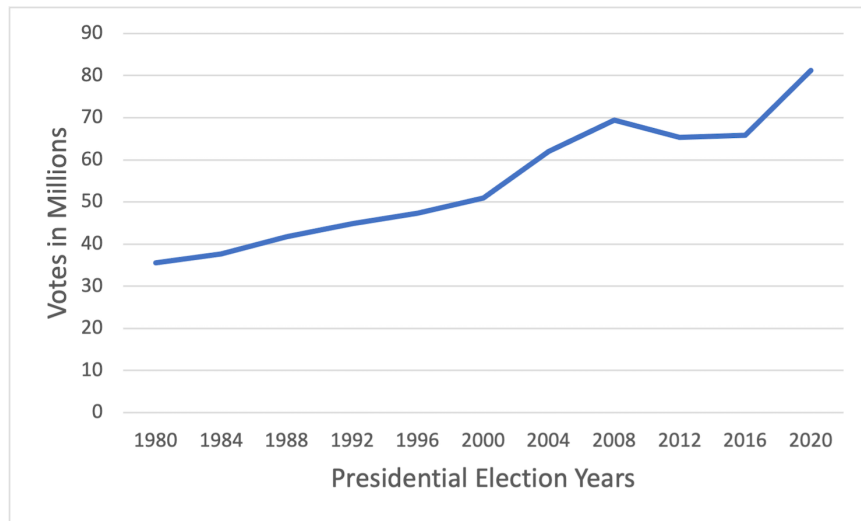- high-low (box and shisker) graph

Simple Line Graph

Figure 15: Democratic Votes in Presidential Elections, 1980-2020
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Elec
tion Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-
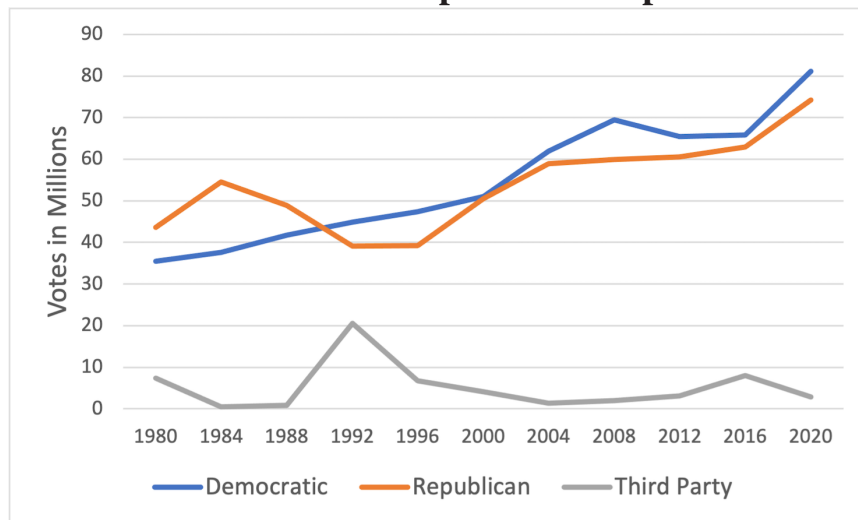Results-1788863

Multiple Line Graph

Figure 16: Votes in Presidential Elections, 1980-2020
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Elec
tion Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-
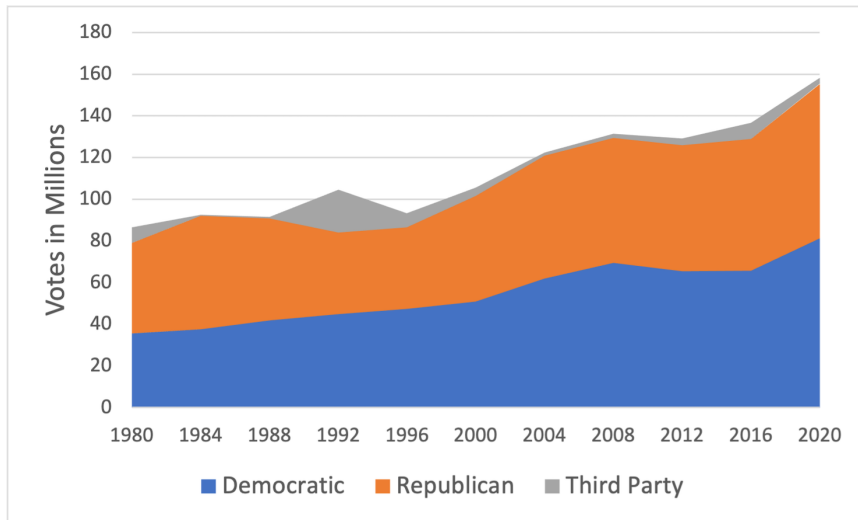Results-1788863

Stratum (Area) Graph

Figure 17: Votes in Presidential Elections, 1980-2020 (in millions)
Source: Britannica, T. Editors of Encyclopaedia (2017, February 3). United States Presidential Elec
tion Results. Encyclopedia Britannica. https://www.britannica.com/topic/United-States-Presidential-Election-
Results-1788863
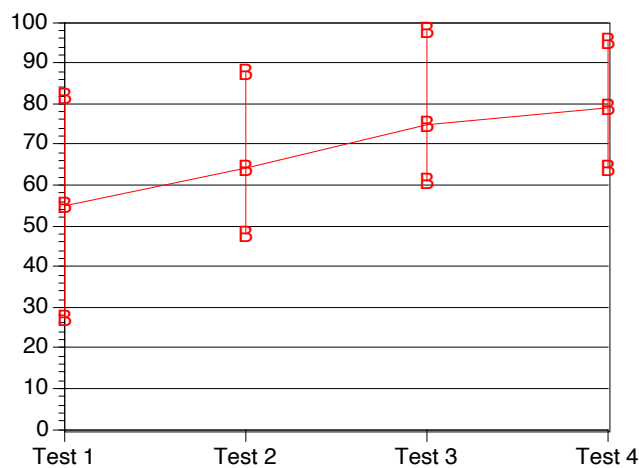
High-Low Range (Box and Whisker) Graph

Figure 18: High, Low and Median Test Scores in English 2173, Fall 2021

Adjusting Increments

The two line graphs below display the same data. Why do they look different? Why would you select one over the other. What additional information would you need in order to make this decision?
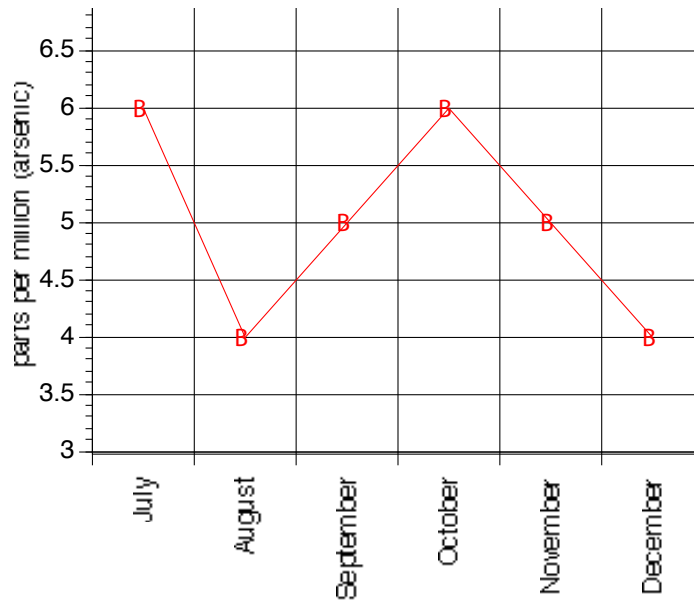

Figure 19: Arsenic in Local Drinking Water, July-December 2021 (in parts per million)
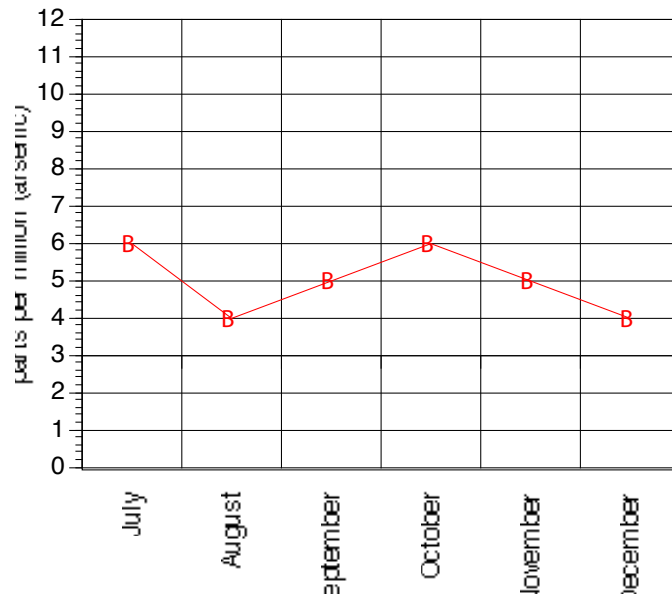(imaginary data)

Figure 20: Arsenic in Local Drinking Water July-December 2021 (in parts per million)
        (imaginary data)

Adjusting Increments

The two line graphs below accurately reflect the growth of our national debt. Why do they look so different? Why would you select to use one over the other?

Figure 21: U.S. National Debt, 1912-2020 (in trillions of dollars)
Source: FiscalData. U.S. Department of the Treasury. 6 July 2021. https://fiscaldata.treasury.gov/historical-debt-outstanding/historical-debt-outstanding.
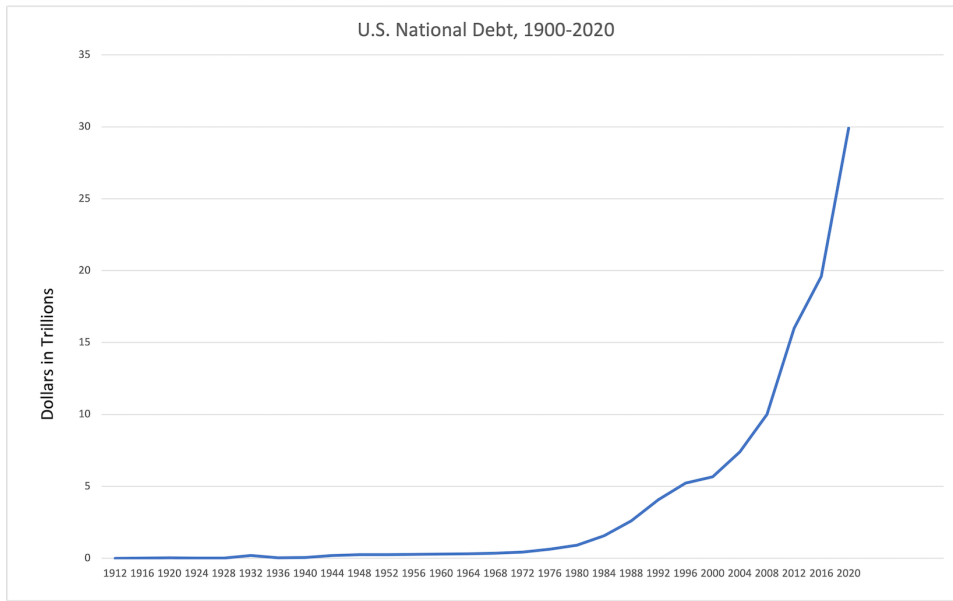

Figure 22: U.S. National Debt, 1980-2020 (in trillions of dollars)
Source: FiscalData. U.S. Department of the Treasury. 6 July 2021. https://fiscaldata.treasury.gov/historical-debt-outstanding/historical-debt-outstanding.
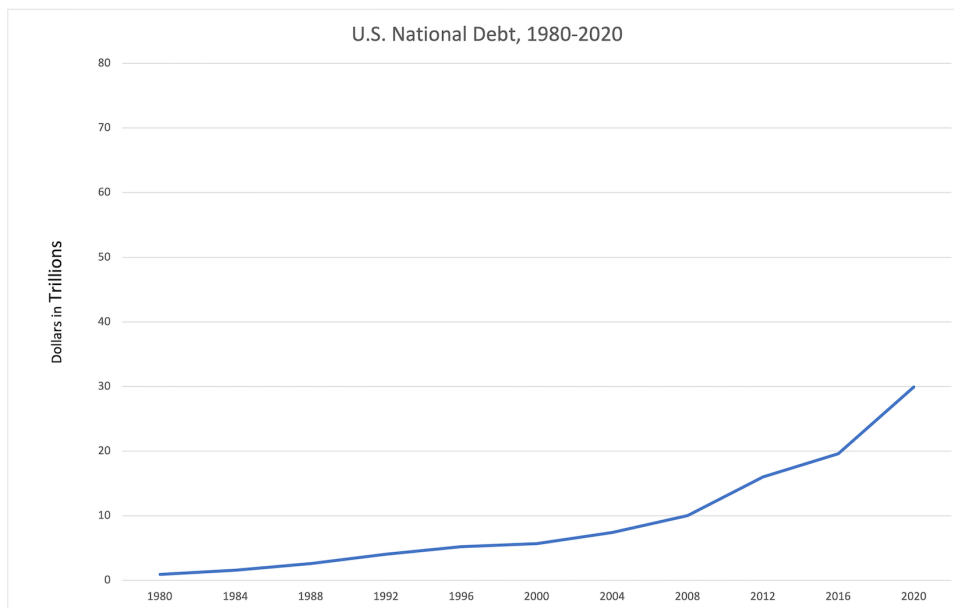
Pie Charts

Pie Charts

Primary use of pie charts

- show relationship of parts to the whole

Basic guidelines for creating pie charts

- Do not include more than eight segments.

