

## Probe: Moderate temperatures



Andrea was creating a brochure about the inner planets for her science class. While comparing temperatures on Earth to those for Mars and Mercury, Andrea noticed that the land and oceans on Earth did not fluctuate as much. What is the best explanation for these constant average temperatures?

- A) Weather systems on the Earth move clockwise in the Northern Hemisphere and counterclockwise in the Southern Hemisphere
- B) Air and water circulate to distribute the Sun's energy
- C) The Moon's gravitational pull and its proximity to Earth
- D) Earth's tilt and spin on its axis

*Which answer do you most agree with? Why?*

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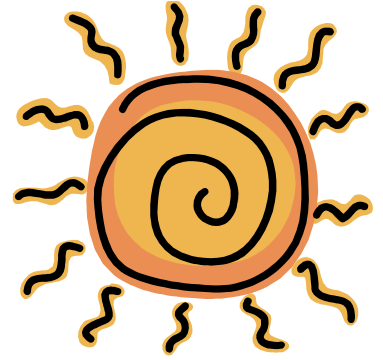
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## Probe: Transferring the Sun's Energy

Yolanda's class was outside after lunch on a bright sunny day. They had just finished a science class discussing thermal energy, and Yolanda wondered how the Sun was making them hot.



McKenzie said that the pavement was absorbing heat rays from the Sun and transferring the heat to the air through conduction.

Nathan thought that the pavement was absorbing light rays from the Sun and transferring the energy to the air through convection.

Steve said that the air directly absorbed the Sun's radiation and transferred the heat to their bodies through conduction.

Lizzi suggested that their own bodies were directly absorbing the Sun's radiation.

Yolanda guessed that the air was absorbing heat rays from the Sun and transferring the heat to their bodies through convection and conduction.

*Which person do you most agree with? Why?*

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## Probe: What Uses Wind Energy?

The Brunello family was driving across Texas and saw a wind farm, with lots of windmills. Mrs. Brunello told her children that the Sun's energy creates pressure and temperature differences on Earth, to produce wind, and that the windmills were being used to produce electricity. Andrea asked whether wind energy is used by anything else. Each member of the family had a different idea about what uses wind energy.

Mr. Brunello said that winds provide the energy to make waves and surface ocean currents.

Mrs. Brunello said that the winds drive the water cycle and radiation.

Daniel said that winds' energy produces conduction and the water cycle.

Andrea said that the winds must make the energy for surface ocean currents and conduction.

*Which person do you most agree with? Why?*

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