

Activity 2: Land and Water Heating Experiment

Land and water influence the air temperatures above them differently because they do not absorb and reradiate energy equally. In this activity, you will investigate the differential heating of land and water. Use the equipment provided, follow the lab procedure given below, and answer the questions.

Procedure:

Step 1: Hang a light from a stand so it is equally about 5 inches above the top of the two beakers – one containing dry sand and the other containing water at room temperature.

Step 2: Put temperature probes with plastic sleeves on them in the beakers of sand and water. Place them so that **the tips are just below** the surfaces of the sand and water. Use the plastic sleeves to support them in this position. Or use thermometers in similar positions.

Step 3: Start recording the temperatures for both the dry sand and water by pressing 'start' on the computer, or record in Table 3 "Land and Water Heating Data", if you are using the thermometers.

Step 4: Turn on the light and have the computer record the temperatures for **10 minutes**. Press stop at the end of 10 minutes. Or record the data in table at about one-minute intervals for 10 minutes if you are using the thermometers.

Step 5: Print the graph, or plot the temperatures for the water and dry sand from the data table on Figure 5. Be sure each line is labeled

Note: the tips of the temperature probes are only just below the surface of the sand and water.



Do not fill out if you used the computer.

Use the printout instead of the table and graph.

Table 3: Land and Water Heating Data. If you used the computer, do not record the data here. Use the printout instead of the table and graph

	0 min	1 min	2 min	3 min	4 min	5 min	6 min	7 min	8 min	9 min	10 min
Water											
Dry Sand											

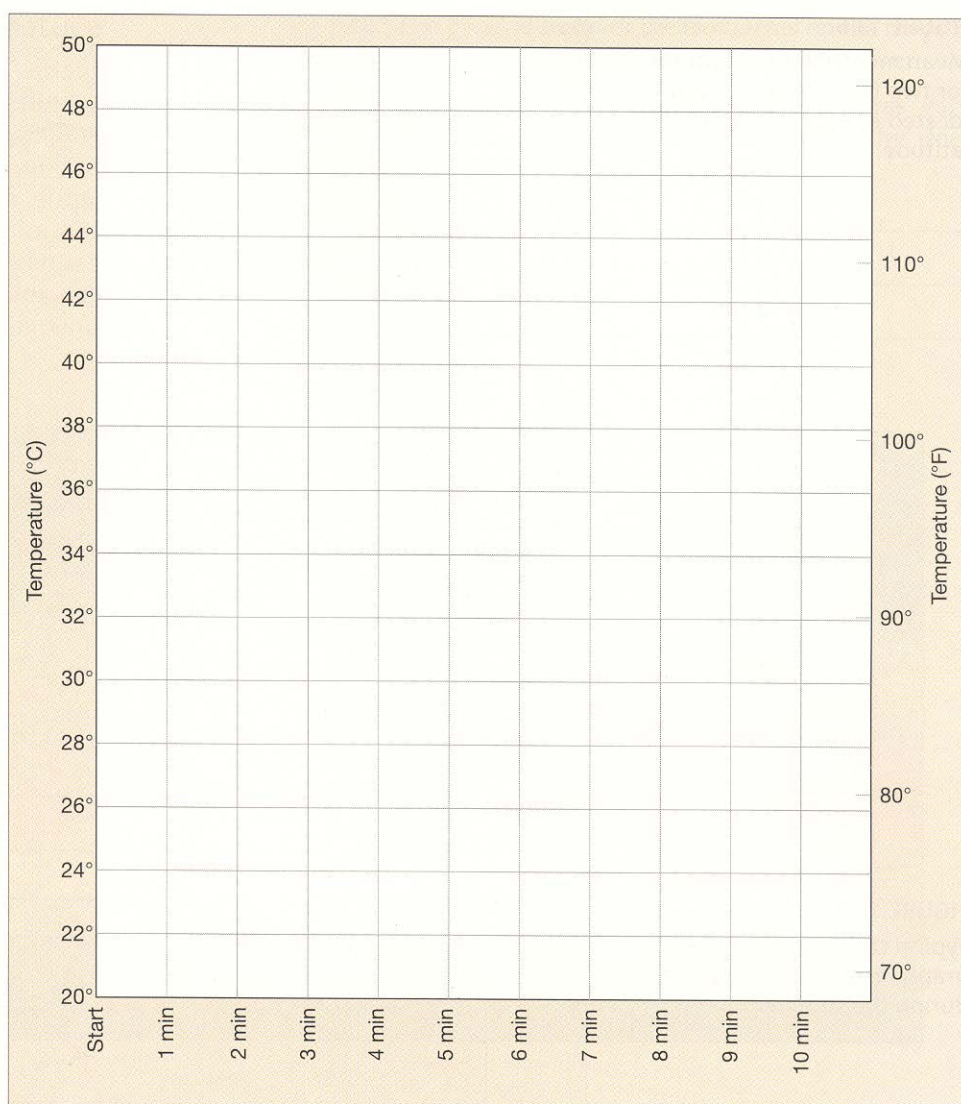


Figure 5: Graph for land and water heating experiment.

Do not use this if you have the computer print-out of your data.

