**Physical and Chemical Changes**

**Part A**

Can you recognize the chemical and physical changes that happen all around us? If you change the way something looks, but haven’t made a new substance, a **physical change** (P) has occurred. If the substance has been changes into another substance, a **chemical change** (C) has occurred.

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| 1. |  | An ice cube is placed in the sun. Later there is a puddle of water. Later still the puddle is gone. |
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| 2. |  | Two chemical are mixed together and a gas is produce. |
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| 3. |  | A bicycle changes color as it rusts. |
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| 4. |  | A solid is crushed to a powder. |
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| 5. |  | Two substances are mixed and light is produced. |
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| 6. |  | A piece of ice melts and reacts with sodium. |
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| 7. |  | Mixing salt and pepper. |
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| 8. |  | Chocolate syrup is dissolved in milk. |
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| 9. |  | A marshmallow is toasted over a campfire. |
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| 10. |  | A marshmallow is cut in half. |
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**Part B**

Read each scenario. Decide whether a physical or chemical change has occurred and give evidence for your decision. The first one has been done for you to use as an example.

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|  | Scenario | Physical or Chemical Change? | Evidence |
| 1 | Umm! A student removes a loaf of bread hot from the oven. The student cuts a slice off the loaf and spreads butter on it. | Physical | No change in substances. No unexpected color change, temperature |
| 2 | Your friend decides to toast a piece of bread, but leaves it in the toaster too long. The bread is black and the kitchen if full of smoke |  |  |
| 3 | You forgot to dry the bread knife when you washed it and reddish brown spots appeared on it. |  |  |
| 4 | You blow dry your wet hair. |  |  |
| 5 | In baking biscuits and other quick breads, the baking powder reacts to release carbon dioxide bubbles. The carbon dioxide bubbles cause the dough to rise. |  |  |
| 6 | You take out your best silver spoons and notice that they are very dull and have some black spots. |  |  |
| 7 | A straight piece of wire is coiled to form a spring. |  |  |
| 8 | Food color is dropped into water to give it color. |  |  |
| 9 | Chewing food to break it down into smaller particles represents a \_\_\_\_\_\_\_\_\_ change, but the changing of starch into sugars by enzymes in the digestive system represents a \_\_\_\_\_\_\_\_\_\_\_change. |  |  |
| 10 | In a fireworks show, the fireworks explode giving off heat and light. |  |  |

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| **Part C: True (T) or False (F)** | | | |  |  |
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| 1. |  |  | Changing the size and shapes of pieces of wood would be a chemical change. | | |
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| 2. |  |  | In a physical change, the makeup of matter is changed. | |  |
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| 3. |  |  | Evaporation occurs when liquid water changes into a gas. | | |
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| 4. |  |  | Evaporation is a physical change. | | |
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| 5. |  |  | Burning wood is a physical change. | | |
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| 6. |  |  | Combining hydrogen and oxygen to make water is a physical change. | | |
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| 7. |  |  | Breaking up concrete is a physical change. | | |
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| 8. |  |  | Sand being washed out to sea from the beach is a chemical change. | | |
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| 9. |  |  | When ice cream melts, a chemical change occurs. | | |
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| 10. |  |  | Acid rain damaging a marble statue is a physical change. | | |
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