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Professor Hanson

INTD100

10/12/2020

Midterm 1: College Writing Seminar

Prof. Jordan C. Hanson October 8, 2020

Assigned: October 9th, 2020 at 9:00 am. Due: October 12th, 2020 at 9:00 am. Submit all answers in one PDF document, and submit this PDF on Moodle under Week 5.

Week 1: Concise Writing 1

1. Using the delete button. For the sentences below, re-write them more concisely.Create an edited version in your document.

> (a) Knowing the orbits of the stars around the center of the galaxy, scientists use the orbits to calculate the mass of the object at the center of the galaxy. The object has the mass that is so large the mass has to be of a black hole.

(a). Scientists use the orbits of the stars around the center of the galaxy to calculate the mass of the object at the center. This object has a mass large enough to be a black hole.

> (b) Epidemiologists use a parameter called the reproduction parameter, R0, which is the number of new infections resulting from one new infected person.

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> (c) According to the Newton's Laws of motion, things that have different masses and different shapes would still acceleratae downward at the same rate when dropped.

(c) According to Newton's Laws of Motion, things with different masses and different shapes would still have the same acceleration rate downward when dropped.

2. Creating an outline. Create an outline of the following set of ideas, such that it describes how to determine optimal tomato growing conditions. Use the outline to write a well-organized paragraph describing the experiment. Submit both the paragraph and the outline.

Create a paragraph in your document.

• Ten tomato seedlings are obtained

• A patch in the garden is reserved with space for all ten

• A photo-sensor can be used to determine the light level at each spot in the patch

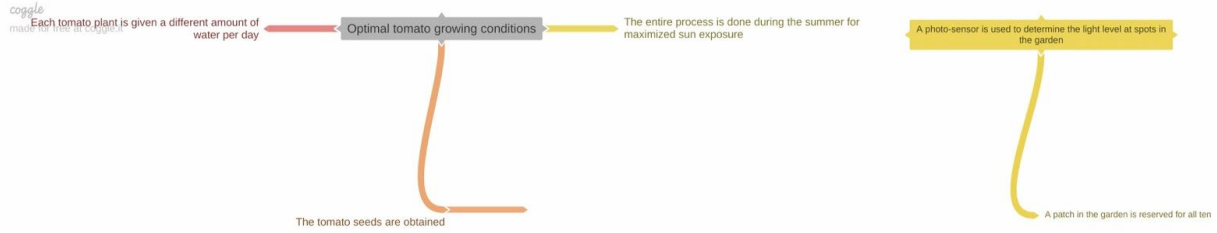
• Each tomato plant is given a different amount of water per day

• This whole process is done during the summer when the amount of sunshine is maximized

Paragraph:

In order to optimize growing conditions for tomato plants, certain guidelines should be followed. The entire process is done during the summer for maximized sun exposure. First, a photo-sensor is used to determine the light level at spots in the garden. Once the light levels have been calculated, a section in the garden is reserved for the tomato patch, with 10 spots for each plant. Next, the 10 tomato seeds are obtained and planted in the reserved spots. Each tomato plant is given a different amount of water each day in order to optimize the growth of the plants.