- Do not attempt to show very small or precise amounts.

- Draw the largest item from 12 o'clock position clockwise unless there is a strong reason for some other arrangement.

- Label sections with percentage or absolute amount.

- Use pattern or color to distinguish sections.

Types of pie charts

The following page shows three types of pie charts:

- simple pie chart
- disk chart
- ring chart

Simple Pie Chart

Figure 23: Relative Customer Share of Five Largest U.S. Streaming Services, May 2022
Source: David Curry. Video Streaming App Revenue and Usage Statistics (2022). 4 May 2022. Businessof
Apps. Accessed on 3 June 2022. www.businessofapps.com/data/video-streaming-app-market/

Disk Chart
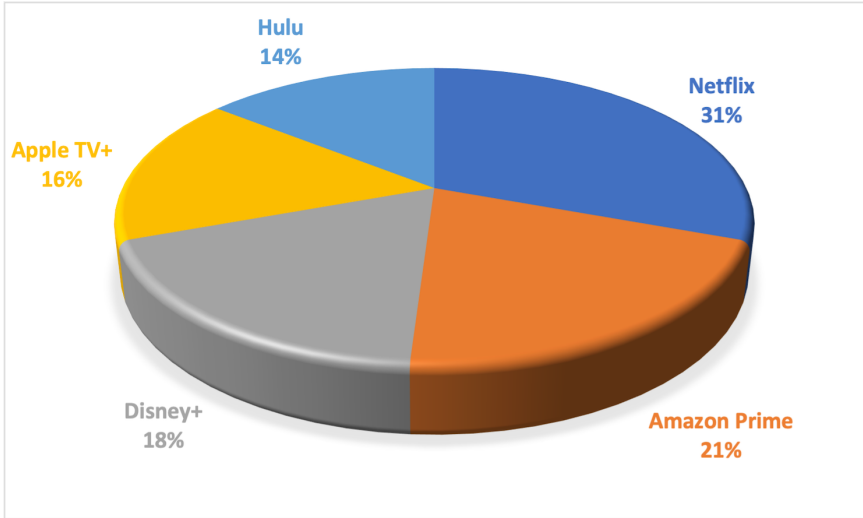
Figure 24: Relative Customer Share of Five Largest U.S. Streaming Services, May 2022
Source: David Curry. Video Streaming App Revenue and Usage Statistics (2022). 4 May 2022. Businessof
Apps. Accessed on 3 June 2022. www.businessofapps.com/data/video-streaming-app-market/

Simple Pie Chart (with too many segments)

- Netflix
- Amazon Prime
- Disney+
- Apple TV+
- Hulu
- Peacock
- YouTube Premium
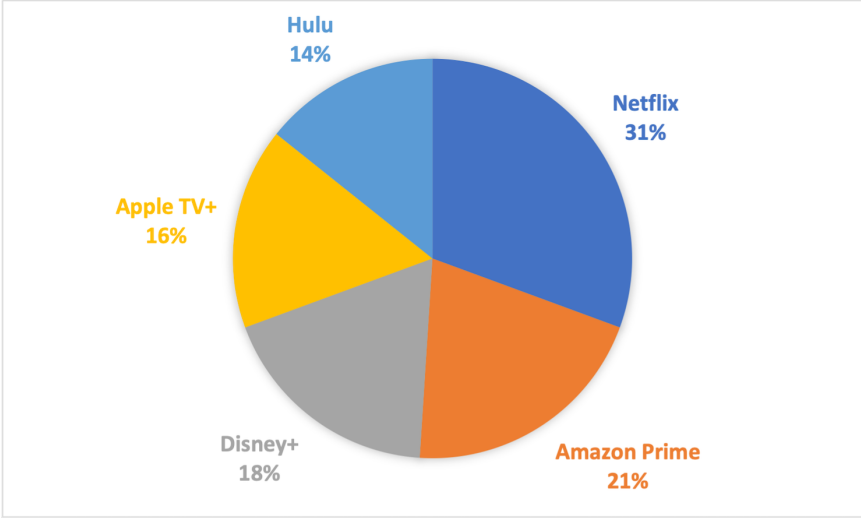- HBO Max
- ESPN+
- CBS All Access
- BritBox

Figure 25: Relative Customer Share of Eleven Largest U.S. Streaming Services, May 2022
Source: David Curry. Video Streaming App Revenue and Usage Statistics (2022). 4 May 2022. Businessof
Apps. Accessed on 3 June 2022. www.businessofapps.com/data/video-streaming-app-market/

Exploded Pie Chart
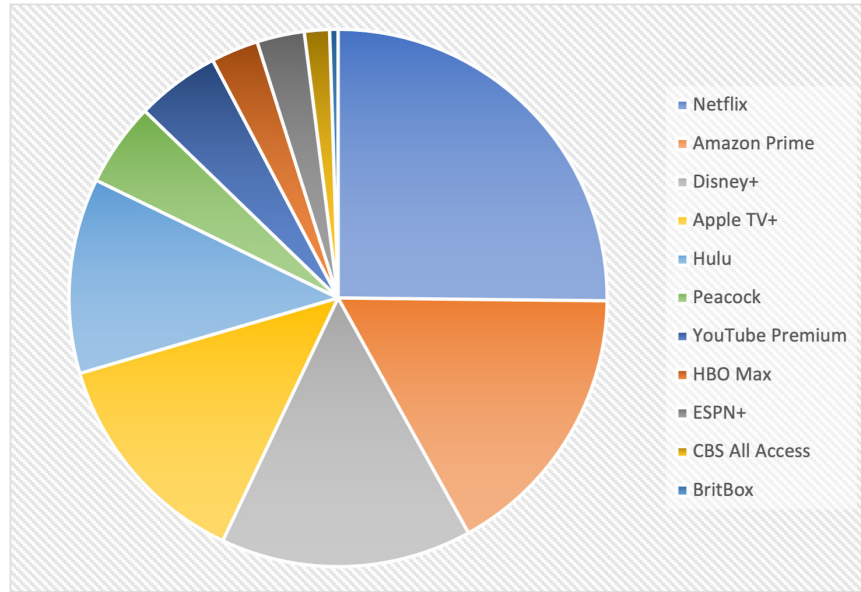

ENGL 2xxx
33%

ENGL 3xxx
6%

ENGL 5xxx
2%

ENGL 6xxx
2%

Other
8%

ENGL 1xxx
40%

ENGL 0xxx
13%

ENGL 4xxx
4%
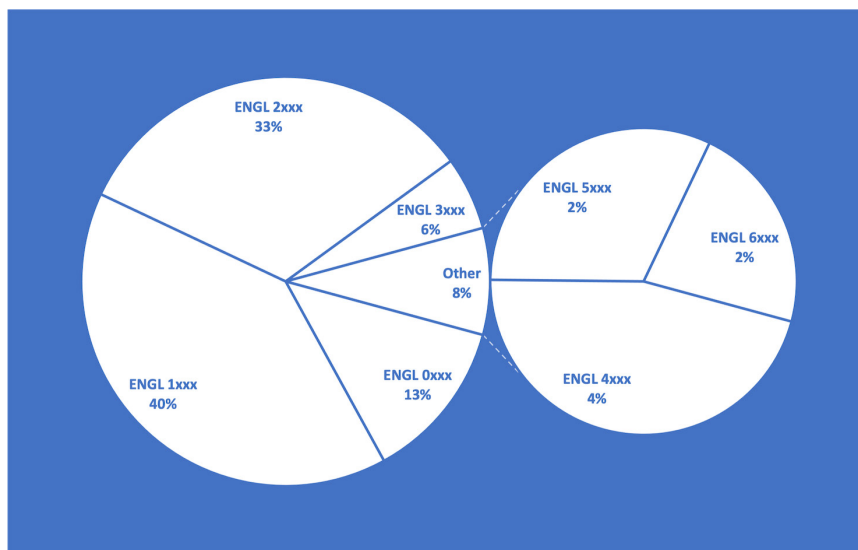
Figure 26: Enrollment in Arkansas Tech University English Classes, Fall 2021

Ring Chart
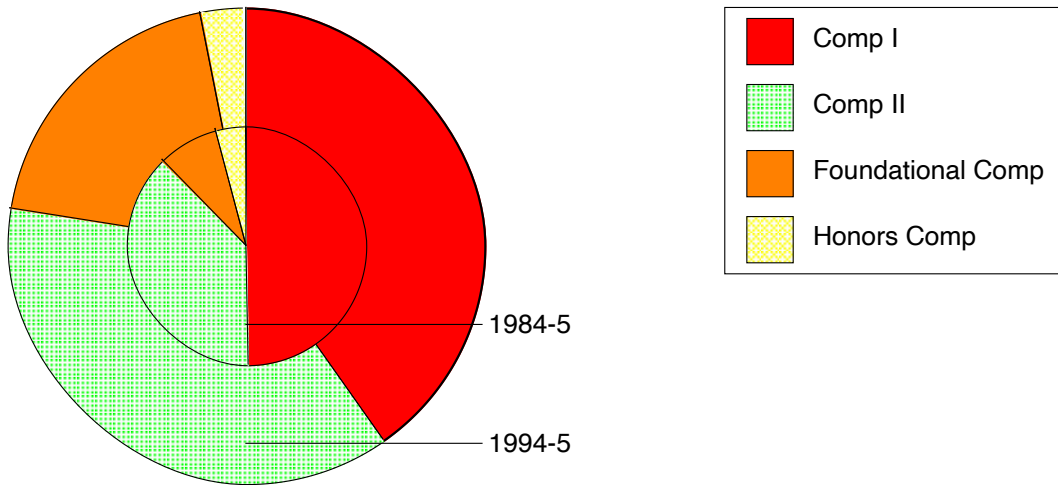
Figure 27: Students Enrolled in Freshman Writing Courses, 1984-1985 and 1994-1995

Other Charts

Primary uses of other types of charts

- representation of abstract information such as causality or hierarchy

Basic guidelines for creating other charts

- clearly label all elements in a chart
- charts tend to be less rule bound and allow for more originality in their creation

The following pages show seven examples of specialized charts:

- bubble chart
- flow chart
- screenshot
- timeline
- hierarchical (organizational) charts
- schematic
- Gannt charts

Bubble Chart

Figure 28: Presidents' Home States

Hierarchical (Organizational) Chart
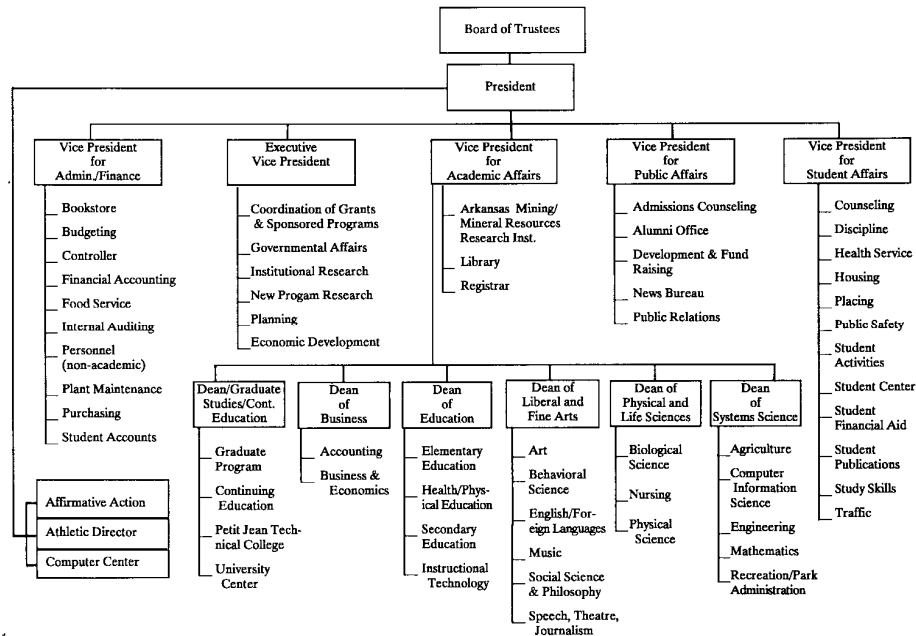
Figure 29: Arkansas Tech University Administrative Organizational Chart, 1993
Source: <u>ATU Factbook</u>, Russellville: Arkansas Tech University, 1993.

