Year 6 Science: Chemical change: new substances and the signs to look for

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. Is melting butter for a cake a chemical change or a physical change?

2. A steel nail left outside turns orange and flaky. What clue is this, and what kind of change is it?

3. In the reaction wood + oxygen → ash + smoke + carbon dioxide, what are the reactants?

4. Why can a cake never be turned back into batter?

5. Name a chemical change that happens inside your own body.

Fix the mistake

6. Correct this statement: "Ice melting is a chemical change because it looks different."

7. Correct this statement: "Any bubbles mean a chemical change."

8. Correct this statement: "The products are the things you mix together at the start."

9. Correct this statement: "Salt dissolving in water makes a new substance, because the salt disappears."

Answer key (for parents and tutors)

1. Is melting butter for a cake a chemical change or a physical change?
   A physical change: it is still butter, and it goes solid again when it cools.
2. A steel nail left outside turns orange and flaky. What clue is this, and what kind of change is it?
   A colour change, with a new flaky solid; it is a chemical change called rusting, a kind of corrosion.
3. In the reaction wood + oxygen → ash + smoke + carbon dioxide, what are the reactants?
   Wood and oxygen, the substances before the arrow.
4. Why can a cake never be turned back into batter?
   Baking made new substances, and they cannot be turned back into the ingredients.
5. Name a chemical change that happens inside your own body.
   Digestion, which breaks food into new, smaller substances.
6. Correct this statement: "Ice melting is a chemical change because it looks different."
   Melting is a physical change: the water is still water, and it freezes back into ice.
7. Correct this statement: "Any bubbles mean a chemical change."
   Bubbles are only a clue; boiling water bubbles too, but no new substance is made.
8. Correct this statement: "The products are the things you mix together at the start."
   The things you start with are the reactants; the products are the new substances made at the end.
9. Correct this statement: "Salt dissolving in water makes a new substance, because the salt disappears."
   The salt is still there, spread through the water, and you get it back when the water dries up, so it is a physical change.