Law of Conservation of Mass Questions

- 1. State the Law of Conservation of Mass. How would you explain this Law to a friend in terms of atoms?
- 2. When a log burns in a fire, the ashes have a much lower mass than the log. This seems to violate the Law of Conservation of mass. Explain why it does not.
- 3. When methane burns, the reaction is

$$CH_4 + O_2 + O_2 \rightarrow H_2O + H_2O + CO_2$$

- a) Use a table to record the number of atoms of each type in the reactants and the products.
- b) What do your results tell you about the Law of Conservation of Mass?
- 4. A solid has a mass of 35 g. When it is mixed with a solution, a chemical reaction occurs. If the final total mass of products is 85 g, what was the mass of the solution?
- (P, D) 5. Solution A has a mass of 60 g. Solution B has a mass of 40 g. When they are mixed, a chemical reaction occurs in which gas is produced. If the mass of the final mixture is 85 g, what mass of gas was produced?
- (D) 6. A friend is working on a science fair project that involves weighing herself immediately before bed at night and immediately after getting up in the morning. She noticed that she always weighs less in the morning. Use the Law of Conservation of Mass to explain her observation.