Figure 30: 1930 Orgnizational Chart of League of Nations
Source: Martin Grandjean. Wikipedia . commons.wikimedia.org/w/index.php?curid=63389413.

Flow Charts

By visually representing the sequence of events, flowcharts help readers understand a process. An **open-system flowchart** il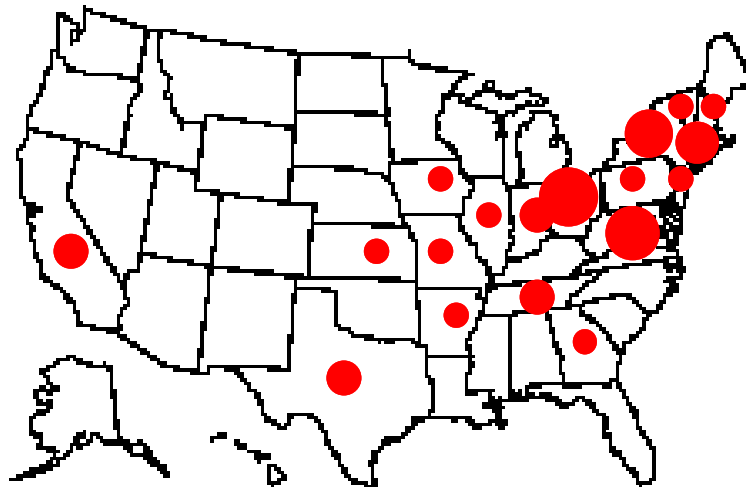lustrates a process that begins at one point and ends at another (Figure 26). A **closed-system flowchart** illustrates a process that begins and ends at the same point. Some flowcharts use rectangles, circles, arrows, and other symbols to represent the steps in a process (Figure 31); others use drawings (Figure 38).

Planning
- Researching the needs of your audience
- Preparing a working plan of your project
- Identifying sources and gathering information

?

Drafting
- Writing a working draft of your document guided by your original plan.

?

Editing
- Proofing your work in passes to check grammar, mechanics, format, clarity, style, appropriateness for the situation and the audience.

?
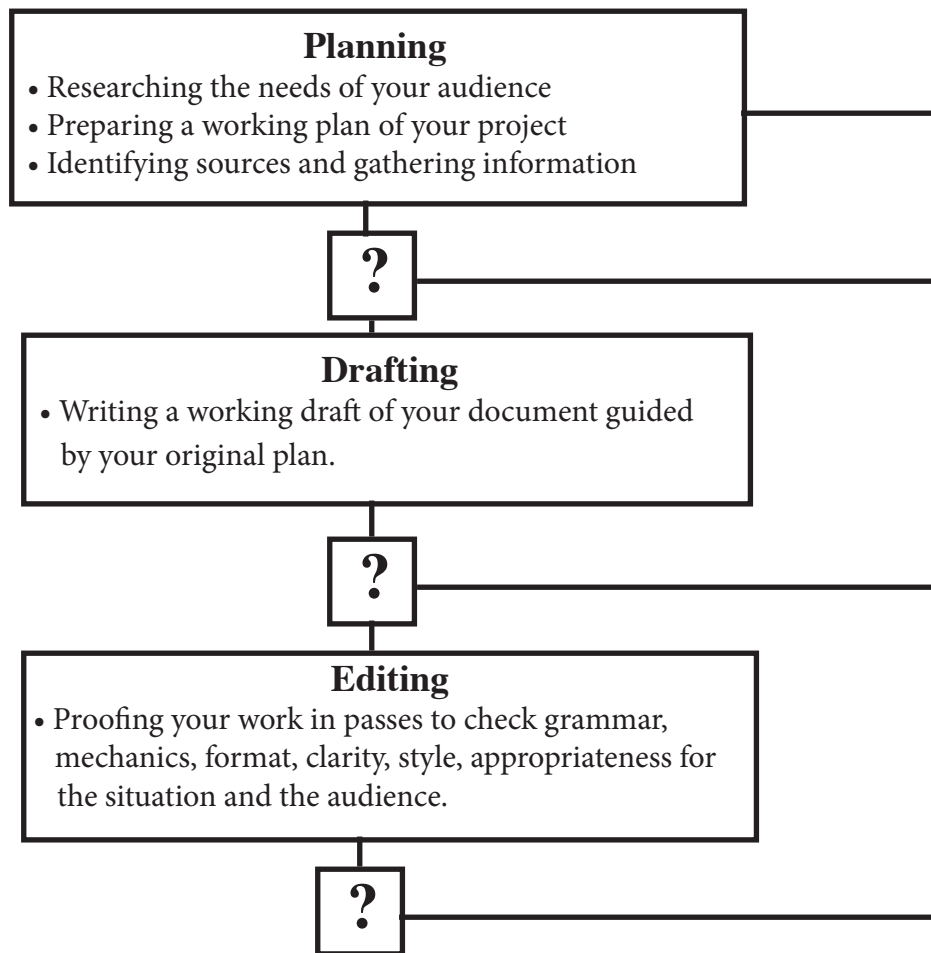
Figure 31: The Recursive Writing Process

Schematic
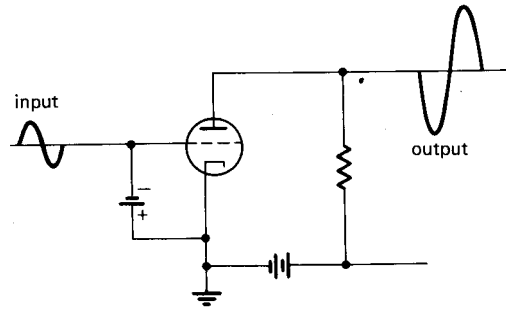
Figure 32: Simple Amplifier.
Source: Robert Scharff, ed. <u>Appliance Servicing Library</u> New York: McGraw-Hill, 1976. p. 104.

Screen Shot

Screen shots capture the graphics and text that are visible on a computer display at a specific moment. The capture can include the entire screen, a selected portion of the screen, an individual window, or a menu. These graphics are used to illustrate instructions for online activities.

Figure 33: ENGL 2013 Introduction to American Literature Information Page, Summer 2022.

Gantt (Milestone or Project Evaluation) Charts

Gantt charts, named after Henry Gantt (1861-1919), are often included in proposals or feasibility studies. Also called milestone charts or project evaluation charts, Gantt charts show the duration of occasionally overlapping phases of a project. The first important use of Gantt charts for project management was during the American building of the Panama Canal. Timelines visually represent past or future events against a chronological measure (timeline).

In its most basic form a Gantt chart plots overlapping tasks horizontally over time as in Figure 34 below.

Figure 34: Henry Gannt, Inventor of the Gannt Chart
Source: "Gannt Chart." Wikipedia. 8 June 2022https://en.wikipedia. org/w/index.php?title=Gantt_ chart&oldid=1084255741
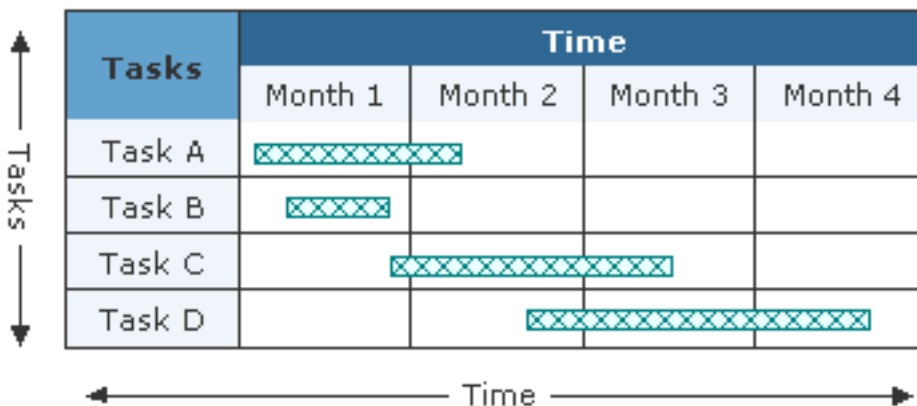
Figure 34: Basic Gantt Chart Used as a Project Timeline

Source: SmartDraw. "How to Draw Gantt Charts." <u>Gantt Chart & Timeline Center</u>. 7 July 2006. <http:// www.smartdraw.com/tutorials/gantt/tuytorial1.htm?exp=gan

As shown in Figure 35 on the following page, in addition to displaying the exact duration of specific tasks, Gantt charts can also be used to indicate:

- The relationship between tasks
- The planned and actual completion dates
- The cost of each task
- The person or persons responsible for each task
- The milestones in a project's development

Tasks	Time			
	Month 1	Month 2	Month 3	Month 4
Task A				
Task B				
Task C				

Legend

planned duration   planned milestone

actual duration   actual milestone
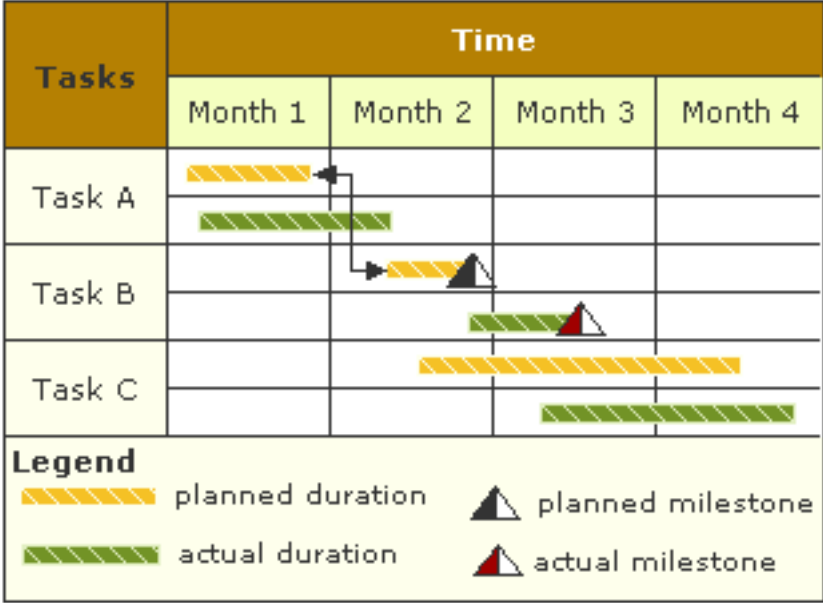
Figure 35: Gantt Chart Showing Milestones and Planned as well as Actual Durations

Source: SmartDraw. "How to Draw Gantt Charts." Gantt Chart & Timeline Center. 7 July 2006. <http://www.smartdraw.com/tutorials/gantt/tuytorial1.htm?exp=gan

Gantt charts are also used by supervisors and team leaders to schedule team members for various time dependent tasks such as visiting clients, making sales calls, being on medical call, being on guard duty, and more. They can also show the activity load of departments or machines.

