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INTD-100

Unit 1: Concise Writing 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.

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

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

A) Scientists use what they know about the orbits of the stars to calculate the object's mass at the center of the galaxy. The object's mass is so large that it must have come from a black hole.
B) Epidemiologist use the reproduction parameter, R0, which is the number of new infections resulting from a new infected person
C) Newton's Laws of motion states, objects with different masses and different shapes would still accelerate downward at the same rate when dropped.

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

Unit 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.

ˆ The story of John Couch Adams and Urbain Le Vernier, who discovered the planet Neptune in 1846 (independently).

John Couch Adams and Urbain Le Vernier discovered the existence of Neptune while both independently trying to explain Uranus' orbit. Several astronomers since the discovery of Uranus in 1781 noticed perturbations for an unknown cause at the time. Astronomers hypothesized that the explanation to the unusual movements were caused by an trans-Uranian planet. Yet it was difficult to prove this true because of the complex math that was required to fully prove it. This was until Urbain J. J. Le Verrier, a professor of astronomy at the École Polytechnique in Paris and John Couch Adams, a young British mathematician recently graduated from Cambridge started to work on a mathematical theory of Uranus movements. Adams in 1845 finished his work that proved to predict the unknown planets position of within 2 degrees. At the time it remained insignificant leading for it to be unpublished and disregarded. All while Le Verrier was working on the Uranus problem, he once finished sending it to the Astronomer Johann Gottfried Galle as well as others. Two days later Galle had written back to Le Verrier with big news about the discovery of an actual planet existing using the information given to him by Le Verrier and his Observatory's 9-inch telescope. Although there was conflict about who had discovered what first, John Couch Adams was given the recognition for his findings proving that he had reached the same conclusion as Le Verrier.
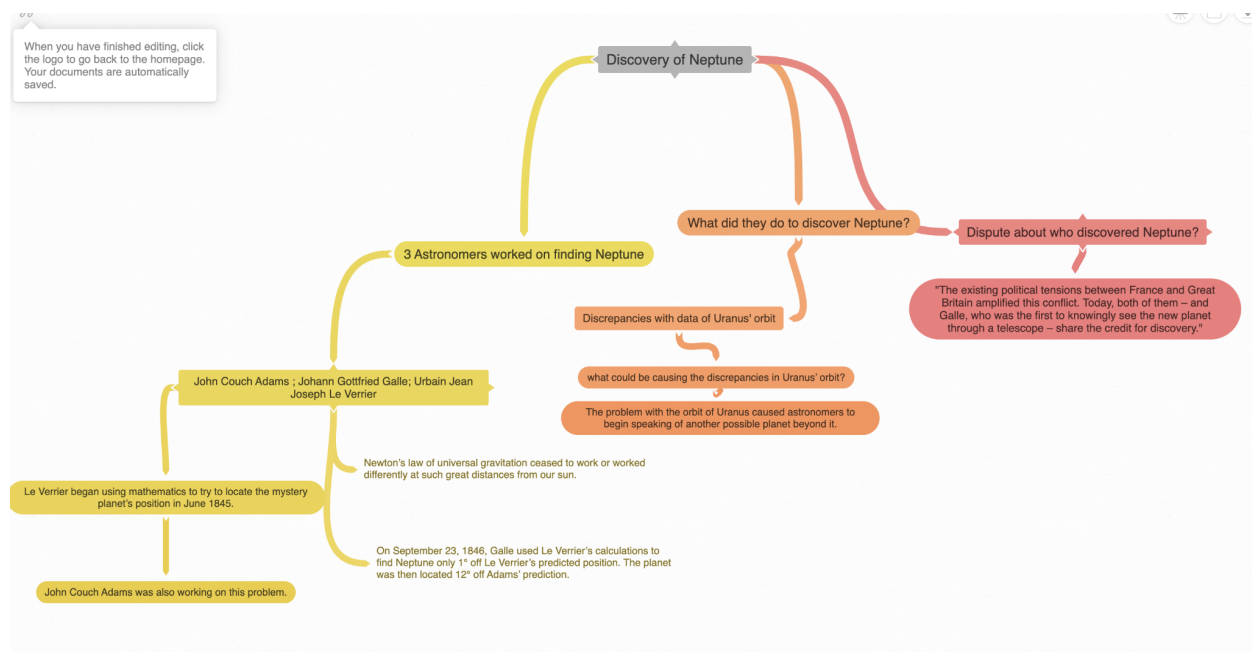
Sources:

