**Unit 6, Lesson 1 & 2 Review Quiz**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

**\_\_\_\_** **1.** Jaaken is using a thermometer that is at room temperature. He places the thermometer in the glass as shown in the figure below.



What will happen to the liquid in the thermometer?

|  |  |
| --- | --- |
| **A** | An increase in thermal energy will cause the liquid to expand. |
| **B** | An increase in thermal energy will cause the liquid to contract. |
| **C** | A decrease in thermal energy will cause the liquid to expand. |
| **D** | A decrease in thermal energy will cause the liquid to contract. |

**\_\_\_\_ 2.** A person moves a heavy box across the floor. Which answer **best** describes the type of energy transformation that occurs when the person uses her muscles to push the box across the floor?

|  |  |
| --- | --- |
| **A** | chemical into kinetic |
| **B** | electrical into chemical |
| **C** | kinetic into potential |
| **D** | potential into chemical |

**\_\_\_\_** **3.** Sophia is holding a metal block in her hand. What could she do to decrease the thermal energy of the block?

|  |  |
| --- | --- |
| **A** | cool it |
| **B** | drop it |
| **C** | hit it |
| **D** | melt it |

**\_\_\_\_ 4.** One type of energy travels as a wave through matter. It causes particles to vibrate in the same direction that the wave travels. Which type of energy is it?

|  |  |
| --- | --- |
| **A** | chemical |
| **B** | electrical |
| **C** | potential |
| **D** | sound |

**\_\_\_\_ 5.** The picture below shows a spring toy. If you push down the toy and then release it, the toy would pop up through the air.



Which types of energy does the spring toy have as it flies through the air?

|  |  |
| --- | --- |
| **A** | electrical and thermal |
| **B** | kinetic and potential |
| **C** | potential and electrical |
| **D** | thermal and kinetic |

**\_\_\_\_** **6.** Myra is hungry and eats an apple. Mostof the energy he obtains from the apple is what type?

|  |  |
| --- | --- |
| **A** | chemical |
| **B** | electrical |
| **C** | kinetic |
| **D** | thermal |

**\_\_\_\_ 7.** Walkiria is putting new batteries in her flashlight. Which type of energy is stored in the batteries?

|  |  |
| --- | --- |
| **A** | chemical |
| **B** | kinetic |
| **C** | light |
| **D** | thermal |

**\_\_\_\_ 8.** Which is **not** something that energy can do?

|  |  |
| --- | --- |
| **A** | be completely used up |
| **B** | cause an object to move |
| **C** | change an object’s temperature |
| **D** | change into other forms of energy |

**\_\_\_\_ 9.** During a baseball game, a pitcher throws a ball and a batter hits it. The ball flies through the air, hits the ground, and rolls across the grass. The ball has both potential energy and kinetic energy in three of these situations, but it has only kinetic energy in one of the situations. When does the ball have **only** kinetic energy?

|  |  |
| --- | --- |
| **A** | when the pitcher throws it |
| **B** | when the batter hits it |
| **C** | when it flies through the air |
| **D** | when it rolls across the grass |

**\_\_\_\_** **10.** Levick wants to increase his chemical energy. Which of these activities should he do?

|  |  |
| --- | --- |
| **A** | take a walk |
| **B** | climb a ladder |
| **C** | stand in the sun |
| **D** | drink some juice |

**\_\_\_\_ 11.** One type of energy is the result of waves that travel through matter and cause particles in the matter to vibrate. Which type of energy is it?

|  |  |
| --- | --- |
| **A** | chemical |
| **B** | electric |
| **C** | potential |
| **D** | sound |

**\_\_\_\_ 12.** Ruby turns on a fan, and the fan blows air through the room. Which type of energy of the air increased because Ruby turned on the fan?

|  |  |
| --- | --- |
| **A** | chemical |
| **B** | electrical |
| **C** | kinetic |
| **D** | potential |

**\_\_\_\_ 13.** An object that has thermal energy can lose some of that energy. Which answer describes an example of the thermal energy of a material decreasing?

|  |  |
| --- | --- |
| **A** | eggs cooking in a pan |
| **B** | water freezing into ice |
| **C** | snow melting in the spring |
| **D** | a ball bouncing on the floor |

**\_\_\_\_** **14.** When Tyler burns wood in a campfire, the particles in the wood break down and energy is released. What type of energy does the wood contain before Tyler burns it?

|  |  |
| --- | --- |
| **A** | chemical |
| **B** | electrical |
| **C** | heat |
| **D** | light |

**Short Answer**

**1.** Some thermometers contain a liquid. The figure below shows two thermometers at different temperatures.



Which one is at a higher temperature? Explain why the liquids in each thermometer look different.

**2.** Justice has put a thermometer in warm water to measure its temperature. Why should he wait until the liquid inside the thermometer stops moving?

**3.** A roller coaster is moving along a track as shown below.



Describe how the coaster’s energy changes as it moves down the hill.

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**MULTIPLE CHOICE**

**1.** D

**2.** A

**3.** A

**4.** D

**5.** B

**6.** A

**7.** A

**8.** A

**9.** D

**10.** D

**11.** D

**12.** C

**13.** B

**14.** A

**SHORT ANSWER**

**1.** Sample answer: Thermometer B is at a higher temperature than thermometer A. The liquid looks higher because the higher temperature made the liquid expand and climb higher up in the thermometer.

Students’ answers should include:

• that the thermometer on the right (B) shows a higher temperature

• the understanding that the liquid in the thermometer with the higher temperature has expanded because of the effect of higher thermal energy on the liquid

**2.** Sample answer: Justice should wait until the liquid stops moving in the thermometer because otherwise he might get an inaccurate measurement. The liquid inside the thermometer will keep moving as energy heats it up and causes it to expand. When no more energy is added, the liquid stops expanding.

Students’ answers should include:

• that when the liquid inside the thermometer stops moving, the thermal expansion of the liquid inside will be complete

• that when the thermal expansion stops, the thermometer will be at the same temperature as the container

**3.** Sample answer: The potential energy of the coaster decreases, but the kinetic energy of the coaster increases.

Students’ answers should include:

• that the potential energy decreases as the height of the coaster above the ground decreases

• that the kinetic energy of the coaster increases as the speed of the coaster moving down the hill increases