

EARTH AND SUN

Date _____

- a. Number the surfaces 1–4 to indicate the order from coolest (1) to hottest (4).

_____ dry white sand

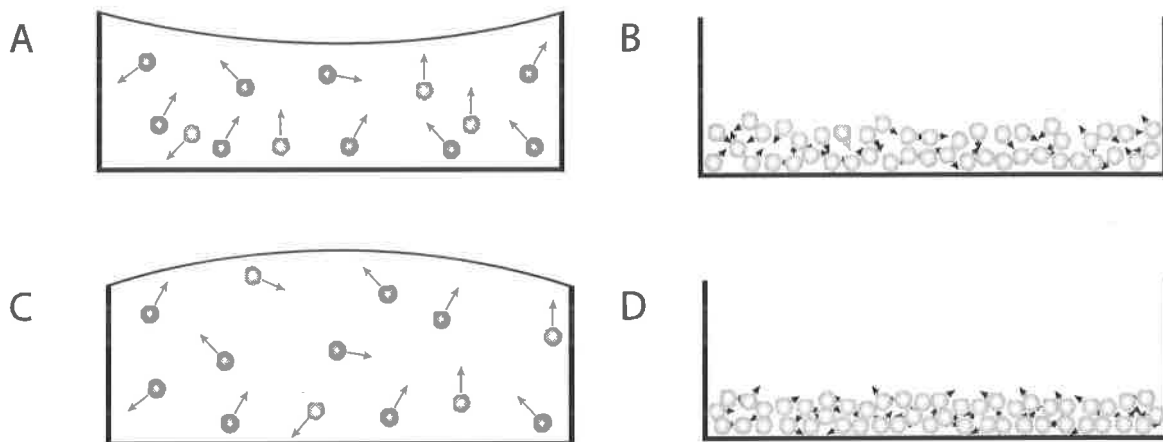
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INVESTIGATION 4 I-CHECK

EARTH AND SUN

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2. Imagine two locations on the same day in April. One is in northern Michigan at Lake Superior. The other is in southern Florida at Lake Okeechobee. The images model the same amount of air and water at these two locations at different temperatures.



- a. The images that model water are _____ and _____.
The images that model air are _____ and _____.
- b. The images that model air and water at Lake Okeechobee are _____ and _____.
The images that model air and water at Lake Superior are _____ and _____.
3. Which sentence describes a cause of wind?

(Mark the one best answer.)

- ☐ A Energy from the Sun causes oxygen particles in the air to move faster than nitrogen.
- ☐ B Wind is caused by things like leaves and flags pushing particles in the air.
- ☐ C Light, cold air rises in the air and pushes denser warm air away.
- ☐ D Dense, cold air falls closer to the ground and pushes warm air away.

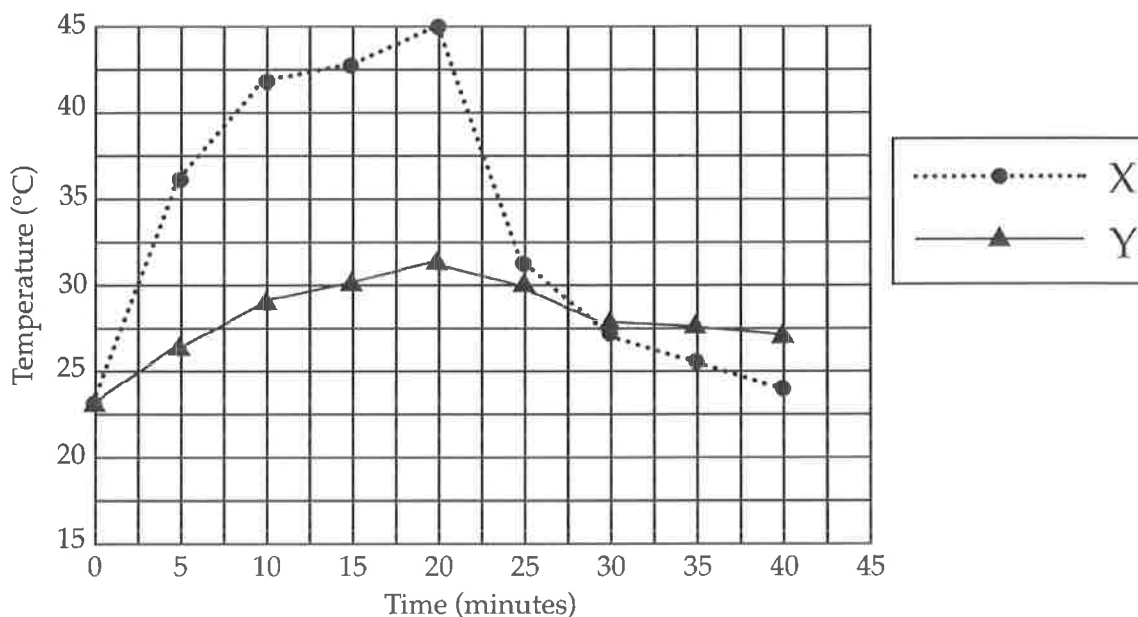
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4. This graph shows temperature data from two containers. One container had 100 mL of water, and the other had 100 mL of dry sand. Each container was placed in the sunlight for 20 minutes and then in the shade for 20 minutes.

