

PD Leader Master
Practice Identifying Strategies 4 and 5 in Student Work

Students are engaged in modeling different processes that cause weathering. As they model each process, they're asked to think about it in light of the lesson focus question, "Can mountains grow so tall they reach outer space?"

Decide whether each of the following student statements is making an observation, analyzing/interpreting an observation, constructing an initial explanation, or constructing an argument. **Note:** A student statement may include more than one of these science practices. Use the STeLLA strategies booklet and the Quick Reference Tools for Strategies 4 and 5 to formulate a rationale for your decisions.

Student Statements	Observation	Analysis/ Interpretation (Patterns)	Constructing an Explanation	Constructing an Argument
1. "The rocks are smaller after you shake the bottle."	X			
2. "A tree is growing in the crack in the rock."	X			
3. "Both the crack in the rock and the tree look bigger then when the picture was first taken 10 years ago."	X	X		
4. "I can see a tree root growing in the crack in the rock, so I think the roots are growing bigger and cracking the rock even more."	X		X	
5. "I don't think that freezing water can break a rock, because I can throw an ice cube on the floor and break it. So ice can't be strong enough to break a rock."				X
6. "Since tree roots can break a rock as they grow, I think water could break rock when it freezes. Remember how the water froze in the bottle and broke off the cap as it expanded."				X
7. "The longer you shake the bottle, the more the rocks hit each other, and the smaller and smaller they become."		X		
8. "Mountains can't grow so tall they reach outer space because plant roots and the freezing and thawing of water are slowly breaking them apart."			X	