



Matter Changing States Quiz

1. What are the three main states of matter?
 - A. Solid, liquid, and gas
 - B. Ice, water, and steam
 - C. Temperature, pressure, and energy
2. What is matter?
 - A. Anything that is visible
 - B. Anything that has mass and takes up space
 - C. Anything that reflects light
3. What type of change is a change in state?
 - A. A physical change
 - B. A chemical change
 - C. A molecular change
4. How do the molecules in a solid move?
 - A. They bounce off one another randomly
 - B. They flow past one another
 - C. They vibrate
5. The heat required to change a solid into a liquid is its:
 - A. Heat of vaporization
 - B. Heat of condensation
 - C. Heat of fusion
6. What is the melting point of water?
 - A. 0 degrees Fahrenheit
 - B. 0 degrees Celsius
 - C. 0 Kelvin
7. The heat required to change a liquid into a gas is its:
 - A. Heat of steam
 - B. Heat of gaseousness
 - C. Heat of vaporization
8. What is it called when a solid turns directly into a gas?
 - A. Sublimation
 - B. Vaporization
 - C. Melting
9. What is dry ice?
 - A. Frozen water
 - B. Solid carbon dioxide
 - C. Ice that gives off water vapor
10. How do the molecules of a gas behave?
 - A. They vibrate in place
 - B. They clump together
 - C. They bounce around randomly



Temperature Quiz

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1. How much of the matter in the universe is comprised of molecules?
 - A. One-half of one percent
 - B. All of it
 - C. Fifty percent
2. What creates heat?
 - A. The movement of molecules
 - B. Molecules standing still
 - C. The absence of molecules
3. What does temperature measure?
 - A. How fast molecules are moving
 - B. How much a person sweats
 - C. How much potential energy is exerted
4. What happens when you heat something up?
 - A. Its molecules stop moving
 - B. Its molecules move faster
 - C. Its molecules move more slowly
5. What happens when molecules start moving faster?
 - A. The temperature falls
 - B. The temperature rises
 - C. The temperature stays the same
6. Which of these instruments is used to measure temperature?
 - A. A barometer
 - B. A triple-beam balance
 - C. A thermometer
7. Which temperature scale is the most commonly used throughout the world?
 - A. Celsius
 - B. Fahrenheit
 - C. Kelvin
8. What is the freezing temperature of water on the Celsius scale?
 - A. 0 degrees Celsius
 - B. 32 degrees Celsius
 - C. 273 degrees Celsius
9. What is absolute zero?
 - A. The temperature at which ice begins to form
 - B. The average temperature of the universe
 - C. The temperature at which all molecular motion stops
10. How does a thermometer work?
 - A. Heat causes the liquid to contract, boosting the mercury level
 - B. Heat causes the liquid to expand, making the mercury level rise
 - C. Scientists aren't exactly sure



Heat Quiz

- Heat is a form of:
 - Light
 - Energy
 - Time
- When do objects heat up?
 - When they are in a vacuum
 - When they are placed on a high point
 - When they are exposed to energy
- When a substance heats up, what happens to its molecules?
 - They gradually slow down and contract
 - They move around faster and bump into each other
 - Heat does not cause any molecular changes
- Absolute zero is:
 - The temperature at which molecules stop moving
 - 273 degrees Celsius
 - Tim's high-school nickname
- What is the difference between heat and temperature?
 - Temperature measures the motion of molecules, and heat is this energy of that motion
 - Temperature is read by a thermometer, and heat is read by a stepping scale
 - Heat is measured in calories, and temperature is measured in joules
- What happens when two objects of different temperatures are put next to each other so they are
 - They gradually become the same temperature
 - They switch temperatures
 - The colder object gets colder and the warmer object gets warmer
- What happens if you add lots of heat to a liquid substance?
 - It turns into a plasma
 - It turns into a solid
 - It turns into a gas
- Which takes up the most space?
 - A cube of steel at 0C
 - The same cube of steel at 50C
 - The same cube of steel at 100C
- What causes wood and gas to give off heat when they're burned?
 - The chemical energy stored within them
 - Electrical energy
 - Solar energy
- Why is there more heat in an iceberg than in a pot of boiling water?
 - Boiling water is actually very cold
 - The iceberg contains many more molecules
 - Icebergs are red-hot to the touch

Bill Nye:

Phases of Matter



True or False? Circle T or F

- The atoms or molecules in solids have no motion. T or F
- Energy must be removed from a liquid to change it to a solid. T or F
- Molecules in the gas phase move faster than the same molecules move in the liquid phase. T or F
- Nitrogen changes from a liquid to a gas at the same temperature at which water changes from a liquid to a gas. T or F
- There is enough energy in air at room temperature to change some liquids to gases. T or F
- The temperature of ice water is lower than the temperature of dry ice in alcohol. T or F
- Carbon dioxide can change directly from the solid phase to the gaseous phase. T or F

Multiple Choice: Circle the letter of the best answer

- Which of the following is a correct description of what happens when you place a liquid in the freezer?
 - Energy removed from the liquid remains in the freezer.
 - Energy from the freezer is absorbed by the liquid.
 - Energy from the liquid is exhausted into the atmosphere outside the freezer.
 - None of the above.
- Which of the following statements correctly represents the relationship between molecular motion and pressure?
 - The greater the molecular motion, the less pressure the molecules exert.
 - The greater the molecular motion, the greater the pressure the molecules exert.
 - Molecular motion is not related to the pressure the molecules exert.
 - None of the above.
- Which of the following statements about absolute zero is correct?
 - Absolute zero is the temperature at which there is no molecular motion.
 - Absolute zero is the temperature at which there is the absolute maximum molecular motion.
 - Absolute zero is 0° Celsius.
 - Absolute zero is 0° Fahrenheit.