Nick Reynolds

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.

Scientists use the orbits of the stars to calculate the mass of the object at the center of the galaxy. The object has mass so large it must 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 accelerate downward at the same rate when dropped.

According to Newton's Laws of motion, objects with different masses and shapes still accelerate downwards at the same rate 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. (200 word paragraph and Coggle.it)

- 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

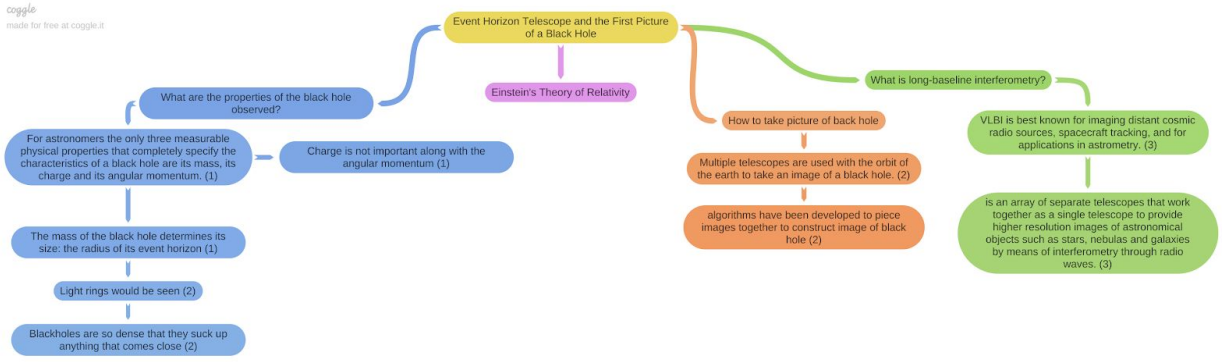
Ten tomato seedlings are obtained and planted in a garden with spaces reserved for each. This whole process is done during the summer when the amount of sunshine is maximized. A photo-sensor can be used to determine the light level at each spot in the patch. Each tomato plant is given a different amount of water each day, and the plants are grown for a 2 month period. The results of the plant growth are recorded at the end of the 2 month period.

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 hierarchy 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. Add the work to your document.
Event Horizon Telescope and the First Picture of a Black Hole
• What is long-baseline interferometry?
• What are the properties of the black hole observed? *
Sources:
http://www.sun.org/encyclopedia/black-hole#:~:text=For%20astronomers%20the%20only%20three,charge%20and%20its%20angular%20momentum (1)
https://www.ted.com/talks/katie_bouman_how_to_take_a_picture_of_a_black_hole/up-next?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare (2)
https://en.wikipedia.org/wiki/Very-long-baseline_interferometry (3)



While it has been understood what a black hole could potentially look like and what they do, it has never been observed by the human eye. However, through recent discoveries, scientists have discovered ways to use telescopes around the world to work together and produce an image of a black hole. This ability has allowed scientists to understand if Albert Einstein's theory of relativity stands true at the scale of a blackhole. This was made possible with a process called "very long baseline interferometry", and the use of the Event Horizon Telescope. Very long baseline interferometry, (VLBI), is an array of multiple telescopes that work together as a single telescope to take high resolution images of blackholes and other astronomical objects (3). The Event Horizon Telescope uses the process of VLBI and the rotation of the earth to take images of a blackhole (2). Algorithms have been developed to piece the images together and construct a final image of the blackhole (2). The Event Horizon Telescope and the process of very long baseline interferometry also allow scientists to view select properties of black holes. Blackholes are so dense that they suck up anything that comes near, including light (2). However, the mass of blackholes can be determined by the size of their "light rings" that surround the outside of blackholes (1). The results of the event horizon telescope allowed scientists to prove Einstein's theory of relativity true.

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.
By the time the baby was 1 years old, it had grown even longer.
• Radio transmission took a long while between the Earth and the Moon.
Radio transmission took 1 hour to get between the Earth and the Moon.
• A hiker walked the full 60 km trail in 4 days, making her average speed moderate.
A hiker walked the 60km trail in 4 days, making her average speed 15km per day.

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.

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/s2.

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