[](http://www.google.com.au/url?sa=i&rct=j&q=solid+liquid+gas&source=images&cd=&cad=rja&docid=kF-1643dNamcwM&tbnid=qssqvClBQu_q2M:&ved=0CAUQjRw&url=http://www.teachengineering.org/view_activity.php?url=collection/cub_/activities/cub_intro/cub_intro_lesson05_activity1.xml&ei=PPvsUdLIL8eykAWL-YCgCQ&psig=AFQjCNG9eW5NyuiidJLxJnBGmKUyZYdAxQ&ust=1374568672170087)

**Physical and Chemical Change**

**Types of Change:**

Remember that a **physical change** occurs when a substance changes in some way without forming a new substance. For example, adding heat energy to solid water (ice) melts it into liquid water. **Physical Change is reversible**. For example, the liquid water can be changed back to ice by freezing it.

A **chemical change** occurs when a new substance is formed. For example, word burns to form black charcoal (carbon). **Chemical Change IS NOT REVERSIBLE**. The black charcoal can’t be ‘unburnt’ and turned into wood.

**Identify whether the following changes are chemical or physical by ticking the appropriate box.**

|  |  |  |
| --- | --- | --- |
|  | **Chemical** | **Physical** |
| 1. Iron rusting |  |  |
| 1. Boiling water |  |  |
| 1. Boiling an egg |  |  |
| 1. Fireworks exploding |  |  |
| 1. Dissolving sugar in water |  |  |
| 1. Slicing a pineapple |  |  |

**Identifying the change:**

When a **physical change** occurs, it is easily to see. A physical change has happened if there is a:

* Change of state from solid, liquid or gas
* A change of shape or size

A **chemical change** is also known as a CHEMICAL REACTION. In a chemical reaction, the substances react with each other to form new substances. A chemical reaction happens if there is a:

* Permanent colour change, eg when hair is bleached or when leaves change colour in autumn
* Temperature change, which can be detected with a T \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Light is produced, such as when energy is released.
* Gas is produced, like when you put a berroca tablet in water it fizzes, forming bubbles. Bubbles are a sign that gas has been produced. Sometimes an odour also lets you know that gas has been produced. Some gases can be odourless and colourless though ☹
* Precipitate is formed (new solid) when two solutions are mixed

**Identify the following changes as a chemical or physical change and give reasons for your choice.**

1. Smashing a window is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Breaking the tube inside a glow stick is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Cutting up cheese is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Melting chocolate is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Activating an instant heat pack is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. A slice of apple turning brown is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_