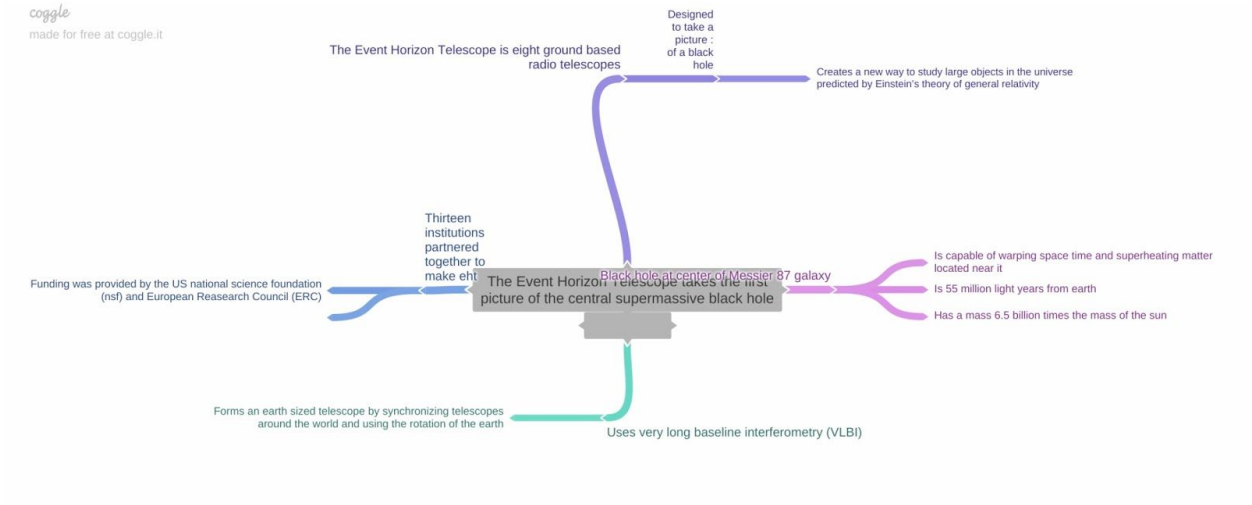
Outline:



Week 2: Concise Writing 2

1. Hierarchy of detail and outlines. Choose from any of the 4 topics from slide 4 of the Week 2 Lecture Notes. Select 3-4 sources online and use them to create an outline with the appropriate hierachy of details covering the subject. Submit the outline and a 200 word summary of the subject, written concisely and without ambiguous words or phrasing. Properly cite your sources.

Outline:



Paragraph:

The Event Horizon Telescope captured the first picture of a supermassive black hole in April of 2017. The Event Horizon Telescope (EHT) is the combination of eight ground based radio telescopes designed specifically to take a picture of a black hole. This telescope creates new ways for scientists to study large objects in the universe predicted by Einstein's theory of general relativity. EHT uses very long baseline interferometry (VLBI) to observe the universe at a 1.3 mm wavelength. Very long baseline interferometry forms an earth sized telescope by synchronizing telescopes around the world, and also uses the natural rotation of the earth. "VLBI allows the EHT to achieve an angular resolution of 20 micro-arcseconds- enough to read a newspaper in New York from a sidewalk cafe in Paris" [1]. The supermassive black hole captured by EHT is at the center of the Messier 87 galaxy. Like other black holes, it is capable of warping spacetime and superheating the matter around it. It is located 55 million light years from earth and has a mass that is 6.5 billion times the mass of the sun [1]. EHT was a collaboration by 13 institutions around the world. It was mainly funded by the US National Science Foundation (NSF) and the European research Council (ERC).

Works Cited:

[1] Press Release (April 10, 2019): Astronomers Capture First Image of a Black Hole (https://eventhorizontelescope.org/press-release-april-10-2019-astronomers-capture-first-image-black-hole).

[2] First M87 Event Horizon Telescope Results.IV. Imaging the Central Supermassive Black Hole (https://iopscience.iop.org/article/10.3847/2041-8213/ab0e85/meta)

[3] First M87 Event Horizon Telescope Results.IV. Imaging the Central Supermassive Black Hole (https://arxiv.org/abs/1906.11241)

Week 3: Technical Description 1

1. Removing ambiguous words. In the following sentences, remove or replace ambiguous words.Write the new sentences in your own document.

• When born, the baby was fairly heavy and really long.

When born, the baby was heavy and long.

• The baby grew really fast, by the time she was 1 year old, she was a lot longer.

The baby grew fast, by the time she was a 1 year old, she was longer.

• Radio transmission took a long while between the Earth and the Moon.

Radio transmission between the Earth and the Moon took awhile.

• A hiker walked the full 60 km trail in 4 days, making her average speed moderate.