- McIntyre, Lee. The Scientific Attitude Defending Science from Denial, Fraud, and Pseudoscience. E-book ed., 2019.
- Voices, Earthsky. "Neptune discovered on this date in 1846." EarthSky, 23 Sept. 2022, earthsky.org/human-world/today-in-science-discovery-of-neptune/.
- istoryofInformation.com. Jeremy Norman, Neptune: The First Planet Discovered by Mathematical Rather than Observational Means: Discovered Simultaneously by Le Verrier and Adams. Accessed 22 Oct. 2022.

Unit 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 8 pounds 14 ounces and 8 feet long.
- The baby grew really fast within a short amount of time, by the time she was 1 year old, she was 2 times longer.
- Radio transmission took 2.7 seconds between the Earth and the Moon.
- A hiker walked the full 60 km trail in 4 days, making her average speed 1.6 km an hour.

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 from room 231 in Stauffer, facing the door of the room, turn right through the metal door frame and take a left down the stairs all the way to the main floor. Once at the first floor you can make your way towards the shared kitchen space by walking right from the stairs then left down the 4 stairs then another right into the kitchen. Once in the kitchen you may be deterred due to the lack of cleaning but worry not all you need is a pot and a package of ramen. Looking through the cabinet above the stove you will find a pot alongside it a plastic packaging of ramen. Turn around with your pot and open the faucet and fill your pot with at least 3 inches depth of water. Turn 180 once again back towards the stove and turn it on to the highest setting and place the pot over the heat. While you wait for the water to boil the ramen packaging can be opened slowly

making sure not to spill any of the dry ramen. You can assure that the water is boiling by looking at the water bubble with a high intensity or even place your finger into the water feeling a burning pain. At this point you can finally slowly drop in your dry ramen as well as however much of the powder you want in your soup. The ramen will be ready once it becomes soft and almost a translucent yellow. Now it is ready to be served from any of the bowls found in the cabinet or straight from the pot.

Unit 4: Technical Description 2

1. Convert to passive voice.
Rewrite the paragraph in your own document.

The acceleration was measured due to Earth's gravity, g, with a pendulum. First, the length of the pendulum was measured at 20 cm. Second, the pendulum was hung straight down and the bob was displaced 5 cm right. The pendulum was then 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 then calculated that it had returned to its original position every 0.90 seconds. The results were then inserted into the formula predicted by Newton's Laws. The final result for g being 9.81 m/s^2.

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. First, a sample of 20 infected people was gathered. 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. 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 average horizontal distance bacteria travel after a person sneezes was measured. Fourth, bacterial colonies were allowed to grow in the dishes for one week under ideal conditions. The category of dishes with the largest colonies were the ones corresponding to 8.0 meters. The results show that when a person sneezes, it is possible to spread infection to someone who happens to be 8.0 meters away. These results inform the epidemiology of spreading bacteria.

3. Rearrange the sentences to have the proper hierarchy of detail, and convert to passive voice. Remove ambiguous words, and make the writing more concise. Re-write a paragraph in your own document.

The angle between the meter stick and the table was increased by 5 degrees slowly until the eraser slid off the meter stick. The angle was measured using a protractor. Then an eraser was placed on the meter stick. The tangent of the angle was then measured twice. Using a diagram of the forces measured, it showed that the tangent of the angle is the friction coefficient. The coefficient of friction measured out to be 0.095 and the average friction coefficient was calculated to be 0.095. The standard deviation of the coefficient was 0.05. Something that was not considered previously that could be addressed for the next experiment would be changing the temperature of the eraser to determine if temperature has any effect on the friction coefficient.