Starting in the 1980s personal computers allowed the easy creation of elaborate Gannt charts. By 2012 most Gannt charts are created by scores of project management applications that can immediately adjust to schedule changes. Some examplse are Monday. Wrike, smartsheet, quickbase, VISOR, and ZOHO..

monday.com

Timelines

Timelines, such as the one displayed in Figure 29 below, are similar to Gannt charts in that they visually display chronology, but timelines are often used to display historical processes in which stages of the process do not overlap.
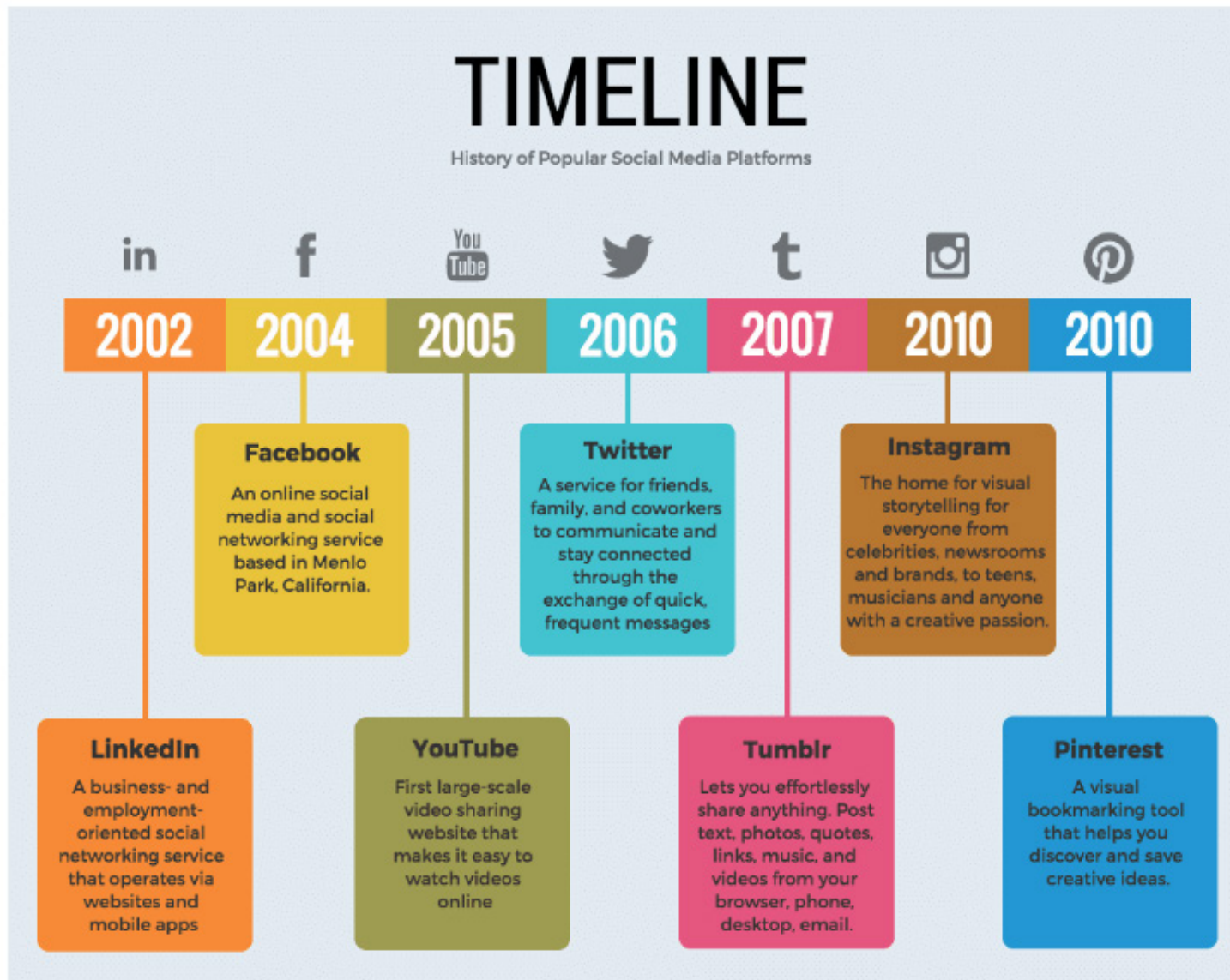
Figure 36:History of Popular Social Media Platforms
Source: Maricel Rivera. (18 My, 2022). How to create an effective timeline chart. The Ascent: A MotleyFool Service. www.fool.com/the-ascent/small-business/project-management/articles/timeline-chart/

Diagrams and Photographs

Diagrams and photographs add valuable visual information to technical and workplace documents. Photographs can provide visuals that most closely represent human vision. They are particualrly useful for shwoing the appearance of something or showing how something is done.

Diagrams can provide simplified views that empahsize the most important visual elements or present views that would be difficult to create using photography.

Figure 37: How to Change a Tire
Source: *To Change a Tire*. Technology and Cars. Web. 29 June 2012.
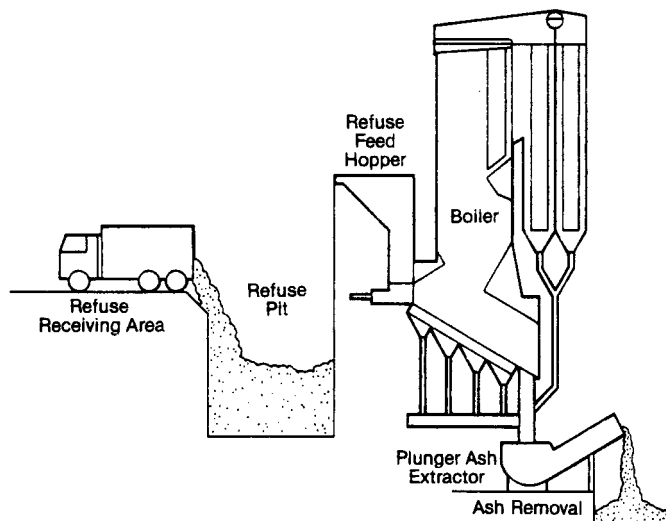
Figure 38: Mass Burning
Source: Diana Reep, *Technical Writing: Principles Strategies and Readings*, Eighth Edition. Boston, Longman, 2010. p. 138.

Diagrams often delineate objects more clearly than photographs by eliminating extraneous detail. In addition, special types of diagrams such as those displayed on this page offer views that would be difficult to approximate with a photograph.
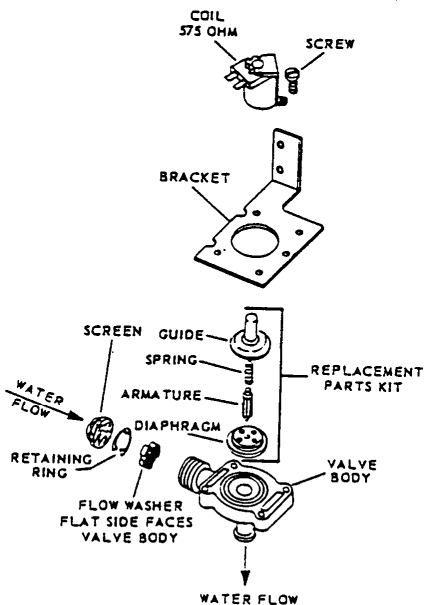
Figure 39: Typical Water Valve Used on Portable Dishwashers
Source: Robert Scharff, ed. <u>Appliance Servicing Library</u>. New York: McGraw-Hill, 1976. p. 187.
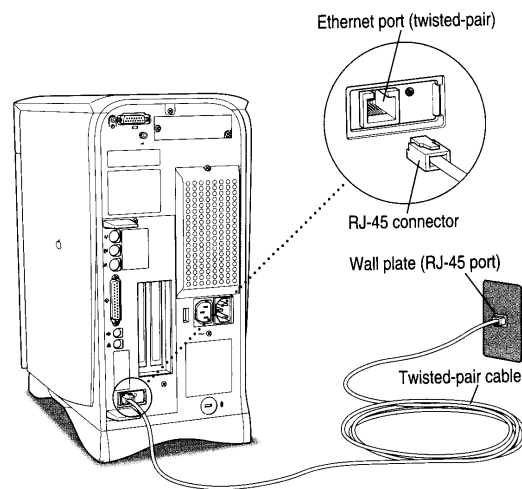
Figure 40: Ethernet Port on PowerMac 6500
Source: <u>Power Macintosh User's Manual</u>. Apple Computer, 1997. p. 101
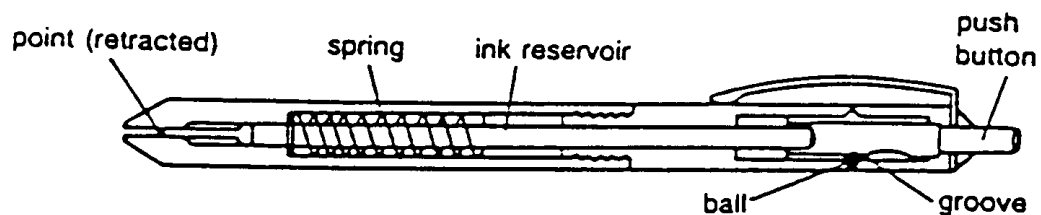
Figure 41: Cutaway Diagram of a Ball-Point Pen
Source: <u>How Things Work</u>. Encyclopedia Britannica, 1982. p. 832**.**

Infographics

Infographics is a term used to describe hybrid graphic visual representations of information, data, or knowledge that combine visual and textual elements, Infographics are intended to communicate quickly and clearly. Many infographics are used in mass communication and are, therefore, designed to be understood by a wide spectrum of readers.

Figure 42: 5 Tips To Keep Your Chin Up
Source: Vengage. https://venngage.com/templates/infographics/5-happy-tips-428b5552-8502-43a2-b457-43544c89f65b

Collaborative Writing and the Workplace

Much workplace writing in conducted collaboratively particularly when the project (1) requires specialists from different areas, (2) can profit from divergent perspectives, (3) or is too large or important to be completed by a single writer by deadline. Collaborative writing has advantages and disadvantages.

Collaborative writing can bring a broader knowledge and skills base to bear on a writing project. It can also provide a better idea of how different readers may respond to the document. Finally, collaboration can improve communication between employees and help integrate new employees into the workplace by creating working relationships with their new co-workers.

Collaborative writing takes longer than individual writing and may reflect conformist thinking instead of innovation. Documents created collaborative may be disjointed. Employees may be less motivated to put their full effort into collaborative proejcts and unequal workloads and/or interpersonal conflicts may result.

Effective Face-To-Face Collaboration

Collaboration in the workplace occurs in formal and informal working meetings. The following common sense rules for communicating diplomatically in workplace meetings, adapted from the Ninth Edition of Mike Markel's *Technical Communication*, are worth considering.

1. Listen respectfully and without interrupting others.

2. Do not make the meeting about you by dominating the discussion or asserting your centrality in the process. Referring to "the proposal" instead of "my proposal" is an example of a way to linguistically encourage a sense of cooperation instead of competition.

3. Avoid comments that could be viewed as personal or insulting.

4. Do not overstate your position. Sometimes a qualifier such as "it seems to me" can signal that you are not closed to alternative ideas.

5. Do not get emotionally involved in your own ideas. Try to understand alternative ideas rather than immediately defending your position against them.

6. Ask pertinent questions in order to clarify your understanding, show interest in others' thoughts, and encourage group members to examine what they hear.

7. Pay attention to non-verbal communication that may help you judge others' understanding or attitude.

Collaborative Writing Checklist

The following checklist for collaborative writing projects is adapted from Walter Oliu, Charles Brusaw, and Gerald Alred. (2020). *Writing That Works.* Thirteenth Edition. Bedford-St. Martin's.

1. Identify audience, purpose, and scope of the project.

2. Agree on style and format standards

3. Create a project schedule.

4. Assign sections to team members

5. Write drafts of sectiosn using the agreed upon standards

6. Exchange sections for review

7. Revise as needed

8. Be sure to meet deadlines

Collaborative writing can cause conflicts, but if group members emphasize areas of agreement, resolving differences of opinion can result in an improved result.

Collaborative work groups may include individuals from differing cultural backgrounds. Do not jump to conclusions about what co-workers' behavior indicates. For example, a person from another culture might be unwilling to respond with a definite "no," might find it difficult to assert themselves in collaborative groups, or be reluctant to admit they are confused.

Electronic Collaboration Tools

Electronic media are increasingly used for collaboration in the workplace because face-to-face meetings are not always possible and because electronic communication is digital and therefore easily edited and incorporated into documents. See "Selecting Communication Media" pp. 181-182.

1. Revision, commentings, and highlighting features in Word and other word processing programs permit writers to track revisions and comments from multiple co-workers.

2. Virtual meeting software permits writers at different locations to work synchronously or asynchronoulsy on projects.

3. Video conferencing using Zoom, Webex, GoToMeeting or other software permits workers who are distant from one another to have electronic "face-to-face" meetings.

4. Project manangement software (See Gantt Charts pp. 209-210) helps managers and employees track the progress of complex procedures that take place over time.

Why Use Non-Biased Language

Regardless of their own political or religious beliefs, there are good reasons for technical or workplace writers to avoid language that suggests bias or stereotypes related to: gender, age, race, ethnicity, political affiliation, religious beliefs, disability, sexual orientation, social standing, transgender status, or family status Ideally technical or professional writers should neither use biased language nor emphasize their avoidance of bias, working toward a style that doesn't even hint at the issue of bias.

Although many technical and professional writers avoid biased language in an effort to avoid perpetuating attitudes that they see as demeaning, they recognize that there are important practical benefits unrelated to their personal beliefs. Using non-biased language helps technical and workplace writers maintain credibility with a wide readership that likely includes individuals who do not share the writers' personal beliefs. Non-biased language encourages readers to focus on the writers' ideas rather than on any political subtext, reducing the chance that readers' own biases will be triggered and undercut the effectiveness of the writer's messages.

Suggestions for Avoiding Biased Language

- Avoid including any references to personal characteristics (gender, age, race. ethnicity, political affiliation, religious beliefs, disability, sexual orientation, social standing, transgender statuse, or family status) that are not directly relevant to the writing task.

- When personal characteristics are relevant, be specific and use precise, definable characteristics such as country of birth or an individual's self description.

- Avoid using terms with gender-specific suffixes. For example, use *firefighter* instead of *fireman*, *flight attendant* instead of *stewardess*, *police officer* instead of *policeman*, *actor* instead of *actress*.

