

Name: _____ Date: _____

1. A rollercoaster car at the top of the hill, an archer preparing to release an arrow, and a lake that sits above a dam are all examples of what kind of energy?

- A. potential energy
- B. kinetic energy
- C. gravitational energy
- D. consumption of energy

2. What does the author describe in the passage?

- A. the history of human energy use in the United States
- B. the ways in which potential energy is converted to kinetic energy
- C. the best reasons to build new dams in the American Southwest
- D. the consequences of drought for people who rely on dams

3. The conversion of stored potential energy into kinetic energy can also be harnessed to power homes, factories and entire cities. Which example from the text supports this conclusion?

- A. the softball pitcher
- B. the slingshotting comet
- C. the archer
- D. the Hoover Dam

4. Which of the following conclusions is supported by the text?

- A. Nuclear power is the most efficient kind of energy for powering cities.
- B. Professional athletes should study the science of energy to play better.
- C. Dams power cities by converting stored potential energy into kinetic energy.
- D. Drought is a serious problem for farmers in the American Southwest.

5. What is this passage mainly about?

- A. The movement of comets through our solar system.
- B. The scientific forces behind our favorite roller-coasters.
- C. The unusual properties of water molecules in rivers.
- D. The conversion of potential energy into kinetic energy.

6. Read the following sentences: "The Arizona and Nevada spillways are two means by which the waters of Lake Mead can escape the dam. As the lake water tumbles over the walls into a **spillway**, potential energy is instantly converted into kinetic energy."

As used in the passage, what does the word "**spillway**" mean?

- A. A place where water flows over the top of a dam, creating energy.
- B. A place where water accidentally spills, causing problems for engineers.
- C. A place where water flows underground, into tunnels.
- D. A place where water flows into nearby farms, watering crops.

7. Choose the answer that best completes the sentence below.

"The conversion of stored potential energy into kinetic energy can be harnessed to power homes, factories and entire cities. _____, the Hoover Dam provides power to California, Nevada and Arizona.

- A. Even though
- B. Initially
- C. For instance
- D. However

8. How does the Hoover Dam provide power to California, Nevada and Arizona?

9. What two factors determine the energy production of the Hoover Dam?

10. Explain why the prolonged period of drought (a time where there is little rain, and little water flowing into rivers and lakes) would cause the Hoover Dam to generate much less energy since 2009. Use evidence from the text to support your answer.

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7. Choose the answer that best completes the sentence below.

"The conversion of stored potential energy into kinetic energy can be harnessed to power homes, factories and entire cities. _____, the Hoover Dam provides power to California, Nevada and Arizona.

- A. Even though
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8. How does the Hoover Dam provide power to California, Nevada and Arizona?

The Hoover Dam provides power to California, Nevada and Arizona by harnessing the converted potential energy of Lake Mead.

9. What two factors determine the energy production of the Hoover Dam?

How much water is required downriver from the dam and the water levels of Lake Mead determine the energy production of the Hoover Dam.

10. Explain why the prolonged period of drought (a time where there is little rain, and little water flowing into rivers and lakes) would cause the Hoover Dam to generate much less energy since 2009. Use evidence from the text to support your answer.

Students should communicate that if there is a drought, then Lake Mead will have less water. If Lake Mead has less water, then there will be less potential energy stored in Lake Mead. If there is less potential energy, then there will be less kinetic energy created by water flowing through the Hoover Dam.

More advanced answers may provide details such as there would be less lake water to tumble over the walls into a spillway and move through four intake towers into the powerhouse and hydroelectric generators.