



Pathfinder's Name

Physics

1. Define the following:

Physics _____

Mass _____

Work _____

Force _____

Power _____

Potential energy _____

Kinetic energy _____

Weight _____

Matter _____

Inertia _____

Friction _____

Wave _____

Center of gravity _____

Exponential notation _____

Absolute zero _____

Fulcrum _____

2. What is the scientific method? How can the scientific method be used to study the Bible?

3. What is a controlled experiment?

4. Explain the terms in Albert Einstein's $E=mc^2$ equation.

5. What units of measure for mass, length, and time are used where you live?
Mass _____
Length _____
Time _____

6. What units of measure are used for time prophecy in the Bible?

What is the chapter and verse where they can be found?

- ❑ 7. List Newton's three laws of motion.
 1. _____
 2. _____
 3. _____
- ❑ 8. Using a table cloth and several heavy books, demonstrate Newton's first law of motion.
- ❑ 9. Using an air-filled balloon, demonstrate Newton's third law of motion.
- ❑ 10. Demonstrate Galileo's falling body experiment by dropping two plastic beverage bottles (one full of water, the other half full) at the same time from a height of seven feet. Record the results and draw a spiritual application from this experiment.

Results _____

- ❑ 11. Demonstrate the mechanical advantage of levers by pulling a large nail, driven deeply into a board, using only a hammer. Pull a second nail using a hammer and a small block of wood, located near the nail, under the head of the hammer. Note the difference in force required to pull the nail with different positions on the hammer on the block (fulcrum) and draw a spiritual application from this experiment.

Force required _____

 Position _____

Date completed _____

Instructor's Signature