

# Scouring

## STEM Sims

### Lesson 3: Rock ‘n’ Roll

Rocks are even larger than pebbles and sand. How will rocks’ ability to prevent scouring compare with the sand and the pebbles? Rocks usually have less surface area, but the size of each individual rock is larger than sand or pebbles. Will rocks be the best at reducing bridge scour? It’s time for bridge inspections!

#### Doing the Science

1. Start the Scouring Simulation by clicking on the “Sim” tab.
2. Click on the “Current” button. Clicking the left and right arrows will change the current speed. Click the “OK” button to select Speed 1.
3. Click on the “Build” button then click on the right arrow twice. Click the “OK” button for Rock.
4. Click on “Inspect” to view the rock level around the bridge. Click on the “X” button to close the inspection menu.
5. Click on “Run” to start the current.
6. Click on “Inspect” to view the rock level around the bridge.
7. Draw the top view and the side view of the bridge base into Table 1 below. Click on the “X” button to exit the inspection menu.
8. Click on the “Reset” button.
9. Repeat steps 2-7 for the remaining five current speeds.

**Table 1.**

	Current Speed 1	Current Speed 2	Current Speed 3	Current Speed 4	Current Speed 5	Current Speed 6
<b>Top View</b>						
<b>Side View</b>						

#### Do You Understand?

1. Was there a steady increase in the size of the hole from the slowest current (Current 1) to the fastest current (Current 6)?
  
2. How did rock do in comparison with the sand and pebbles? Which was the best and why?