Theory or Hunch?

Read for the evidence behind a scientific theory.

SC.6.N.3.1 "Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline phrases that tell what makes a scientific theory different from a personal hunch. Circle one phrase that shows scientific explanations can change when new evidence appears.

More Than a Guess

1. When people say, "My theory is that the missing sock is under the bed," they usually mean a personal guess. The idea may be sensible, but one person has not gathered enough evidence to show that it explains nature. In science, a theory has a different meaning. A scientific theory is an explanation of how part of the natural world works. It is built from many observations, tests, and pieces of evidence examined by scientists.

2. Scientists test explanations in different places and compare results. Other scientists review the methods, repeat investigations, and look for evidence that does not fit. Over time, evidence can strengthen, change, or challenge an explanation. A scientific theory remains useful because it explains a wide range of observations and is supported by evidence. It is widely accepted by the scientific community, not because people voted for it, but because repeated research has supported it many times.

3. A theory is not a final fact that can never be questioned. New evidence may lead scientists to revise details or replace an explanation with a stronger one. This careful testing is different from using theory to mean "a hunch." For example, a student may have a theory about why a houseplant leans toward a window. That everyday idea becomes scientific only after tests, shared evidence, and review show that it explains a natural pattern.

2 ANSWER WITH EVIDENCE

Use the passage

1. In everyday speech, what does the word *theory* usually mean in the passage?

2. Name two kinds of work or evidence that help support a scientific theory.

3. Why is a scientific theory widely accepted, according to the passage?

4. What can scientists do when new evidence appears, and what does this show about scientific theories?

3 YOUR TURN

Your own words

Choose a natural pattern not mentioned in the passage. Write exactly three sentences: use *theory* once as an everyday guess, then explain what evidence, testing, and scientific review would be needed before an explanation could become a scientific theory.

ANSWER KEY

Theory or Hunch?

GRADE 6 · SC.6.N.3.1

PART 1 · READ AND MARK

Underline phrases that tell what makes a scientific theory different from a personal hunch. Circle one phrase that shows scientific explanations can change when new evidence appears. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	In everyday speech, what does the word *theory* usually mean in the passage?	**It usually means a personal guess or hunch.**
2	Name two kinds of work or evidence that help support a scientific theory.	**Answers may include observations, tests, evidence, repeated investigations, review of methods, or comparing results.**
3	Why is a scientific theory widely accepted, according to the passage?	**It is widely accepted because repeated research has supported it, not because people voted for it.**
4	What can scientists do when new evidence appears, and what does this show about scientific theories?	**They may revise details or replace an explanation with a stronger one. This shows that theories can change when evidence calls for change.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

My theory is that moths gather near my porch because the streetlight attracts them. Before this explanation could become a scientific theory, scientists would need repeated observations and tests in many places. Scientists would also share evidence, review methods, and find that the explanation works for many observations before widely accepting it.

Accept equivalent wording that distinguishes a personal guess from an evidence-based, widely accepted explanation of nature. For the open response, look for all three required elements: an everyday use of theory, evidence and testing, and review or wide scientific acceptance.