Week 1: Concise Writing 1

1. (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 stars orbiting around the center of the galaxy to calculate the mass. Objects so large of mass have 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.

Epidemiologists use the reproduction parameter, R0, the number of infections from one new infected person.

(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.

According to Newton's Law of Motion, things with different masses and shapes accelerate downward at the same rate when dropped.

2. A procedure is done to determine the light level at each spot of a tomato patch using a photo sensor. The procedure must be done during the summer to maximize the amount of sunshine. You will need ten tomato seedlings placed separately in a reserved spot in the patch. Each one of those tomato plants are given a different amount of water per day.
https://coggle.it/diagram/X4POQBiU9PPCqjke/t/-

Week 2: Concise Writing 2

With the M87 black hole being 55 million light years away from the earth, scientists created a technique called the "very long baseline interferometry". The Event Horizon Telescope is a group of eight telescopes that combine strongly enough to see a supermassive black hole using the technique. Each one these telescopes are 8985 miles apart to capture different angles of the black hole. As the Earth rotates, the telescopes in different continents allow the telescopes to cover more in depth of the black hole with low resolution. This ability has allowed scientists to understand if Albert Einstein's theory of relativity, the speed of light in a vacuum is the same for all

observers, stands true at such a grand scale. The Event Horizon Telescope and the process of very long baseline interferometry allow scientists to view select properties of black holes. The properties of a black hole that can be observed are the light rings of stars that are being destroyed by it, the mass of the black hole, and the angular momentum of the black hole. The density of the black hole makes it difficult to capture pictures as their gravitational waves suck up anything near such as light. https://coggle.it/diagram/X4PaZ5zTliBav6H8/t/event-horizon-telescope-first-picture-of-black-hole

Array. (n.d.). Retrieved October 12, 2020, from https://eventhorizontelescope.org/array

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Week 3: Technical Description 1

1.
- When born, the baby was fairly heavy and really long.

The newborn baby was heavy and lengthy

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

The baby quickly grew taller once she turned 1 year old.

- Radio transmission took a long while between the Earth and the Moon

Radio transmission took a moment between Earth and the moon.

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

A hiker walked a 60km trail at a moderate speed of 4 days.

2. To begin on making my favorite meal for each night which is a protein shake, first you want to enter the kitchen. It is located directly straight from the entrance of my home. As you enter you want to start by grabbing your ingredients out of the fridge which is the large grey applicant to the right as you walk in the kitchen. You will need milk, 2 eggs, spinach, peanut butter, and a single banana from the fridge. Directly on top of the fridge you will find protein powder and oats with 2 scoopers located inside them. Make a 45 degree turn left as you see the blender.Next to your blender are a variety of large cups to use to drink the shake. As you see the blender begins

to pour 0.25 liters which there is measurement on the blender. Next get 1 spoonful of peanut butter and throw it in the blender along with your banana. Now crack both your eggs and put it in while grabbing a handful of spinach and also putting it in the blender. Lastly you will get 2 scoops of protein powder and 1 1/12 of oats. Now select the milkshake button to blend it all together for about 30 seconds. Finally pour your shake into one of the cups located next to the blender. Sometimes there may be an overflow of your shake so drink part of the shark then pour the rest after.

Week 4: Technical Description 2

1. 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 was measured with a pendulum. First the length of the pendulum was measured to 20cm. Second the pendulum was hung down and displaced the bob 5 cm to the right. The pendulum was released and recorded the number of times it returned to the same position for 1 minute. Every 0.90 seconds it returned to its original position. The formula from Newton's laws predicted the results for g to be 9.81 m/s2.

2. 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. 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.

An average horizontal distance bacteria travel after a person sneezes was measured in a room with no air conditioning and therefore no air flow. First a sample of 20 5 feet 6 inch infected people were gathered. Second, petri dishes were arranged in 0.5 meter intervals out to 10.0 meters on the floor in front of the subject. The category of dishes with the largest colonies were the ones corresponding to 8.0 meters. Then, once each subject felt the urge to sneeze, the subject was required to aim the sneeze down the line without covering their mouth. Lastly , bacterial colonies were allowed to grow in the

dishes for one week under ideal conditions to spread bacteria to inform the epidemiology.The results show that when a person sneezes, it is possible to spread infection to someone who happens to be 8.0 meters away.