

**Year 8 Physical & chemical changes Assessment** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Total Mark: \_\_\_\_\_\_\_\_\_\_\_/ 30**

**Answer all of the following questions:**

1. a) A physical change occurs when

* no new substance is formed
* includes a change in shape or form
* Physical properties of the substance may change but no new substance is formed

( Any two ideas give 1 – mark)

b) A chemical change occurs when

* a new substance is formed after a chemical reaction has occurred (1/2). This cannot be reversed back (1/2)

Total-2 marks

2. (A) Identify each of the following as a Physical or Chemical change.

Put a **P** next **to Physical Changes**  Put a **C** next **to Chemical Changes**

1. A piece of wood burns to form ash \_\_\_\_\_ C

1. Water evaporates into steam \_\_\_\_\_ P
2. A piece of cork is cut in half \_\_\_\_\_ P
3. A bicycle chain rusts \_\_\_\_\_\_ C
4. Food is digested in the stomach \_\_\_\_\_\_ C
5. A popsicle melts \_\_\_\_\_\_ P
6. A tire inflated with air \_\_\_\_\_\_ P
7. Milk sours \_\_\_\_\_\_ C
8. Turning brownie mix to brownies \_\_\_\_\_\_ C
9. Hydrochloric acid reacts with zinc \_\_\_\_\_\_ C

( ½ mark each) (5 marks)

(B) Choose **2** of the above examples and **explain** why you choose as chemical or physical.

**Please choose one of each type of change.**

(One should be physical and other should be chemical and should give a correct

explanation)

Physical change explanation:

Example: Water evaporates into steam ------- No change in substances or change in chemical composition of the substance or no new substance is produced or just changed the state or form or you can reverse the steam back into water by cooling

Any two suitable reasons ------ (2 marks)

Chemical change explanation:

Example: A piece of wood burns to form ash ------ A new substance is formed ( Ash)

Ash cannot be reversed back into wood again. Heat and light is produced. Or chemical

composition of the substance has been changed. Any two suitable reasons ------

(2 marks)

1. Identify three signs that a chemical change has occurred.

* Seeing a change in colour
* Smelling a gas or seeing bubbles
* Seeing a new solid or precipitate
* Observing energy is produced or absorbed in the form of heat or light

Any three (3 marks)

4. Read each scenario. Decide whether a physical or chemical change has occurred and give evidence for your decision.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Scenario** | **Physical or Chemical Change?** | **Evidence….**  **1 piece – ½ mark**  **2 pieces – 1 mark** |
| 1 | Your friend decides to toast a piece of  bread, but leaves it in the toaster too long.  The bread is black and the kitchen is full of smoke. | Chemical (1) | * Colour change (1/2) * Burning changes chemical make up (chemical composition) of bread (1/2) |
| 2 | You blow to dry your wet hair. | Physical (1) | * Water in hair changes state from liquid to gas (1/2) * You can reverse the process by making the hair wet again with water (1/2) |
| 3 | You forgot to dry the bread knife when you washed it and reddish brown spots appeared on it. | Chemical (1) | * Colour change (1/2) * Rust/ tarnish (1/2) |
| 4 | A straight piece of wire is coiled to form a spring. | Physical (1) | Just changed the shape of the wire(1/2)  No new substance is produced (1/2) |
| 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. | Chemical ( 1) | * Formation of bubbles * A chemical reaction with baking soda occurs |
| 6 | Food colour is dropped into water to give it colour. | Physical (1) | * Only a change in size (1/2) from powder to particles to small to see (1/2) * Or No new substance is produced (1/2) * You can evaporate and get the yellow substance as residue (1/2) –Any two ideas give (1) |
| 7 | You take out your best silver spoons and notice that they are very dull and have some black spots. | Chemical  ( 1) | * Tarnishing of the metal (1/2) * Formation of a new colour ( a new solid) (1/2) * or a chemical reaction has occurred and can’t reverse back (1/2) Any two ideas give (1) |
| 8 | In a fireworks show, the fireworks explode giving off heat and light. | Chemical  ( 1) | * New colours and lights is produced during explosion (1/2) * You can’t get the fireworks back as in its original form as there is a chemical reaction has occurred(1/2) |

(16 marks)

