Clues in Layers

Ask questions and make predictions about fossils in rock.

E.3.7A.3 "Ask questions to generate testable hypotheses regarding the formation and location of fossil types, including their presence in some sedimentary rock."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline clues about how each fossil mark formed, and circle the rock or layer where Nia found it.

Nia's Creek Walk

1. At a creek, Nia finds a shell-shaped hollow in a flat piece of sandstone. No shell is inside. Long ago, sand covered shells on the bottom of shallow water. Over time, layers of sand pressed together and became sandstone. A shell can leave a hollow if it breaks down after the sand hardens. Nia sees many tiny shell-shaped hollows in one layer, but none in the layer above it.

2. Farther upstream, Nia finds a dark, thin rock with leaf shapes pressed into it. This rock formed from fine mud at the bottom of a quiet pond. In a nearby layer made of rough, gritty sand, she sees no leaf shapes. In another rock, three-toed tracks cross a rippled surface. Those marks began when an animal walked over soft mud. New mud covered the marks before rain could wash them away.

3. On the walk home, Nia also checks a hard, dark rock that formed when melted rock cooled. She finds no fossils there. Sandstone and the thin, muddy rock formed as bits of sand or mud settled in layers. These are sedimentary rocks. Nia can ask a question about where a fossil might be found, then make a prediction. She could check more rocks and count what she finds.

2 ANSWER WITH EVIDENCE

Use the passage

1. What could you ask about shell-shaped hollows in more rocks from the same two sandstone layers? Write a testable question and a prediction.

2. What could you ask about leaf shapes in fine-mud rock and gritty-sand rock? Write a testable question and a prediction.

3. What could you ask about tracks in mud covered by new mud and tracks left open to rain? Write a testable question and a prediction.

4. What could you ask about fossils in sedimentary rock and rock made from cooled melted rock? Write a testable question and a prediction.

3 YOUR TURN

Your own words

Choose a living thing not named in the passage. Write a testable question about where its fossil remains or marks might be found in sedimentary rock, a prediction, and a way to check your prediction.

ANSWER KEY

Clues in Layers

GRADE 3 · E.3.7A.3

PART 1 · READ AND MARK

Underline clues about how each fossil mark formed, and circle the rock or layer where Nia found it. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What could you ask about shell-shaped hollows in more rocks from the same two sandstone layers? Write a testable question and a prediction.	**Would more shell-shaped hollows be found in the lower layer than in the layer above it? I predict the lower layer would have more hollows.**
2	What could you ask about leaf shapes in fine-mud rock and gritty-sand rock? Write a testable question and a prediction.	**Would more leaf shapes be found in fine-mud rock than in gritty-sand rock? I predict fine-mud rock would have more leaf shapes.**
3	What could you ask about tracks in mud covered by new mud and tracks left open to rain? Write a testable question and a prediction.	**Would tracks covered by new mud last longer than tracks left open to rain? I predict the covered tracks would last longer.**
4	What could you ask about fossils in sedimentary rock and rock made from cooled melted rock? Write a testable question and a prediction.	**Would fossils be found more often in sedimentary rock than in rock made from cooled melted rock? I predict they would be found more often in sedimentary rock.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Would crab tracks be found more often in sandstone from an old shore than in rock made from deep pond mud? I predict the old shore sandstone would have more crab tracks because crabs walk along shores. I would check ten equal-sized rock pieces from each place and count the crab tracks.

Accept other testable questions and predictions supported by the passage. For Part 3, the student should name a new living thing and describe a way to compare rocks or layers for its fossil remains or marks.