Checkout Questions

Lab 13. Simple Harmonic Motion and Pendulums: What Variables Affect the Period of a Pendulum?

1. The equation for the period of a pendulum is $T = 2\pi\sqrt{(L/\mathbf{g})}$, where T is the period, L is the length of the pendulum, and $\mathbf{g}$ is the acceleration due to gravity. If a person were to take a pendulum to the Moon, which has a gravitation pull approximately one-sixth that of Earth, what would happen to the period of the pendulum?

   a. The period would increase.
   b. The period would decrease.
   c. The period would stay the same.

   How do you know?

2. Why does the mass of bob have no effect on the period of a pendulum?

3. It is equally important for scientists to identify variables that do have a cause-and-effect relationship and those variables that do not have a cause-and-effect relationship.

    a. I agree with this statement.

    b. I disagree with this statement.

    Explain your answer, using an example from your investigation about pendulums.

4. Scientists use the term *data* when they are talking about observations and the term *evidence* when they are talking about measurements.

    a. I agree with this statement.

    b. I disagree with this statement.

    Explain your answer, using an example from your investigation about pendulums.

5. Why is important to look for patterns in science? In your answer, be sure to include one example from your investigation on pendulums and at least one more example from another investigation you have conducted in either this class or another science class.

6. Scientists often examine the structure of an object or material during an investigation. Explain why it is useful to examine the structure of an object or material, using an example from your investigation about pendulums.

7. Experiments are one of the most powerful approaches to answering questions in science. Identify the components of an experiment and explain why they are so important in science, using an example from your investigation about pendulums.