- Avoid using adjectives as nouns to label people. Emphasize the person rather than the characteristic. For example, instead of *gays* use *gay men*; instead of *amnesiacs* use *people with amnesia*; instead of *deaf mute* use *a child who is deaf and mute*.

- Use comparable terms to describe men and women: *husband and wife, man and woman, or gentlemen and ladies.*

- Avoid "othering" terms that suggest that the referenced people are not a part of society but a group apart. For example, instead of *seniors* or *the elderly* use *people over 65.*

- Language changes over time and individual readers have differing preferences regarding their self identification, so try to use the terms that readers use to describe themselves. If possible ask your readers what they prefer.

Gender Neutrality and Third-Person Pronouns

Many readers object to the use of the generic masculine pronoun *he* in reference to any unspecified individual. Others object to awkward constructions such as *he or she, he/she, or s/he* that suggest a binary limitation of sexual identities. Still others dislike the potential confusion regarding number that can be caused by the use of *they* as a singular pronoun.

The Seventeenth Edition of *The Chicago Manual of Style* (2017) suggests that although the use of *they* as a singular pronoun is widely accepted in speech and informal writing, "it is only lately showing signs of gaining acceptance in formal writing [so] Chicago recommends avoiding its use. When referring specifically to a person who does not identify with a gender-specific pronoun, however, *they* and its forms are often preferred" (p. 241).

The Seventh Edition of the *Publication Manual of the American Psychologicval Association* (2020) directs writers to use *they* as a singular generic reference "when referring to individuals whose identified pronouns are not known or when the gender of a generic or hypothetical person is irrelevant within the context of the text … to avoid making assumptions about an individual's gender" (p. 140).

The Ninth Edition of the *MLA Handbook* (2021) notes that "in formal writing, the use of singular they has been considered a less desirable option than revising to plural constructions or rephrasing without pronouns" (p. 92).

Because technical and workplace writing requires precision and aims to have each reader understand a text in the same way, the use of the traditionally plural *they* as a singular can be problematic. When possible, the best solution is the revise to avoid the need to use *they* in this way while preserving non-biased usage. The list on the following page from the *Chicago Manual of Style* offers nine revision techniques for achieving gender neutrality without resorting to the use of *they* as singular.
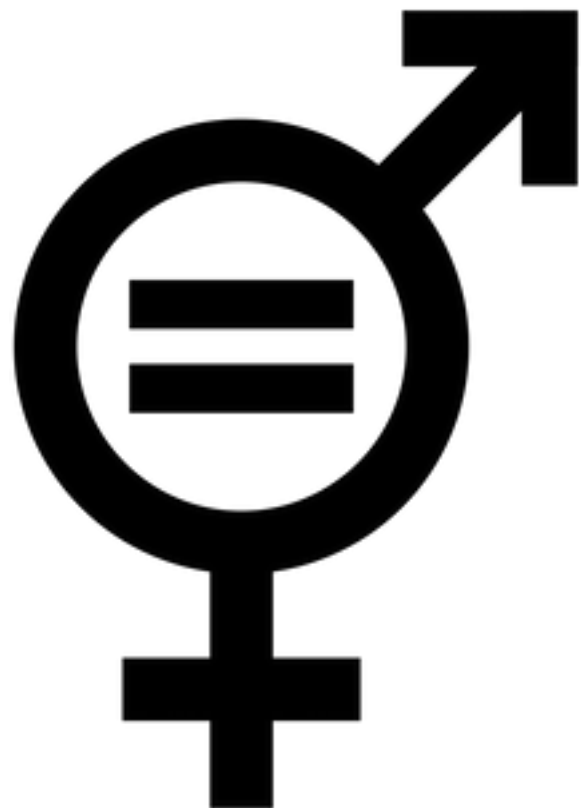
Figure 44: Iqualtat de sexes
Source: Mutxamel. wikipedia. commons.wikimedia. org/wiki/user:Mutxamel

Techniques for Achieving Gender Neutrality

1. <u>Omit the pronoun.</u> Sometimes a personal pronoun is not really necessary. For instance, in *the programmer should update the records when data is transferred to her by the head office*, if there is only one programmer, the pronoun phrase *to her* can be omitted, *the programmer should update the records when data is transferred by the head office.*

2. <u>Repeat the noun</u>. If a noun and its pronoun are separated by many words, try repeating the noun. For instance, *a writer should be careful not to needlessly antagonize readers, because her credibility would otherwise suffer* becomes *a writer should be careful not to needlessly antagonize readers because the writer's credibility would otherwise suffer.* Do not overuse this technique.

3. <u>Use a plural antecedent.</u> By using a plural antecedent, you eliminate the need for a singular pronoun. For instance, *a contestant must conduct himself with dignity at all times* becomes *contestants must conduct themselves with dignity at all times*. This method may cause a slight change in connotation.

4. <u>Use an article instead of a pronoun.</u> Try replacing the singular personal pronoun with a definite or indefinite article. For instance, *a student accused of cheating must actively waive his right to have his guidance counselor present* becomes *a student accused of cheating must actively waive the right to have a guidance counselor present.*

5. <u>Use the neutral singular pronoun one.</u> Try replacing the gender specific personal pronoun with the gender neutral singular pronoun *one*. For instance, *an actor in New York is likely to earn more than he is in Paducah* becomes *an actor in New York is likely to earn more than one in Paducah.*

6. <u>Use the relative pronoun *who*</u>. This technique works best when it replaces a personal pronoun that follows *if*. For instance, *employers presume that if an applicant can't write well, he won't be a good employee* becomes *employers presume that an applicant who can't write well won't be a good employee.*

7. <u>Use the imperative mood.</u> The imperative eliminates the need for an explicit pronoun. For instance, *a lifeguard must keep a close watch over children while he is monitoring the pool* becomes *keep a close watch over children while monitoring the pool.*

8. <u>In moderation, use *he or she.*</u> Be aware that this usage suggests that sexual orientation is strictly binary and therefore may offend some readers.

9. <u>Revise the sentence.</u> For instance, *if a boy or girl misbehaves, his or her privileges will be revoked* might become *if someone misbehaves, that person's privileges will be revoked.*

from *Chicago Manual of Style.* Seventeenth Edition (2017). pp. 359-360.

Plagiarism

Plagiarism, passing off someone else's work as your own, is a serious error that must be avoided. Many people do not realize that copying even a few words or a distinctive phrase from a source is considered plagiarism. Developing good research methods and carefully documenting your information can prevent you from unintentionally plagiarizing your sources. Examine the example of such "unconscious plagiarism below.

An Example of "Unconscious Plagiarism"

The World Wide Web makes plagiarism much too easy for some students to resist. Students who cheat in this manner know what they are doing and are hoping that they will not be caught. If they are caught, the penalty can be severe. Although instructor's policies will vary, it is reasonable to expect a plagiarized paper might receive a zero, a grade that will seriously affect a student's semester grade. Some students, however, plagiarize without fully realizing that they are doing so. The following is a passage from a paper on Marcus Garvey submitted to an online section of Introduction to American Literature here at Tech.

> Garvey arrived during the dawn of the "New Negro" era. He stayed with a Jamaican family in Harlem. He soon found work as a printer and saved enough money to begin a fundraising tour throughout the United States. (Marcus Garvey) Garvey's whirlwind tour began in Harlem and went through thirty-eight other states.

> Garvey's first two attempts to establish a New York chapter of the Universal Negro Improvement Association with headquarters in Jamaica were sabotaged by socialists and Republicans who wanted to turn it into a political club. In his third attempt he had formed a cadre of thirteen like-minded people. This one too had its opposition but Garvey was able to pull through. When Garvey decided to stay in the United States the UNIA was incorporated in the state of New York on July 2, 1918 (Marcus Garvey).

The student's parenthetical citations (Marcus Garvey) direct his reader to the source of this information, an online biography of Marcus Garvey on a web site titled *Shades of Black.* Identifying his source in this manner indicates that he is not trying to hide his source and that he probably doesn't think he has done anything wrong. But as an examination of the original source below shows, he has directly quoted the original material without using quotation marks to show that these are not his words. This is plagiarism and it would be plagiarism even if the copied portions were less extensive.

> When <u>Garvey arrived</u> in the U.S. <u>he stayed with a Jamaican family in Harlem.</u> He <u>found work as a printer and saved enough money to begin a fundraising tour throughout the United States. Garvey's whirlwind tour began in Harlem and proceeded through thirty-eight states</u>. Harlem had recently become converted into the Black section of New York City and the virtual capital of the Black world. So when he returned to New York he chose to set up his headquarters there. Garvey moved into the center on Harlem stage with all the ease and self-confidence of a man with a mission. He took to the streets,

> joining the soapbox and stepladder orators and form political alliances with some of Harlem's most prominent radicals.
>
> <u>Garvey's first two attempts to establish a New York chapter of the</u> U.N.I.A. <u>with headquarters in Jamaica were sabotaged by socialists and Republicans who wanted to turn it into a political club. In his third attempt he had formed a cadre of thirteen like-minded souls. This one too had its divisions but Garvey was able to</u> weather the storm. And <u>when Garvey decided to stay in the United States the U.N.I.A. was incorporated in the state of New York on July 2, 1918</u>.

Be careful to distinguish your words from others' words. Changing a couple of words in the original text does not "make it yours."

Instructors in this course are making increasing use of services such as Turnitin. com to check for plagiarism. These services compare student's to work to databases of Internet material as well as databases created from previously submitted papers in the same course.

Working Efficiently

Locating appropriate information for your research is time consuming, but you can learn to work more efficiently, spending your time with sources that will help you rather than wasting it on sources that will not. Learn to use the research aids that are available in Pendergraft Library: on-line catalogs, indices, and bibliographies. Don't forget the human resources of librarians, professors, and local experts in the field you are researching. They can frequently direct you the most productive source material.

General works and even encyclopedias are not bad sources with which to start a research project. They can provide you with an overview that will help you limit and focus your topic. They also often contain bibliographies that can lead you to more specialized sources.

If you locate print sources in the library, examine the adjacent shelves. You may discover another source that you missed in the catalog. Before you check books out of the library, examine their table of contents, indices, and publication date to eliminate those that do not address your topic or are out of date.

Internet Sources

The Internet is a great tool for conducting research, but you need to be careful about the the credibility of Internet sources. Try to rely on sites maintained by reliable, well known organizations or institutions. Try to check information against other sites. You want to determine that the source meets standards for (1) **authority** – demonstrable expertise, (2) **accuracy** – verifiable information, (3) **bias** – objective presentation of information, and (4) **currency** – up-to-date information.

Taking Notes and Gathering Data

When you have located a passage in a text that is relevant to your research, take notes that will still be useful to you days or weeks later when you finally need to use them. Most important, you should not merely copy large portions of the text material into your notes. Doing so wastes your time and postpones the inevitable task of digesting the information you are reading; moreover, such mindless copying increases the danger of unintentional plagiarism. This is a particularly severe problem for people who "cut and paste" sections of text from sources on the Internet. Try to translate information into your own words as you take notes. When a particular wording is sufficiently significant to warrant direct quotation, be sure that you clearly distinguish the direct quotation from your paraphrase.

Remember to record the complete publication information for each source before you begin taking notes. This should include the author, editor, edition, publisher, place of publication, date of publication, and the inclusive pages for an article that is part of a larger volume. With Internet sources be sure to note the date on which it was posted, the date on which you accessed it, and the full Internet address (URL). If the web page you are citing has a DOI (digital object identifier) or permalink address, use that instead of the URL.

Data base software can be a great assistance in large research projects. Notes can be stored with key phrases that will allow you to easily find and organize information as you work with it. Outline programs can also help you organize your approach to research project, providing a quick way to test alternative organizational patterns as your information increases.

