



# Trench Dive

**STEM Sims**

## Lesson 2: Temperature

Many people have experienced both warm and cold ocean water. However, most people feel only the surface temperatures of the ocean and rarely venture into depths greater than a few meters. But, how warm or cold do you think ocean water is in a deep ocean trench? Get ready to take the plunge and find out.

### Doing the Science

1. Start the Trench Dive Simulation by clicking on the “Sim” tab.
2. Click on the “Temperature” button to sample the temperature at the surface. Record the data in Table 1.
3. Next, click the green down arrow on the left side of the screen until the depth measurement reaches 100 m.
4. Click on the “Temperature” button to take another sample of the temperature at 100 m. Make sure to record your data in Table 1.
5. Repeat steps 3 and 4 in increments of 100 m until you complete Table 1.

**Table 1.**

Depth (m)	0	100	200	300	400	500	600	700	800	900	1,000
Temperature (°C)											

### Do You Understand?

1. In the simulation, click on the blue “Graph” button. Next, click the “Temperature” button. Review the graph and then describe the shape of the temperature graph.
  
2. Using scientific reasoning and your data, explain why you think the water temperature changes with increasing ocean depth.
  
3. Using the background information and your own data, predict the water temperature at a depth of 1,200 meters, and then take a sample. Were you correct? Please explain your response.