Name: _____ Group: _____ Date: _____

Conservation of matter

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1. Which of the following statements describes the law of conservation of mass?

a) The quantity of matter remains constant, but only during a physical change. ☐

b) The quantity of matter remains constant, but only during a chemical change. ☐

c) The quantity of matter always remains constant, regardless of what type of change takes place. ☐

d) The quantity of matter does not remain constant, regardless of what type of change takes place. ☐

2. Which of the following examples respect the law of conservation of mass?

a) Melting 10 g of aluminum gives 8 g of melted aluminum. ☐

b) 4 g of hydrogen reacting with 32 g of oxygen gives 36 g of water. ☐

c) A glass of water containing 22 g of dissolved salt evaporates and leaves 20 g of salt. ☐

d) Burning 24 g of carbon with 64 g of oxygen gives 84 g of carbon dioxide. ☐

e) A plant that absorbs 264 g of carbon dioxide and 108 g of water produces 180 g of sugar and 192 g of oxygen through photosynthesis. ☐

3. Gas is released when sodium bicarbonate reacts with vinegar. How can you tell if the law of conservation of mass is being respected? Explain your answer.

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4. When water is frozen, the ice occupies more space in the container than the water did in the beginning. Explain how this is possible despite the law of conservation of mass.

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