Questionnaires and Surveys

Questionnaires can allow you to gather information from a lot of people quickly and survey-generating programs such as Survey Monkey can facilitate the creation and distribution of survey and questionnaires. Note that anyone who wants to use a survey at Tech must have it approved by the Tech Institutional Review Board. Consider the following guidelines when using a survey:

- Clearly disclose your identifying and contact information, the purpose of the survey, how the information will be used, and if the information will be kept confidential.
- Use easy-to-answer and easy-to-tabulate questions that do not display bias rather than open-ended comments.
- Include demographic questions (age, gender, education, etc.) only if they are of clear value to the purpose of the survey.
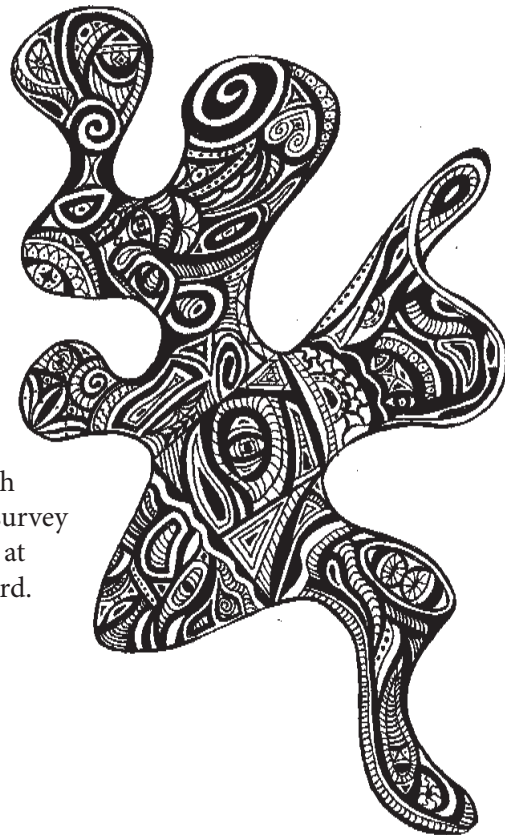
© Allison Brucker

Documenting Sources

When to document information

There are three types of information that should always be documented:

1. **direct quotations.** A word, phrase, or passage that is quoted directly from a source should be enclosed by quotation marks and cited.

   The poet Claude McKay has been called "a fascinatingly paradoxical figure" (Barksdale 489) and "a prophet as well as a poet" (Kinnamon 213).

2. **information that is not commonly available.** Facts or information that, although not unique to your source, is not readily available should be cited. You might have to look up the capital of South Dakota, but you should not document the source of such commonly available information.

   At the time of his birth, McKay's hometown of Sunny Ville, Jamaica had a population of under 1,000 (Barret 243).

3. **opinions or ideas that seem particular or original with the author.**
   When you refer to the opinion expressed by an author rather than factual information, you should cite your source.

   James Brentano believes that McKay's poetry never lived up to the promise exhibited in "If We Must Die" (251).

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Documentation Styles

Many different documentation styles are used by technical and workplace writers. Often particular disciplines or organizations follow their own documentation manuals. Your decision of which documentation style to use should always be determined by requirements of your readers. Examples of specialized style manuals are *ACS* (American Chemical Society) *Style Guide, Geographical Research and Writing, Tongue and Quill* (guide for Air Force publications)*, IBM Style Guide,* and *AMA* (American Medical Association) *Style Manual.*

Author-Page: Modern Language Association Style (MLA)

The MLA documentation style uses the author's name and the page reference in the parenthetical citation. The Works Cited list at the end of the document is an alphabetical listing of all sources that have been cited. This style is used in English and foreign languages.

Author-Year: American Psychological Association Style (APA), Council of Science Editors (CSE), U.S. Geological Survey Style (USGS).

The APA, CSE, and USGS author-year documentation styles use the author's name and the year of publication in the parenthetical citation. When the citation refers to a quotation, the citation includes the page number as well. The References list at the end of the document is an alphabetical listing of all sources that have been cited. APA documentation style is used in anthropology, archeology, astronomy, business, economics, education, linguistics, physical education, political science, psychology, and sociology. The author-date form of CSE author-year documentation style is used in biology, botany, physiology, and zoology. USGS documentation style is used in geology.

Citation Sequence Style: American Chemical Society Style (ACS), American Institute of Physics Style (AIP), American Mathematical Society Style (AMS), Council of Science Editors Citation-Sequence Style (CSE C-S), American Medical Association (AMA), and the Institute of Electrical and Electronic Engineers Style (IEEE).

The ACS, AIP, AMS, CSE C-S and IEEE numerical documentation styles assign a unique number to each source. Citation references within the text are bracketed, parenthetical or superscripted, depending on the particular style, and include the source's unique number. Some numerical styles also include the page reference in the citation. The References list at the end of the document lists all of the sources that have been cited in numerical order. ACS documentation style is used in chemistry. AIP documentation style is used in physics. AMS documentation style is used in mathematics. AMA style is used in medicine. IEEE is used in computer science. The formatting of citation and entries varies widely between different citation sequence styles. This text focuses on the CSE citation-sequence style often used in the natural sciences.

<u>**Footnote/Endnote Style**</u>: **Chicago Manual of Style (CMS)**

The CMS footnote/endnote style uses superscripted numbers in the text to refer readers to footnote citations placed at the bottom of the page or endnote citations placed at the end of a document. The initial footnote or endnote citation for a source includes complete information regarding author, title and publication. CMS style documents often include a Bibliography on which the sources used are alphabetized. CMS style is often used in art, communications, dance, history, journalism, literature, music, philosophy, and religion.

Informational Footnotes and Endnotes

Although the author-page, author-date, and numerical documentation styles described on the previous page do not use footnotes or endnotes for citations, footnotes and endnotes may be used in those styles for information and explanations that are supplemental to the main text.

At the time of his birth, Claude McKay's hometown of Sunny Ville, Jamaica [1] had a population of under 1,000 (Barret 243).

----

[1]James Meridian has catalogued direct references to the topography of Sunny Ville in Claude McKay's *Jamaican Roots*.

Documentation Examples

On the following pages, the same sample paragraph is documented in each of the four documentation styles described in this text. The documented paragraphs are followed by a series of sample reference entries for each of the four styles.

Remember: The information for each style is selective, designed to help you with the most common types of sources. For more complete information, you should refer to the appropriate style manual.

Table 8: Charactersitics of Four Basic Documentation Styles

Documentation Style	Content and format of in-text citations	Arrangement and title of references list at the end of the document
Author-Page MLA	Last name or title by which the source is alphabetized on the Works Cited list and the page number(s) from which the information is taken: Cited Text (Jones 87). Cited Text ("Running" 44-46).	The **Works Cited** list is alphabetized by the the authors' last names or by the first word of the titles of works for which no author is known.
Author-Year APA	Last name or title by which the source is alphabetized on the References list, the date on which the work was published, and the page number(s) if the citation refers to a direct quotation: Cited Text (Jones, 2003). "Quotation" (Jones, 2003, p. 87).	The **References** list is alphabetized by the authors' last name or by the first word of title of works for which no author is known.
Citation Sequence CSE C-S	A superscripted arabic numeral serves as the unique identifier for the source and is assigned in the order in which sources are first cited in the document. Some citation-sequence styles place the numbers in parentheses, brackets, superscripted or in-line. Cited Text [12]. Cited Text [12, 24, 48].	The **References** are arranged in numerical order by the unique identifying number of each source. This listing may also be called **Works Cited**, **Literature Cited**, or **Bibliography**.
Endnote/Footnote CMS	A superscripted arabic numeral numbered sequentially from the start of the document. Each citation is a unique number. Cited Text. [4]	The footnotes or endnotes are arranged in numerical order in the order in which they appear in the text. The **Bibliography** is alphabetized by the authors' last names or by the first words of titles of works for which no author is known.

Documentation Style	Format of authors' names in reference list.	Capitalization and formatting of titles
Author-Page MLA	Last name, full first name: Jones, Sharon.	The first letter of the first word and all other (important) words are capitalized for both books and articles. Book titles are *italicized*. Article titles are placed in "quotation marks." *To Kill a Mockingbird* "Running at Night"
Author-Year APA	Last name, initials of first and middle name: Jones, S. K.	Only the first letter of the first word of book and article titles is capitalized. Exception: The first letter of the first word and all other (important) words of a journal or magazine title are capitalized. Book and journal titles are *italicized*. Article titles are left in plain text. Book: *To kill a mockingbird* Article: Running at night Journal: *The Journal of Obscure Analogies*
Citation Sequence CSE C-S	Last name followed by initials of first and middle names with no periods or space after initials. Jones SK.	Only the first letter of the first word of book and article titles is capitalized. Exception: The first letter of the first word and all other (important) words of a journal or magazine title are capitalized. Book and article titles are left in plain text. To kill a mockingbird Running at night Journal: The Journal of Obscure Analogies
Endnote/Footnote CMS	Last name, full first name Jones, Sharon.	The first letter of the first word and all other (important) words are capitalized for both book and articles. Book and journal titles are *italicized*. Article titles are placed in "quotation marks." *To Kill a Mockingbird* "Running at Night"

MLA Author-Page Style

The primary source for greater detail regarding the author-page documentation style is the *MLA Handbook*, Ninth Edition, 2021. The Modern Language Association maintains a web page that answers frequently asked questions about MLA style at https://www.mla.org/MLA-Style.

In general, advertising is "used to bring products, services, opinions, or causes to public notice for the purpose of persuading the public to respond in a certain way toward what is advertised" ("Advertising"). More specifically, Catherine Caples argues that advertising is "the matter of getting the prospect to pay attention to the message you are attempting to present" (78). One way manufacturers advertise successfully is by segmenting products to offer different ingredients and features.

> Although all modern laundry detergents do pretty much the same thing, remove dirt and odor from people's clothing, each detergent brand is developed to fill an individual consumer need or want. (Hafer, "Strategic" 34)

Oxydol—bleaches as it washes, Dreft—the detergent for baby's laundry, Tide—America's favorite, Dash—low suds concentrate, and Cheer—all temperature Cheer are all segment product examples. Product endorsement by celebrities is also an extremely popular method of advertising. Companies spend large amounts of money to have public figures promote their products. Marketing support for Alpo Catfood that used Garfield the cartoon cat totaled $70 million (Bernstein 22). Two years later a campaign for underwear featuring Michael Jordan was budgeted at more than twice that amount (Bernstein 25). The combination of available data, big-time processing power, asset management and marketing automation technology means advertisers can target individual at scale ("Why"). Changes in marketing ideas also help agencies promote products. For example, in an interview on October 4, 2004, Jack Lowry, owner of Picwood Cinema in Russellville, Arkansas stated that the Motion Picture Association's NC-17-rated films, to which no children under 17 can be admitted, are more likely to be advertised on TV stations and newspapers than X-rated films. In any effective advertisement, creative writing is a necessity (Caple 125). The 1972 advertising message of Kellogg's Raisin Bran cereal heralded the "Two Scoops" story in a song. "For raisin lovers the theme provided a dramatic memory device for communicating a good cereal content" (Hafer, *Advertising* 113).

Works Cited

"Advertising." *Encyclopedia Britannica Online*, 3 Feb. 2015, www.britannica.com/topic/advertising.
    Accessed 23 June 2016.

Bernstein, Rudolf X. "The Increasing Cost of Advertising." *Modern Management*, vol. 2, no. 8, Aug.
    2013, pp. 18-26.

Caples, Catherine. "Imaginative Advertising." *Approaches to the Marketplace*, edited by Joseph
    Jukester. Fordyce Press, 2009, pp. 62-81.

Hafer, Albert. "Strategic Marketing." *Advertising World*, 8 Oct. 2006, pp. 31-38.

---. *Advertising Today*. Simon and Schuster, 2002.

Lowry, Jack. Personal interview. 4 Oct. 2008.

"Why Audience Segmentation Isn't All It's Cracked Up to Be." *Advertising Age*, 13 May 2014, adage.
    com/article/datadriven-marketing/audience-segmentation-cracked/292974/. Accessed 17 June
    2016.

Some Basics of MLA Style

* Arrange entries on the Works Cited list alphabetically by the author's last name or the title of
    the article if the author is unknown.

* For in-text citations use the name or title by which the full listing is alphabetized. This allows
    your reader to connect the in-text citation to the full listing on the Work Cited list.

Example of Works Cited Entries
(MLA Author-Page Style)

A book with a single author
Snark, Fred. *Field Guide to North American Snails.* ASA Press, 2015.

A book with two authors
Biggles, Robert, and Barry Cazlow. *Egg Production in Iowa*. Jacobs, 2018.

A book with three or more authors
Lawrence, David, et al. *Mastering Advanced HTM*. Wheatland, 2020.

A book with unknown author(s)
Repairing Your Automobile. Carruth, 2016.

Two books with the same author [Arrange alphabetically by titles.]
Nixon, Emily. *Emerging Technologies*. Chiggers, 2016.
---. *Laser Technology*. Chiggers, 2013.

A book with an editor
Merryville, Mary, editor. *Analyzing Nursery Rhymes*. Sunset, 2013.

A book with an author and an editor
Swift, Jonathan. *Gulliver's Travels*. Edited by Geoffrey Yahoo, Lilliput, 2015.

A source from an anthology
Able, Fred. "Shiloh." *The Civil War*, edited by Shelby Foote, Memphis State Press, 2018. pp. 153-191.

An introduction, preface, foreword, or afterword
Dixon, Bunny. Foreword. *My Big Squeeze*, by Lena Noxious, Outofsight, 2012, pp. v-xvi.

An article in a journal or magazine without volume numbers
Marney, Everett. "Nine Ways to Skin a Cat." *Taxidermy,* 18 May 2022, pp. 14-23.

An article in a journal or magazine with volume numbers.
Threader, Betty. "Office Management." *Journal of Management, vol.* 21, no. 2, Jan. 2018, pp. 6-9.

