Nama	nor
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[55] Heating Earth Surfaces

Learning Target: I can explain the causes of patterns of atmospheric and oceanic movement and the effects on weather and climate.

Purpose:In this lab, we were investigating the differences in heating and cooling between sand and water. The purpose is to model the differences between land and sea on the Earth.

Procedure - these are the instructions to follow

Your lab and equipment should be set up. Please see Mr. W if you need help with this. You will be collecting data together, but each one of you needs to get the data.

- 1. Make sure your thermometers are reading about the same starting temperature.
- 2. Take your initial temperatures of the <u>sand and water</u> and add it to the data table (0 min.).
- 3. Choose somebody to keep the time. Set the timer for 10 minutes.
- 4. Turn on the lamp and start the timer.
- 5. Collect temperature readings for both sand and water every 2 minutes.
- 6. At 10 minutes, turn off the lamp and remove it from the ring stand.
- 7. Set the timer for 14 minutes and start it.
- 8. Transfer your 10 minute (heating) temperatures to the 0 minutes in the cooling table.
- 9. Collect temperature readings for both sand and water every 2 minutes.
- 10. Collect your final temperature at 14 minutes.
- 11. Take the plastic film off of the trays.
 - a. Dump the water out
 - b. Mix the sand around to get rid of excess heat.
 - c. Leave the plastic film off.

Heating

Minute	0	2	4	6	8	10 (0 cooling)
Sand temp. (°C)						
Water Temp. (°C)						

Cooling

Minute	0	2	4	6	8	10	12	14
Sand temp. (°C)								
Water temp. (°C)								