Study Island

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Energy & Motion in the Ocean & Atmosphere

1. Winds generally flow away from the equator and towards the poles. What transfer does this flow of wind cause?

 \bigcirc **A.** an energy transfer, with heat energy moving away from the equator

 \bigcirc **B.** a water transfer, with water moving from the atmosphere to the ocean

 \bigcirc C. an energy transfer, with heat energy moving toward the equator

D. a water transfer, with water moving from the ocean to the atmosphere

Energy & Motion in the Ocean & Atmosphere

2. The atmosphere is heated both by the Sun and by the Earth's surface. Water radiates heat differently than land, so the air temperature over the ocean is usually different than the air temperature over land.

The difference in air temperature over land compared to over water causes convection currents in the atmosphere. How would a person at the beach experience these convection currents?

- \bigcirc **A.** They would feel that the sand is hot.
- **B.** They would feel wind as the air moves.
- **C.** They would feel the heat of the Sun.
- **D.** They would feel that the water is cold.

Movements of the Earth, Moon & Sun

3. What unit of time on Earth is based on the revolution of the Moon around the Earth?

- 🔿 A. day
- O B. hour
- O C. year

O **D.** month

The Atmosphere & Biogeochemical Cycles

4. The location of ozone in the atmosphere determines whether it is "good" or "bad." Which of the following statements about ozone is true?

- A. Ozone in both the troposphere and the stratosphere is good.
- O B. Ozone in the troposphere is harmful, and ozone in the stratosphere is beneficial.
- C. Ozone in both the troposphere and the stratosphere is bad.
- O D. Ozone in the stratosphere is harmful, and ozone in the troposphere is beneficial.

Movements of the Earth, Moon & Sun

5. Many events that occur on Earth and in the solar system are related to the fact that most objects in the solar system move in regular and predictable patterns.

What causes objects in the solar system to move in these regular and predictable patterns?

- A. frictional forces
- **B.** gravitational forces
- O C. nuclear forces
- **D.** electrical forces

Earth's Water

6. Which of the following describes all of the types of water found in the hydrosphere?

- A. all of the water found on the surface of the continents
- **B.** all of the water on the Earth
- C. all frozen water on the Earth
- **D.** all of the fresh water on the Earth

Energy & Motion in the Ocean & Atmosphere

7. Sunlight heats the ground, and the ground warms the nearby air. The warm air expands and rises, while cool air rushes in to take its place.



The example above describes the process that generates many surface winds. Surface winds are an example of ______ in the Earth's atmosphere.

- A. radiation
- **B.** condensation
- C. conduction
- **D.** convection

The Atmosphere & Biogeochemical Cycles

8. Solar energy from the Sun's rays is absorbed by the Earth's land and water surfaces. This absorbed energy is then radiated back to the atmosphere as infrared radiation. Most of the radiation cannot be transmitted and is absorbed by the atmosphere. This absorption adds heat to the atmosphere and helps keep the Earth warm enough to support life.

The process described above is known as

- **A.** the heating blanket effect.
- **B.** the hot air effect.
- **C.** the solar energy effect.
- **D.** the greenhouse effect.

Earth's Water

9. Which of the following letters on the diagram below indicates a portion of the hydrosphere?



- **○** A. X
- **B.** Y
- <mark>0 C.</mark> V
- **O D.** Z

Movements of the Earth, Moon & Sun

- 10. Which of the following statements about the Moon is true?
- A. The Moon is the Earth's largest natural satellite.
- **B.** The Sun and the Moon orbit the Earth at the same rate.
- C. The Moon is the Sun's largest natural satellite.
- **D.** The Moon orbits the Sun once every 29.5 days.