A newspaper article
Newman, Norman. "Computer Use at Tech Increases." *Courier-Democrat*, 15 July 2001, sec. B, p. 6.

An unsigned article from an alphabetized reference work
"Lasers." *Dictionary of Science*, edited by Eric Tesla, 3rd ed., Pearson, 2020, pp. 543-546.

A brochure or pamphlet
Hunting Education Requirements. Arkansas Game and Fish Commission, n.d. Brochure.

Scripture (print)
The Bible. Authorized King James Version. Oxford UP, 1998.

A personal interview
Huckabee, Mike. Personal interview. 14 May 2005,.

A lecture or presentation
Lake, Paul "New Formalism." Lecture. Introduction to Poetry, 15 April 2006, Arkansas TechUniversity.

A motion picture or video recording
It's a Wonderful Life. Directed by Frank Capra, RKO, 1946.

An email
Mitchner, Stuart. Email to Carl Brucker, 21 June 2016.

An electronic book
Begley, Adam. *Updike*. Kindle E-book. Harper, 2014.

An article from an online encylopedia (with permalink)
"Iron." *Wikipedia, The Free Encyclopedia*, Wikipedia Foundation, 8 June 2022, https://en.wikipedia.org/w/index.php?title=Iron&oldid=1085343645

A web page with no known author.
"World's Largest Buffalo." *Roadside America,* 15 Aug. 2012, www.roadsideamerica.com/story/2711.

An article from an online journal with a DOI (digital object identifier)
Mitchner, Stuart. "When Shakespeare Speaks to You." *Town Topics*, vol. 23, no. 1, 10 Jan. 2006, pp. 1-3. https://doi.org/10.1353/mod.2006.0011.

A social media post (Instagram)
Thomas, Angie. Photo of *The Hate U Give* cover. *Instagram*, 4 Dec, 2018, www.instagram.com/p/Bq_PaXK-gqPw/.

A social media post (Twitter)
Gogarty, Mignon [@GrammarGirl]. "Every once in a while, that Gmail notice asking if you meant to reply to a 5-day-old message is quite helpful." *Twitter,* 13 Feb. 2019, twitter.com/grammarGirl/status/1095734401550303232.

Response to a ChatGPT prompt
"Describe the symbolism of the green light in the book *The Great Gatsby* by F. Scott Firzgerald" prompt. *ChatGPT,* 13 Feb. version, OpenAI, 8 Mar. 2024, chat.openai.com/chat.

General instructions for an article or page from a Web site
In general the following simplified four-part guideline will work for most digital sources.

(1) Author's last name, Author's first name if known]. (2) "Title of the Article or Page". (3) Sponsoring organization or site title, date of publication or last update if known, locator (DOI, permalink, or URL). (4) Access date if content is likely to change].

APA Author-Date Style

Two resources for detailed information regarding the author-year documentation style are the *Publication Manual of the American Psychological Association*, 7th Edition (2020) and *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers*, 8th Edition (2014). The APA's "APA Style Helper" can be accessed at http://www.apastyle.org. The University of North Carolina provides an excellent explanation of both forms CSE/CBE (Council of Biology Editors) documentation at http://www.lib.unc.edu/instruct/citations/cse/.

In general, advertising is "used to bring products, services, opinions, or causes to public notice for the purpose of persuading the public to respond in a certain way toward what is advertised" (Advertising, 2015). More specifically, Catherine Caples (2009) argued that advertising is "the matter of getting the prospect to pay attention to the message you are attempting to present" (p. 78). One way manufacturers advertise successfully is by segmenting products to offer different ingredients and features.

> Although all modern laundry detergents do pretty much the same thing, remove dirt and odor from people's clothing, each detergent brand is developed to fill an individual consumer need or want. (Hafer, 2006, p. 34)

Oxydol—bleaches as it washes, Dreft—the detergent for baby's laundry, Tide—America's favorite, Dash—low suds concentrate, and Cheer—all temperature Cheer are all segment product examples. Product endorsement by celebrities is also an extremely popular method of advertising. Companies spend large amounts of money to have public figures promote their products. Marketing support for Alpo Catfood that used Garfield the cartoon cat totaled $70 million (Bernstein, 2013). Two years later a campaign for underwear featuring Michael Jordan was budgeted at more than twice that amount (Bernstein, 2013). The combination of available data, big-time processing power, asset management and marketing automation technology means advertisers can target individual at scale (Why, 2014). Changes in marketing ideas also help agencies promote products. For example, in an interview on October 4, 2004, Jack Lowry, owner of Picwood Cinema in Russellville, Arkansas stated that the Motion Picture Association's NC-17-rated films, to which no children under 17 can be admitted, are more likely to be advertised on TV stations and newspapers than X-rated films. In any effective advertisement, creative writing is a necessity (Caples, 2009). The 1972 advertising message of Kellogg's Raisin Bran cereal heralded the "Two Scoops" story in a song. "For raisin lovers the theme provided a dramatic memory device for communicating a good cereal content" (Hafer, 2002, p. 113).

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Advertising. (2015). *Encylcopedia britannica online*. Retrieved June 23, 2016 from https://www.

britannica.com/topic/advertising.

Bernstein, R. X. (2013). The increasing cost of advertising. *Modern Management*, 2(8), 18-26.

Caples, C. (2009). Imaginative advertising. In J. Jukester (Ed.), *Approaches to the Marketplace*

(pp. 62-81). Fordyce Press.

Hafer, A. (2002). *Advertising today*. Simon and Schuster.

Hafer, A. (2006, October 8). Strategic marketing. *Advertising World*, 31-38.

Why audience segmentation isn't all it's cracked up to be. (2014, May 13). *Advertising Age*.

Retrieved from http://adage.com/article/datadriven-marketing/audience-segmentation-

cracked/292974/.

Some Basics of APA Style

* Arrange entries on the References list alphabetically by the author's last name or the title of the article if the author is unknown. Use initials for first names.

* For in-text citations use the name or title by which the full listing is alphabetized. This allows your reader to connect the in-text citation to the full listing on the References list.

* In APA style cite only works available to scholars in a library, a depository, an archive, or on the Internet. Explain sources such as an interview, email, or text message in the text.

Example of References Entries
(APA Author-Year Style)

A book with a single author
Snark, F. (2015). *Field guide to North American snails*. ASA Press.

A book with two authors
Biggles, R. & Cazlow, B. (2018). *Egg production in Iowa*. Jacobs.

A book with three or more authors
Lawrence, D., Morris, J., McKown, K., Norris, F., Townsend, B., Saberhagen, B. (2020). *Mastering advanced HTML*. Chicago: Wheatland.

A book with unknown author(s)
Repairing your automobile. (2016). Carruth.

Two books with the same author [Arrange by publication date]
Nixon, E. (2013). *Laser technology*. Chiggers.
Nixon, E. (2016). *Emerging technologies*. Chiggers.

A book with an editor
Merryville, M. (Ed.). (2013). *Analyzing nursery rhymes*. Sunset.

A book with an author and an editor
Swift, J. (2015). *Gulliver's travels*. G. Yahoo (Ed.). Lilliput.

A source from an anthology
Able, F. (2018). Shiloh. In S. Foote (Ed.), *The Civil War* (pp. 153-191). Memphis State Press.

An introduction, preface, foreword, or afterword.
Dixon, B. (2012). Foreword. In L. Noxious. *My big squeeze*. Outofsight.

An article in a journal or magazine without volume numbers
Marney, E. (2022, May 18). Nine ways to skin a cat. *Taxidermy*, 14-23.

An article in a journal or magazine with volume numbers
Threader, B. (2018, Jan.). Office management. *Journal of Management*, 21(2), 6-9.

A newspaper article
Newman, N. (2001, July 15). Computer use at Arkansas Tech increases. *Courier Democrat*, 6.

An unsigned article from an alphabetized reference work
Lasers. (2020). In E. Tesla (Ed.), *Dictionary of science* (Vol. 12, pp. 1024-1029). Macmillan.

A brochure or pamphlet
Arkansas Game and Fish Commission. (n.d.). Hunting education requirements [Brochure].

Scripture (print)
The Bible. (1998). Authorized King James Version. Oxford.

A personal interview
Interviews should be parenthetically cited in the main text.

A lecture or presentation
Lake, P. (2006, April 15). The new formalism [Lecture]. Introduction to Poetry, Arkansas Tech University, Russellville, AR, United States.

A motion picture or video recording
Capra, F. (Director). (1946). It's a wonderful life. RKO.

An email
Email communication should be parenthetically cited in the main text.

An electronic book
Begley, A. (2014). *Updike*. (Kindle). Harper.

An article from an online encyclopedia (with permalink)
Iron. (2022, Apr 30). In *Wikipedia*. Retrieved June 8, 2022, https://en.wikipedia.org/w/index. php?title=Iron&oldid=1085343645

A web page with no known author
World's largest buffalo. (2012, August 15). https://www.roadsideamerica.com/story/2711.

An article from an online journal with a DOI (digital object identifier)
Mitchner, S. (2006, January 10). When Shakespeare speaks to you. *Town Topics*, 23(1), 1-3. https://doi. org/10.1353/mod.2006.0011.

A social media post (Instagram)
Thomas, Angie. (2018, December 4). Photo of *The Hate U Give* cover. Instagram. https://www.instagram. com/p/Bq_PaXKgqPw/.

A social media post (Twitter)
Gogarty, Mignon [@GrammarGirl]. (2019, February 13). Every once in a while, that gmail notice asking if you meant to reply to a 5-day-old message is quite helpful. Twitter. https://twitter.com/grammarGirl/status/1095734401550303232.

Response to a ChatGPT prompt (quote the prompt used in the text)
OpenAI. (2023). *ChatGPT*. (Mar 14 version) [Large language model]. https://chat.openai.com/chat

General instructions for an article or page from a Web site.
As a general guideline include all of the following information that is available in the order shown.

Author's last name, Author's first initial. (Date of publication or last update if author is known). Title. (date of publication or last update if author is not known). Sponsoring organization. Retrieved date is content will change or DOI is not available. DOI, permalink, or complete URL.

CSE Citation-Sequence Numerical Style

CSE Citation-Sequence style is described in *Scientific Style and Format: the CSE Manual for Authors, Editors, and Publishers*, 8th Edition (2014)). There are many other numerical documentation styles. The Institute of Electrical and Electronic Engineers' numerical documentation style is described in *Preparation of Papers for IEEE Transactions and Journals (February 2017)*, The American Chemical Society's ACS numerical style is described in *ACS Guide to Scholarly Communication* (2020) DOI: https://doi.org/10.1021/acsguide. American Mathematical Society numerical style is described in the *AMS Author Handbook* available at http://www.ams.org/arc/handbook/index.html. American Medical Association numerical style style is described in *AMA Manual of Style* (11th edition, 2019) available at https://www.amamanualofstyle.com/

In general, advertising is "used to bring products, services, opinions, or causes to public notice for the purpose of persuading the public to respond in a certain way toward what is advertised." [1] More specifically, Catherine Caples argued that advertising is "the matter of getting the prospect to pay attention to the message you are attempting to present.", [2] One way manufacturers advertise successfully is by segmenting products to offer different ingredients and features.

Although all modern laundry detergents do pretty much the same thing, remove dirt and odor from people's clothing, each detergent brand is developed to fill an individual consumer need or want. [3]

Oxydol—bleaches as it washes, Dreft—the detergent for baby's laundry, Tide—America's favorite, Dash—low suds concentrate, and Cheer—all temperature Cheer are all segment product examples. Product endorsement by celebrities is also an extremely popular method of advertising. Companies spend large amounts of money to have public figures promote their products. Marketing support for Alpo Catfood that used Garfield the cartoon cat totaled $70 million. [4] Two years later a campaign for underwear featuring Michael Jordan was budgeted at more than twice that amount. [4] The combination of available data, big-time processing power, asset management and marketing automation technology means advertisers can target individual at scale. [5] Changes in marketing ideas also help agencies promote products. For example, in an interview on October 4, 2004, Jack Lowry, owner of Picwood Cinema in Russellville, Arkansas stated that the Motion Picture Association's NC-17-rated films, to which no children under 17 can be admitted, are more likely to be advertised on TV stations and newspapers than X-rated films. In any effective advertisement, creative writing is a necessity. [2] The 1972 advertising message of Kellogg's Raisin Bran cereal heralded the "Two Scoops" story in song. "For raisin lovers the theme provided a dramatic memory device for communicating good cereal content." [6]

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2. Caples C. Imaginative advertising. In: Jukester J, editor. Approaches to the marketplace. Cleveland (OH): Fordyce Press, 2009, p. 62-81.

