

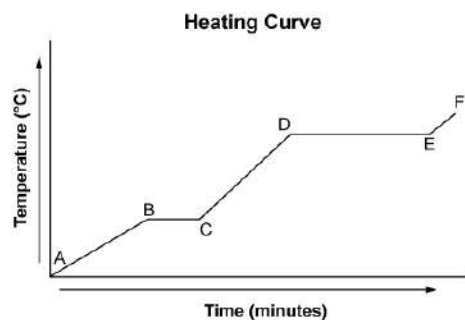
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Physical Science Chapter 16 Practice Sheet

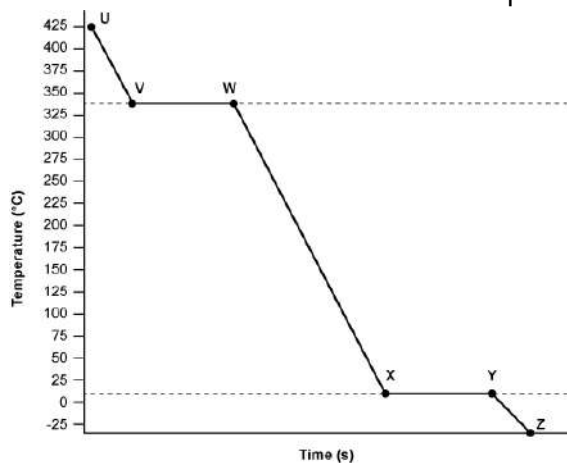
- Lucas left two bowls outside overnight. The next morning, he picked up the bowls and noticed that the metal bowl felt much cooler than the wooden bowl. His father explained that both bowls were actually the same temperature. Which statement BEST describes why the metal bowl felt cooler even though the bowls were the same temperature?
 - Metal transfers heat away from the skin by conduction, creating the sensation of coolness.
 - Wood transfers heat away from the skin by convection, creating the sensation of warmth.
 - Wood transfers heat to the skin by radiation, creating the sensation of warmth.
 - Metal removes moisture from the skin by absorption, creating the sensation of coolness.
- Temperature can be used to measure a particle's
 - chemical energy.
 - ionic energy.
 - kinetic energy.
 - potential energy.
- When water changes phase, it gains or loses energy. During which of the following types of phase changes do the particles of water gain energy?
 - freezing
 - condensation
 - deposition (gas to solid)
 - melting
- Which of the following BEST explains why the sand at the beach is hotter than the water?
 - Sand has a higher specific heat than water.
 - Sand has a lower specific heat than water.
 - There is more water than sand at the beach.
 - There is more sand than water at the beach.
- What happens to the average kinetic energy of a substance as its temperature increases?
 - It increases.
 - It decreases.
 - It remains the same.
 - It decreases, then increases.
- Which of the following statements concerning the melting of ice is true?
 - The particle motion decreases.
 - The particle motion is unaffected.
 - The temperature increases throughout the phase change.
 - The temperature stays the same until all the ice has melted.

7. Which line segment corresponds to the GREATEST increase in kinetic energy?

- a. AB
- b. BC
- c. CD
- d. DE



Use the following graph to answer the next three questions.



8. In the graph above, what is the melting point of the substance?

- a. 10°C
- b. 175°C
- c. 337°C
- d. 425°C

9. In the graph above, at which point on the curve do the particles in the substance have the most kinetic energy?

- a. U
- b. W
- c. X
- d. Z

10. In the graph above, what is the boiling point for the substance?

- a. 10°C
- b. 175°C
- c. 337°C
- d. 425°C

11. The air molecules around a candle flame are excited by the increased energy and spread out, decreasing in density and rising above the cooler, denser air around it. The denser air fills the space of the lighter air, continuing the cycle. Which process is being described?

- a. conduction
- b. convection
- c. radiation
- d. subduction

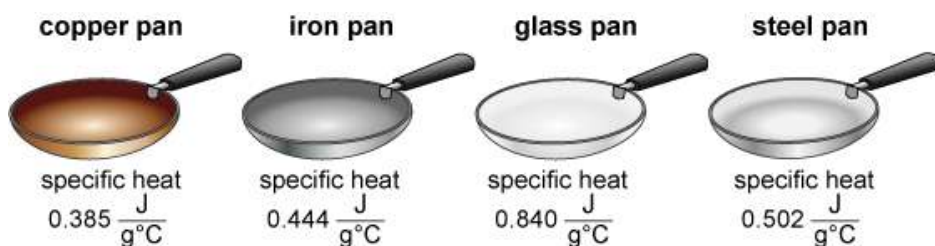
12. When Peter touches a warm radiator, heat is transferred to his body by

- a. convection.
- b. radiation.
- c. insulation.
- d. conduction.

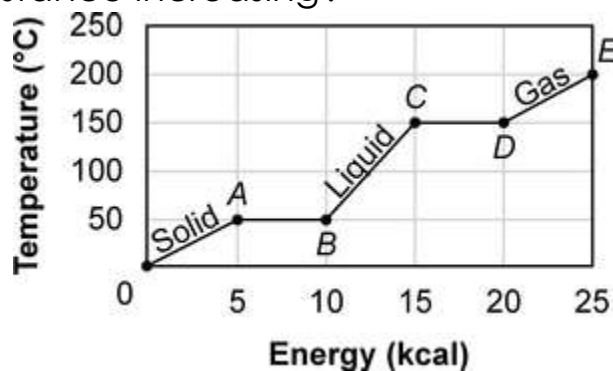
13. Javier is designing a container to hold cold items. Which substance should Javier use to BEST insulate the container?

| Substance | Specific Heat (J/g°C) |
|-----------|-----------------------|
| air | 1.020 |
| copper | 0.385 |
| glass | 0.840 |
| iron | 0.444 |

- a. air, because it requires a lot of energy for air to change temperatures
 b. copper, because it requires very little energy for copper to change temperatures
 c. glass, because it requires a lot of energy for glass to change temperatures
 d. iron, because it requires very little energy for iron to change temperatures
14. Which frying pan should Carter use that will heat up and cool down the fastest?



- a. copper
 b. iron
 c. glass
 d. steel
15. During which two intervals is the average potential energy of the molecules of the substance increasing?



- a. AB and DE
 b. AB and CD
 c. BC and DE
 d. CD and DE