Name_____ Period _____ Date _____

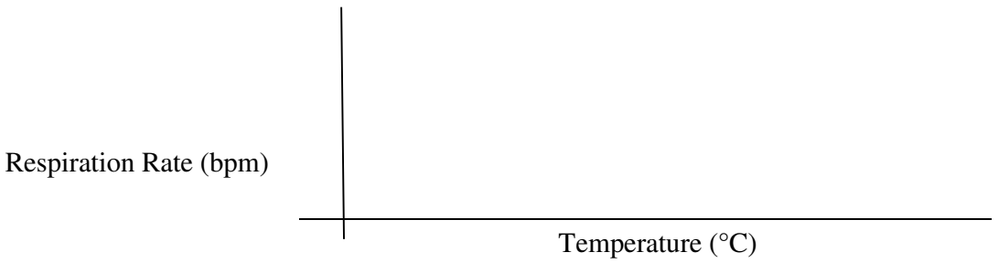
Fish Experiment

STEM Sims

Lesson 2: How Does Temperature Affect the Respiration Rate of a Fish?
Fish take in oxygen dissolved in water for respiration. The breathing rate of a fish is related to how much oxygen is available in the water. Does temperature have an impact on how quickly a fish must breathe?

Doing the Science
1. Open the Fish Experiment Sim.
2. Move the "Temperature" lever on the bottom of the fishbowl to the far-left position.
3. Note and record the temperature and dissolved oxygen concentration in Table 1.
4. Count and record the number of times the gills on the goldfish move in and out for one minute. This is the goldfish's respiration rate.
5. Slide the "Temperature" lever to the right to about the middle position.
6. Repeat steps 3 and 4.
7. Slide the "Temperature" lever to the far-right position.
8. Repeat steps 3 and 4.

Do You Understand?
1. Make a graph of temperature versus the goldfish's respiration rate.



2. What is the relationship between temperature and the goldfish's respiration rate?

3. What implications might the relationship you described in the previous question have for living aquatic organisms?

Table 1.

Trial	Temperature (°C)	Respiration Rate (breaths/minute)
1		
2		
3		