3. Hafer A. Strategic marketing, Advertising World. 2006 October 8:31-38.

4. Bernstein RX. The increasing cost of advertising. Modern Management. 2013;2(8):18-26.

5. Why audience segmentation isn't all it's cracked up to be. Advertising Age; 2014 May 13 [accessed 2016 June 17]. http://adage.com/article/datadriven-marketing/audience-segmentation-cracked/292974/.

6. Hafer A. Advertising Today. New York (NY): Simon and Schuster; 2002.

Some Basics of CSE Citation-Sequence Style

* List and number sources in the order in which they are first cited in the text. Superscript the citation numbers and place them outside the end punctuation. Some citation-sequence styles places the citation numbers in parenthesis or square brackets either superscripted or in line.

* For in-text citations use the source's identfying number; therefore, as with source [2] in the passage on the left, a source's number may appear multiple times in the text.

* Cite only works available to scholars in a library, a depository, an archive, or on the Internet. Sources such as the interview should be explained in the text.

* Unlike MLA or APA the References list, which can also be titled Cited References, Literature Cited, or Bibliography is ordered numerically and is not overhung.

Example of References Entries
(CSE Citation Sequence Numerical Style)

A book with a single author
Snark F. Field guide to north american snails. New York (NY): ASA Press, 2015.

A book with two to ten authors
Biggles R, Cazlow B. Egg production in Iowa. Iowa City (IA): Jacobs, 2018.

A book with eleven or more author
Lawrence D, Morris J, McKown K, Norris F, Townsend B, Saberhagen B, Pashtaw X, Rumfield T, Barnagle B, Freed C, et al. Mastering advanced HTML. Chicago (IL): Wheatland, 2000.

A book with unknown author(s)
Repairing your own automobile, Boston (MA): Carruth, 2016.

Two books with the same author [Arrange numerically by place in text]
Nixon E. Emerging technologies. Atlanta (GA): Chiggers, 2016.
Nixon E. Laser technology. Atlanta (GA): Chiggers, 2013.

A book with an editor
Merryville M, editor. Analyzing nursery rhymes. Louisville (KY): Sunset, 2013.

A book with an author and an editor
Swift J. Gulliver's travels. Yahoo G, editor. Cloudland (OH): Lilliput, 2015.

A source from an anthology
Able F. Shiloh. In: Foote S, editor. The civil war. Memphis (TN): Memphis State, 2018, p. 153-191.

An introduction, preface, foreword, or afterword
Dixon B. Foreword. In: Novious L. My Big Squeeze. Cleveland (OH): Outofsight, 2012, p. v-xvi.

An article in a journal or magazine without volume numbers
Marney E. Nine ways to skin a cat. Taxidermy. 2022 May 18:14-23.

An article in a journal or magazine with volume numbers
Threader B. Office management. Journal of Management. 2018;21(2):6-9.

A newspaper article
Newman N. Computer use at Arkansas Tech increases. Courier-Democrat. 2001 Jul 15;Sect. B:6.

An unsigned article from an alphabetized reference work
Lasers. In: Dictionary of Science. Vol. 12. New York (NY): Macmillan, 2020, p. 1024-1029.

A brochure or pamphlet
Arkansas Game and Fish Commission. Hunting education requirements [brochue]. Arkansas Game and Fish commission [date unknown].

Scripture (print)
The Bible. Authorized King James Version. Boston (MA): Oxford, 1998.

A personal interview
Interviews should be parenthetically cited in the main text.

A lecture or presentation
Lake, P. The new formalism [lecture]. Introduction to Poetry; 2015; Russellville (AR)

A motion picture or video recording
Capra F, director. It's a wonderful life. [DVD]. Los Angeles (CA): RKO; 1946.

An email
Email communication should be parenthetically cited in the main text.

An electronic book
Begley, A. Updike [Kindle E-book]. New York (NY); Harper, 2014.

An article from an online encyclopedia (with permalink)
Iron. [place unnown]. Wikipedia; 2008 Apr 30 [accessed 2022 June 8]. https://en.wikipedia.org/w/index.
   php?title=Iron&oldid=1085343645

a web page with no known author
World's largest buffalo. [place unknown]: Roadside America; 2012 Aug 15 [accessed 2022 Jun 6]. https://www.
   roadsideamerica.com/story/2711.

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   update [date accessed]. complete DOI, permalink, or URL.

CMS Footnote/Endnote Style

The traditional system of documentation that uses footnotes or endnotes is described in the *Chicago Manual of Style*, 17th edition, and Kate Turabian's *A Manual for Writers of Research Papers*, *Theses*, *and Dissertations*, 9th edition.

In general, advertising is "used to bring products, services, opinions, or causes to public notice for the purpose of persuading the public to respond in a certain way toward what is advertised"[1] Catherine Caples argues that "Advertising is the matter of getting the prospect to pay attention to the message you are attempting to present." [2] One way manufacturers advertise successfully is by segmenting products to offer different ingredients and features.

> Although all modern laundry detergents do pretty much the same thing, remove dirt and odor from people's clothing, each detergent brand is developed to fill an individual consumer need or want. [3]

Oxydol—bleaches as it washes, Dreft—the detergent for baby's laundry, Tide—America's favorite, Dash—low suds concentrate, and Cheer—all temperature Cheer are all segment product examples. Product endorsement by celebrities is also an extremely popular method of advertising. Companies spend large amounts of money to have public figures promote their product. Marketing support for Alpo Catfood that used Garifield the cartoon cat totaled $70 million.[4] Two years later a campaign for underwear featuring Michael Jordan was budgeted at more than twice that amount.[5] The combination of available data, big-time processing power, asset management and marketing automation technology means advertisers can target individual at scale.[6] Changes in marketing ideas also help agencies promote products. For example, in an interview on October 4, 2004, Jack Lowry, owner of Picwood Cinema in Russellville, Arkansas stated that the Motion Picture Association's NC-17-rated films, to which no children under 17 can be admitted, are more likely to be advertised on TV stations and newspapers than X-rated films.[7] In any effective advertisement creative writing is a necessity.[8] The 1972 advertising message of Kellogg's Raisin Bran cereal heralded the "Two Scoops" story in song. "For raisin lovers the theme provided a dramatic memory device for communicating good cereal content." [8]

Endnotes

1. "Advertising," in *Encyclopedia Britannica Online*, last modified February 3, 2015, www.britannica.com/topic/advertising/.

2. Catherine Caples, "Imaginative Advertising," in *Approaches to the Marketplace*, ed. Joseph Jukester (Cleveland: Fordyce Press, 2009), 67.

3. Albert Hafer, "Strategic Marketing," *Advertising World*, 8 October 2006, 34-35.

4. Rudolf X. Bernstein, "The Increasing Cost of Advertising," *Modern Management*, 2, no. 8 (2013): 22.

5. Ibid., 25.

6. "Why Audience Segmentation Isn't All It's Cracked Up to Be," last modified May 13, 2014, www.ad-age.com/article/datadriven-marketing/audience-segmentation-cracked/292974/.

7. Jack Lowry, Personal interview, 4 October 1990.

8. Caples, "Imaginative Advertising," 125.

9. Albert Hafer, *Advertising Today* (New York: Simon and Schuster, 1984), 182.

In CMS style when references to the same work follow one another with no intervening references, ibid. may take the place of the author's name, the title, and as much of the succeeding material as is identical. In CMS style the second and all subsequent references to a work use a shortened form that typically uses only the author's last name and the page number. CMS style uses a Bibliography that lists only works cited in the text. This list can also be titled Works Cited or Literature Cited.

Bibliography

Bernstein, Rudolf X. "The Increasing Cost of Advertising." *Modern Management* 2.8 (1990): 18-26.

Caples, Catherine. "Imaginative Advertising." *Approaches to the Marketplace*. Ed. Joseph Jukester. Cleveland: Fordyce Press, 1989. 62-81.

Hafer, Albert. *Advertising Today*. New York: Simon and Schuster, 1984.

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Lowry, Jack. Personal interview. 4 Oct. 1990.

TCI Media Services. "TCI-Kraft Alliance Reflects New Marketing World." *Cable Advertising Today*. March 1998. 18 June 1998. http://www.tcimediaservices.com/cat.net/tjisix.html.

Example of Bibliographic Entries
(CMS Footnote/Endnote Style

A book with a single author
Snark, Fred. *Field Guild to North American Snails.* New York: ASA Press, 2015.

A book with two or more authors
Biggles, Robert, Barry Cazlov, and Tina Bubbles. *Egg Production in Iowa*. Iowa City: Jacobs, 2018.

A book with unknown author(s)
Repairing Your Automobile. Boston: Carruth, 2016.

Two books with the same author [Arrange alphabetically by titles]
Nixon, Emily. *Emerging Technologies*. Atlanta: Chiggers, 2016.
–––. *Laser Technology*. Atlanta: Chiggers, 2013

A book with an editor
Merryville, Mary, ed. *Analyzing Nursery Rhymes*. Louisville: Sunset, 2013.

A book with an author and an editor
Swift, Jonathan. *Gulliver's Travels*. Edited by Geoffrey Yahoo. Cloudland, OH: Lilliput, 2015.

A source from an anthology
Able, Fred. "Shiloh." In *The Civil War*, edited by Shelby Foote, 153-191. Memphis: Memphis State, 2018.

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Threader, Betty. "Office Management." *Journal of Management* 21, no. 2 (2018): 6-9.

A newspaper article
Newman, Norman. "Computer Use at Arkansas Tech Increases." *Russellville Courier-Democrat*. July 15, 2001,
    sec. B, p. 6.

An unsigned article from a alphabetized reference work
Dictionary of Science, (2020), s.v. "lasers.

A brochure or pamphlet
Arkansas Game and Fish Commission. *Hunting Education Requirements***.**

Scripture (print)
The Bible. Authorized King James Version. Boston: 1998.

A personal interview
Huckabee, Mike, interviewed by Carl Brucker, May 14, 2005, Clarion Hotel, Little Rock, Arkansas.

A lecture or presentation
Lake, Paul "New Formalism." Lecture presented in Introduction to Poetry, Arkansas Tech University, russellville, AR, April 15, 2006.

Film A motion picture or video recording
Capra, Frank, dir. *It's a Wonderful Life*. Los Angeles, CA: RKO, 1946. DVD.

An email
Email and other personal communication should be parenthetically cited in the main text. or in a note wihtout a bibliographic entry.

An electronic book
Begley, Adam. *Updike*. 2014. Kindle.

An article from an online encylcopedia (with permalink)
"Iron." Wikipedia, April 30, 2022, accessed June 8, 2022. https://en.wikipedia.org/w/index.php?title=Iron&oldid=1085343645

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An article from an online journal with a DOI (digital object identifier)
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Response to a ChatGPT prompt
ChatGPT. Response to "Describe the symbolsim of the green light in The Great Gatsby by F. Scott Fitzgerald." OpenAI, March 14, 2024.

General instruction for an article or page from a Web site.
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Author's last name, Author's first name. "Title of article or page." *Sponsoring Organization*, date of publication, date of last modification, or date of access, complete URL. In CMS the date of access is optional.

About the Contributors

Thanks to each of these former students for their willingness to share their work. Many other excellent examples had to be omitted because of space limitations.

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Katie Young	completed a B.A. in art in 2007
Staci Young	completed a B.S. in medical records administration in 1986

Exercise Answers

Embedding Exercise (page 79)

My old, blue house at 901 Elm Street has two stories.

Subject-Verb Agreement (page 147)

1. is ["Chairs" can't be the subject because it is the object of the preposition "under."]
2. is ["Each" means that the accelerators are treated as single units]
3. is [Because the subjects are not combined by "or," the subject closest to the verb determines the number.]
4. are ["And" combines the two singular subjects to make a plural.]
5. are ["That" refers to books and is therefore plural.]
6. is [The phrase "only one" requires "that" to refer to "one" and be singular.]
7. is ["Despite the deceptive "s" ending, words such as economics and the news are treated as singular.]
8. is [The subject before the verb determines the number.]

Pronoun Agreement and Reference (page 148)

1. we [We is part of the subject. "We are going."]
2. they [Each requires a singular pronoun, but they could be used to be gender neutral. It would be best, however, to rewrite the sentence. See Techniques for Achieving Gender Neutrality on page 213.]
3. whom [The restated clause would read "We hired him," the objective case.]
4. who [The restated clause would read "He gave us directions," subjective case.]
5. architects, or consultants, or we [a reference that would not be ambiguous as "they" is here.]
6. him, her job, her degree program, or all of them. [Something more specific than "it."]
7. she ["Recipient = she." "She is an objective complement and takes the same form as the subject.]
8. me ["Me" is the object of the preposition "to."]
9. We [We renames the subject and is in the same case.]
10. they ["You" would shift from 3rd to 2nd person. "They" does not agree in number with "a student," but it could be used to be gender neutral. It would be best, however, to rewrite the sentence. See Techniques for Achieving Gender Neutrality on page 213.]