A hiker with a moderate average speed walked the full 60 km trail in 4 days.

2. Spatial and temporal detail, perspective. Recall the exercise we performed in class, in which we wrote our favorite recipe. In this exercise, explain to the reader from where you are gathering the ingredients, and the recipe. Thus, the result should be a tract of writing that would enable someone to prepare the dish using your kitchen and pantry. Notice how this requires you to pay attention to both time and space.

Write a paragraph in your own document.

Starting at the fridge which is located next to the light switch on the right hand wall, open the door and retrieve one egg from the container on the top shelf next to the coffee creamer. Next, grab fresh green beans from the bottom right drawer. In the door of the refrigerator, there is a small shelf with a clear door. Inside there are sticks of butter, grab one. Set all of your ingredients down on the countertop to the left of the fridge. To the left of that there is the stovetop with various pots and pans in the cabinet above. In this cabinet there are three pots of various sizes. Retrieve the medium sized pot and the small sized pot. Fill the medium sized pot ¾ of the way full with water from the sink that is directly across from the fridge. Fill the small sized pot with one inch of water. Place the pots on burners and turn the heat on high for both of them. Next to the sink, there is another countertop. To the left of this, there is a black food pantry cabinet. Open this and retrieve one packet of ramen noodles from the middle shelf, which is located next to the cans of soup. Once the water is boiling, add the green beans to the medium sized pot and let them cook for about 10 minutes. Add the egg to the small sized pot and let it cook for about 6 minutes. Then proceed to take the smaller pot off the burner and put it in the sink. Add the noodles and seasoning from the ramen packet into the medium sized pot, and let cook for three minutes. While the noodles are cooking, go to the sink and drain the water from the smaller pot. Once the egg has cooled remove its shell and set aside. Once fully cooked, take the medium sized pot to the sink and drain out the water, careful not to remove any noodles or green beans. Get a bowl from the cabinet above the counter, to the right of the food pantry. Empty the noodles and beans into the bowl, then add the egg on top. Grab the stick of butter and cut off ½ a tablespoon and add it directly into the bowl, and you have completed the recipe for ramen noodles.

Week 4: Technical Description 2

1. Convert to passive voice.

Re-write the paragraph in your own document.

I measured the acceleration due to Earth's gravity, g, with a pendulum. First, I measured the length of my pendulum to be 20 cm. Second, I hung my pendulum straight down and displaced the bob 5 cm to my right. I released the pendulum and recorded the number of times it returned to the same position as it swung back and forth for one minute. I calculated that it returned to its original position every 0.90 seconds. I inserted my results into the formula predicted by Newton's Laws. The result for g was 9.81 m/s^2.

The acceleration due to Earth's gravity, g, was measured with a pendulum. First, the length of the pendulum was measured to be 20 cm. Second, the pendulum was hung straight down and displaced 5 cm to the right. It was released and the number of times it returned to the same position as it swung back and forth for one minute was recorded. The pendulum returned to its original position every 0.90 seconds. Third, the results were inserted into the formula predicted by Newton's Laws, and the result for g was 9.81 m/s2.

2. Rearrange the sentences to have the proper hierarchy of detail.

Re-write a paragraph in your own document.

The trials were conducted in a room with no air conditioning, and therefore no air flow. The average horizon- tal distance bacteria travel after a person sneezes was measured. First, a sample of 20 infected people was gathered. The category of dishes with the largest colonies were the ones corresponding to 8.0 meters. Third, once each subject felt the urge to sneeze, the subject was required to aim the sneeze down the line without covering their mouth. The height of each subject was required to be within 6 inches of 5 feet 6 inches tall. Second, petri dishes were arranged in 0.5 meter intervals out to 10.0 meters on the floor in front of the subject. Fourth, bacterial colonies were allowed to grow in the dishes for one week under ideal conditions. These results inform the epidemiology of spreading bacteria. The results show that when a person sneezes, it is possible to spread infection to someone who happens to be 8.0 meters away.

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