

Name: _____ Date: _____ Period: _____

One challenge for many students is to understand the differences between the scientific terms: Hypothesis (H), Law (L), Theory (T) or Belief (B).

- A **scientific hypothesis** is a possible, testable answer to a scientific question or explanation of what scientists observe in nature.
- **Theory** is **well-tested** and widely accepted hypothesis (explanation) or group of hypotheses. It explains why a phenomenon occurs.
 - It is based on a large body of evidence often from multiple disciplines.
- A **scientific law** is a well-tested and widely accepted description of observations that have been repeated many times in a variety of conditions. It describes what happened.
- A **belief** is statement that is not scientifically provable in the same way as facts, laws, or hypotheses. Scientifically disproven beliefs can be considered to be “true” by the general population.

Instructions: Identify each statement below as either a Hypothesis (H), Law (L), Theory (T) or Belief (B).

1. ___H___ Grass growth is limited by available nitrogen.
2. ___B___ The month people were born determines their personality.
3. ___L___ For every action, there is an equal and opposite reaction.
4. ___T___ all living things are composed of one or more cells; the cell is the basic unit of life; and new cells arise from existing cells.
5. ___L___ Whenever matter undergoes a physical or chemical change, no atoms are created or destroyed.
6. ___B___ The positions of the stars cause people to behave in a certain way.
7. ___H___ Forest fires replenish the nutrients in the soil.
8. ___L___ $F=ma$
9. ___H___ Plants require liquid water to survive.
10. ___L___ When energy is converted from one form to another in a physical or chemical change no energy is created or destroyed.
11. ___T___ Organisms with traits that are better physically equipped to survive, grow to maturity, and reproduce.
12. ___H___ The battery the electric car is dead.
13. ___T___ The inverse-square law for gravity and Newton's Laws of motion explain why orbits are ellipses.
14. ___H___ Having large ears is an adaptation that allows the African Elephants to survive the hot sun.