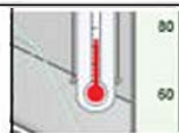


Activity B:**Variables**

Get the Gizmo ready:

- Click Reset. Make sure Seed type: A is selected.



Question: In what conditions will seed A have the highest germination rate?

1. **Collect data:** Use the **Water**, **Light**, and **Temp.** sliders on the SIMULATION pane to set up each scenario listed in the table below. Complete three trials for each scenario and record your results in the table. Then, calculate the mean of the three trials for the last column.

Water (drops/hr)	Light	Temp.	Number of sprouts			Mean number of sprouts
			Trial 1	Trial 2	Trial 3	
30	15%	10 °C				
60	45%	20 °C				
90	80%	30 °C				

2. **Analyze:** Use the data you collected to answer the questions below.

A. Which scenario had the highest germination rate? _____

B. A **variable** is something that can be changed in an experiment. In the experiments you just performed, you changed the water, light, and temperature. Can you tell which of these variables affected the germination rate? Explain your answer.

C. A **controlled experiment** is an experiment in which only one variable is changed at a time. Why is it important to do a controlled experiment in order to determine how a variable, such as water, light, or temperature, affects seed germination rates?

3. **Form a hypothesis:** A **hypothesis** is a proposed explanation for an observation. Write a hypothesis about what conditions would be best for germinating seed A.

(Activity B continued on next page)