

Evidence Story Builders

How scientists shape and test explanations.

SC.6.N.1.5 "Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each observation, circle each explanation, and number the steps that check an explanation, so you can see how ideas must fit evidence.

The Owl Pellet Mystery

- ① At a school nature center, sixth graders found several owl pellets beneath a pine branch. An owl pellet is a compact mass that an owl regurgitates after digesting the soft parts of its prey. When the students gently separated one pellet, they found tiny jawbones, leg bones, and a skull. The bones did not tell a complete story by themselves. The group listed observations carefully, including the pellet's size, the kinds of bones, and the place where it was found.
- ② One student suggested that the owl had eaten a mouse because the skull had large front teeth. Another suggested that the owl had eaten a shrew because shrews also have small skulls and teeth. Both explanations connected the evidence to ideas about an animal the students had not watched being eaten. This was creative work, but it was not guessing without limits. The students knew that a useful explanation had to fit every observation. They needed more evidence before choosing between the ideas.
- ③ To test their explanations, the students compared the skull and jawbones with a field guide showing mammal bones. They predicted that a mouse skull would have a different tooth pattern from a shrew skull. The guide matched the shrew pattern more closely. The group chose the shrew explanation, then wrote why it fit the bones. They also noted a limit, because one pellet could not prove what every owl at the center eats. Scientists use creativity to design tests and to build, check, and revise explanations from evidence.

2 ANSWER WITH EVIDENCE Use the passage

1 Name two observations the students recorded from the pellet or its location.

2 What were the two explanations for what the owl ate? Why did the students need more evidence?

3 What did the students compare, and what result supported one explanation more closely?

4 How did the students use creativity to make an explanation, not just to test one?

3 YOUR TURN Your own words

Near a pond, you find a cluster of snail shells on a flat rock, and many shells have broken edges. Write three sentences: give one explanation that fits the evidence, name another possible explanation, and describe one observation or test that could help decide between them.

PART 1 • READ AND MARK

Underline each observation, circle each explanation, and number the steps that check an explanation, so you can see how ideas must fit evidence. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Name two observations the students recorded from the pellet or its location.	Any two: the pellet's size, the kinds of bones, the location beneath the pine branch, tiny jawbones, leg bones, or a skull.
2	What were the two explanations for what the owl ate? Why did the students need more evidence?	They suggested a mouse or a shrew. They needed more evidence because both ideas could fit some of the bones, and an explanation must fit every observation.
3	What did the students compare, and what result supported one explanation more closely?	They compared the skull and jawbones with a field guide. The tooth pattern matched the shrew pattern more closely.
4	How did the students use creativity to make an explanation, not just to test one?	They used the bone evidence to imagine possible prey animals they had not seen the owl eat. They created explanations, then checked and revised them using more evidence.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A thrush may have carried snails to the rock and broken the shells there to eat them. Another animal, such as a raccoon, might have left the shells after feeding. I would look for repeated shell piles, bird droppings, or beak marks and compare them with signs of raccoon feeding.

For Question 1, accept any two observations stated in the passage. For Your Turn, accept plausible explanations that fit the shell evidence and a relevant observation or test that could help compare the explanations.