Earth Materials in Sun and Shade



- Which container (X or Y) heated up more in 20 minutes? _____
- Which container (X or Y) cooled down more in 20 minutes? _____
- Which container (X or Y) do you think contains water? _____

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Name _____

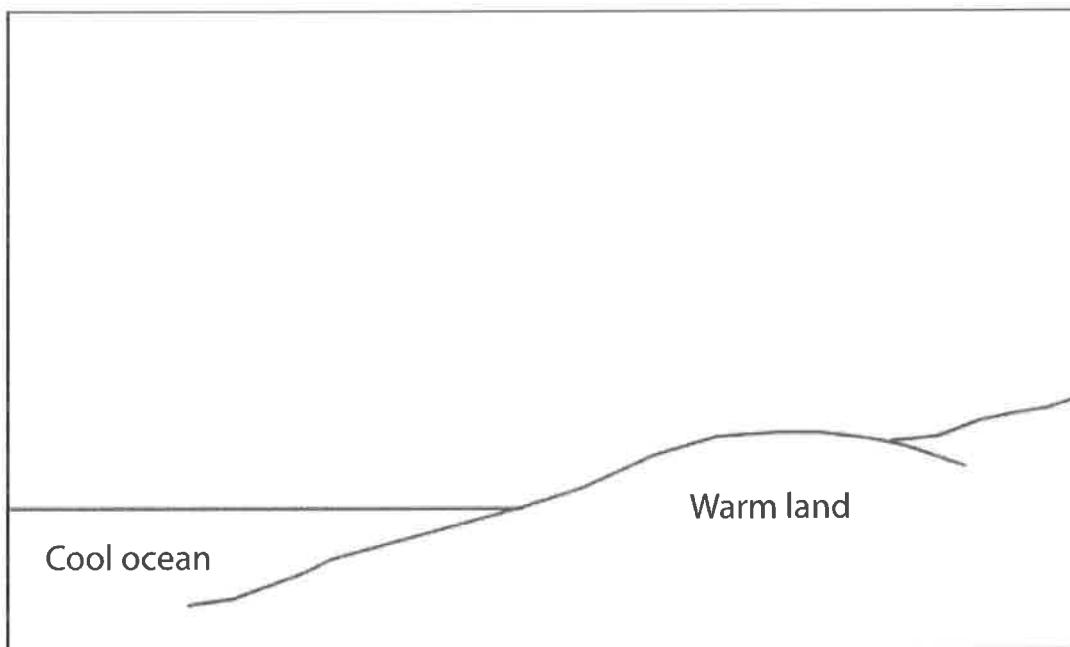
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6. This diagram is an incomplete model showing what causes air to move from the water onto land. Complete the model. Use dots to represent gas particles in the air. Use arrows to represent the direction of air movement. Label your drawing with words as needed.

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7. Some people in a town decide they want to find a way to generate their own electricity. They consider building windmills and constructing solar power panels. Write **Y** (yes) next to each weather-related factor they should consider. Write **N** (no) next to each factor they do not need to consider.

_____ The average temperature at different times of the year

_____ The average wind speed at different times of the year

_____ The average relative humidity at different times of the year

_____ The average number of sunny days at different times of the year

8. A window-shade company heard that many people who live in North America with windows that face south find that rooms are hot in the summer and cool in the winter. They wondered whether they could make a shade that could keep the rooms at a more even temperature throughout the year.

Which of the factors below would be most important to consider in choosing the right material so they could start running tests to see how the shades actually perform?

(Mark the one best answer.)

- ☐ **A** Average number of hours of sunlight coming through the windows
- ☐ **B** Radiant energy absorbed and reflected by different colors and materials
- ☐ **C** The angle of the Sun's rays at different times of the year and heat transfer
- ☐ **D** Customers' preferences for different fabric designs