



Desalination

STEM Sims

Lesson 2: Temperature Gradient

What is the optimal choice of warm and cold water intake depths to gain the maximum amount of fresh desalinated water?

Doing the Science

1. Start the Desalination Simulation by clicking on the “Sim” tab.
2. Select Surface for Warm Water Intake Depth and Surface for Cold Water Intake Depth, and then click Continue.
3. Connect all of the pipes and pumps properly. You discovered the right answers by trial-and-error experimentation in Lesson 1.
4. Push start and record the liters/hr measurement in the Surface/Surface table cell.
5. Do *not* exit from the program. Click “Reset Depths.”
6. You will be returned to the main screen. Choose a new combination of intake depths to test, and then click Continue.
7. Repeat steps 4-6 until you have filled out the whole table.

Table 1.

Cold Water	Warm Water					
		Surface	100 m	200 m	300 m	400 m
	Surface					
	100 m					
	200 m					
	300 m					
	400 m					

Do You Understand?

1. What is the optimum combination of water intake depths?
2. Predict what the liters/hr amount would have been if the warm water was collected at the surface and the cold water was collected at 500 m.