Student Name: _____ Date: _____

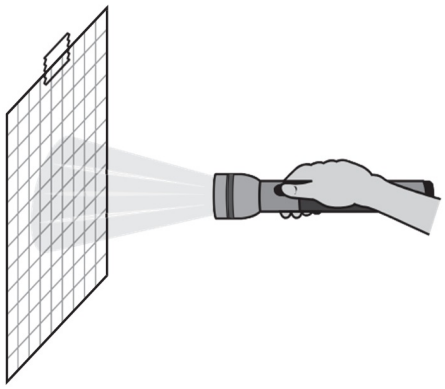
Lesson Check: Solar Energy on Earth

1) A snow-covered mountain has a _____ albedo than a dark-colored corn field. Therefore, it will reflect _____ solar energy than the field.

2) When Earth receives energy from the Sun, _____.

- **A)** some energy is reflected back into space
- **B)** some is absorbed by the atmosphere
- **C)** some is absorbed by land and water on Earth's surface
- **D)** all of the above

3) Julie and Devon are modeling how the Sun heats Earth. Julie hangs a sheet of graph paper on a wall. Devon holds a flashlight and shines it in a straight line toward the graph paper while Julie dims the lights in the classroom. The diagram shows their model of the Sun heating Earth at the equator.



How can the students change their model to represent how the Sun heats Earth in places where the climate is cold all year?

- **A)** They can tilt the angle of the graph paper.
- **B)** They can use graph paper with larger squares.
- **C)** They can use a flashlight with a narrower beam of light.
- **D)** They can move the flashlight farther away from the graph paper.

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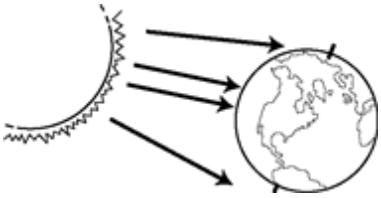
Lesson Check: Solar Energy on Earth

4) Which sentence correctly compares temperatures in rural and urban areas?

- ○ **A)** Rural areas are usually cooler because trees and water absorb more sunlight than concrete surfaces.
- ○ **B)** Rural areas are usually warmer because grasses and other plants absorb sunlight to grow.
- ○ **C)** Urban areas are usually cooler because buildings absorb sun light before it reaches the ground.
- ○ **D)** Urban areas are usually warmer because streets have surfaces that absorb sunlight.

5) The Sun's energy hits the surface of Earth most directly at the poles.



- ○ True
- ○ False

6) The specific heat of water is higher than the specific heat of sand. That is why water heats up more slowly than sand.

- ○ True
- ○ False

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Lesson Check: Solar Energy on Earth

7) Explain why it is colder at the north and south poles than at the equator.

8) A student walks barefoot on a hot, sunny day from a sandy beach on to a parking lot paved with dark asphalt. Explain why the two materials will feel different on the student's feet.

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9) What area of Earth is receiving the most solar radiation?

10) What three things can happen to the radiation that Earth receives from the Sun?