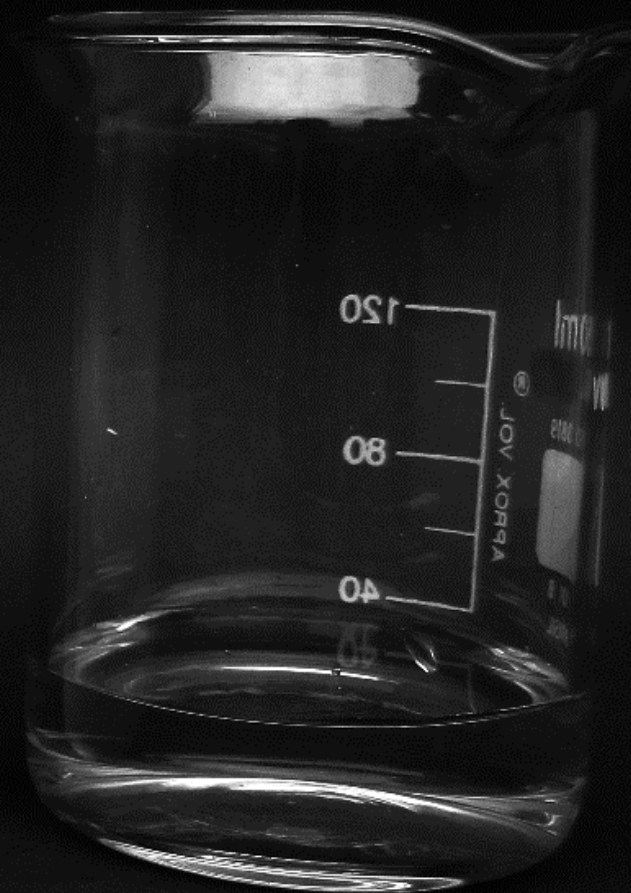


# Physical and chemical changes

YEAR 5

AUTUMN 2



# LESSON THREE

*What are chemical changes and how can we identify them?*



## Do Now – Retrieval practice

### 1) What is a physical change?

A physical change is when \_\_\_\_\_

### 2) Give 3 examples of physical changes:

i. \_\_\_\_\_

ii. \_\_\_\_\_

iii. \_\_\_\_\_

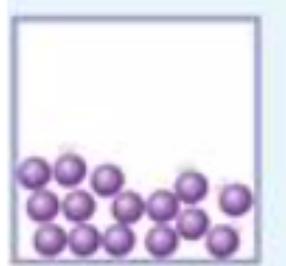
### 3) What are two examples of physical changes that are not easily reversible?

i. \_\_\_\_\_

ii. \_\_\_\_\_

*From previous topics:*

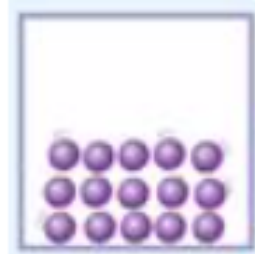
**4) Label of the diagrams below to say if they show a hot or cold solid/liquid/gas**



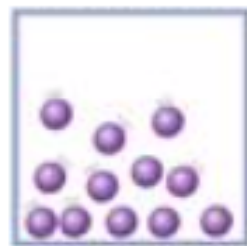
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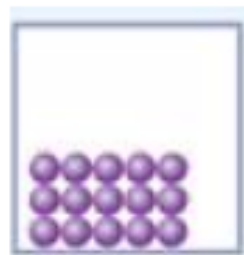
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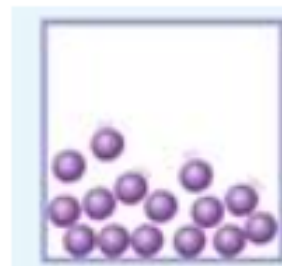
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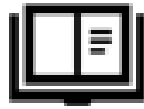
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\_\_\_\_\_



\_\_\_\_\_



**Read the passage below about chemical changes**

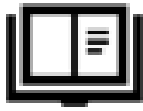
When a change takes place and a new substance is formed we say that a **chemical change** has taken place. This is also known as a **chemical reaction**. Chemical changes are often difficult to reverse so the changes that take place are often seen as being permanent.



**What is a chemical change?**

**A chemical change has taken place when \_\_\_\_\_**

\_\_\_\_\_  
\_\_\_\_\_.



## Read the passage below about chemical changes

These chemical changes are happening around us all the time. Examples include when a match is lit or anything is burned, when food is cooked, when food rots and when metals rust (especially when they are left outside). In each case, there are signs that a chemical reaction has taken place. These signs can include when there is a change in colour, when heat is produced and when bubbles of gas are produced.

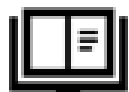


**What are three signs that a chemical reaction could be taking place?**

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_



## Read the passage below about chemical changes

Every time a chemical reaction takes place the substance that you begin with changes into another substance. The substance or substances that you begin with are called the **reactants**. The substance or substances that you end up with are called the **products**. We can write what is known as a **word equation** to show what the reactants and the products are in the following way:

reactants  $\longrightarrow$  products

When paper is burned, we start with paper and we end up with ash. The word equation for this chemical change is the following:

paper  $\longrightarrow$  ash



**What are products and reactants?**

\_\_\_\_\_ are the substances you have before a chemical reaction

\_\_\_\_\_ are the substances you have after a chemical reaction



Watch the video to see some examples of reactants and products in cooking (<https://www.bbc.co.uk/bitesize/clips/z9wkjxs>)





For each demonstration of a chemical change shown by your teacher, write down how you can tell a chemical reaction has taken place and write the word equation for the reaction:

Example	Signs of a chemical reaction	Word equation
Burning a match	<hr/> <hr/> <hr/>	
Iron wool in salt water <i>(prepared the day before)</i>	<hr/> <hr/> <hr/>	
Mixing sodium bicarbonate and vinegar	<hr/> <hr/> <hr/>	



Write down the chemical reaction that each of following word equations are describing:

a)

**Cake mixture → Cooked cake**

This word equation describes the chemical reaction that takes place when \_\_\_\_\_

---

b)

**Bread → Toast**

This word equation describes the chemical reaction that takes place when \_\_\_\_\_

---

c)

**Explosive powder → Firework ash**

This word equation describes the chemical reaction that takes place when \_\_\_\_\_

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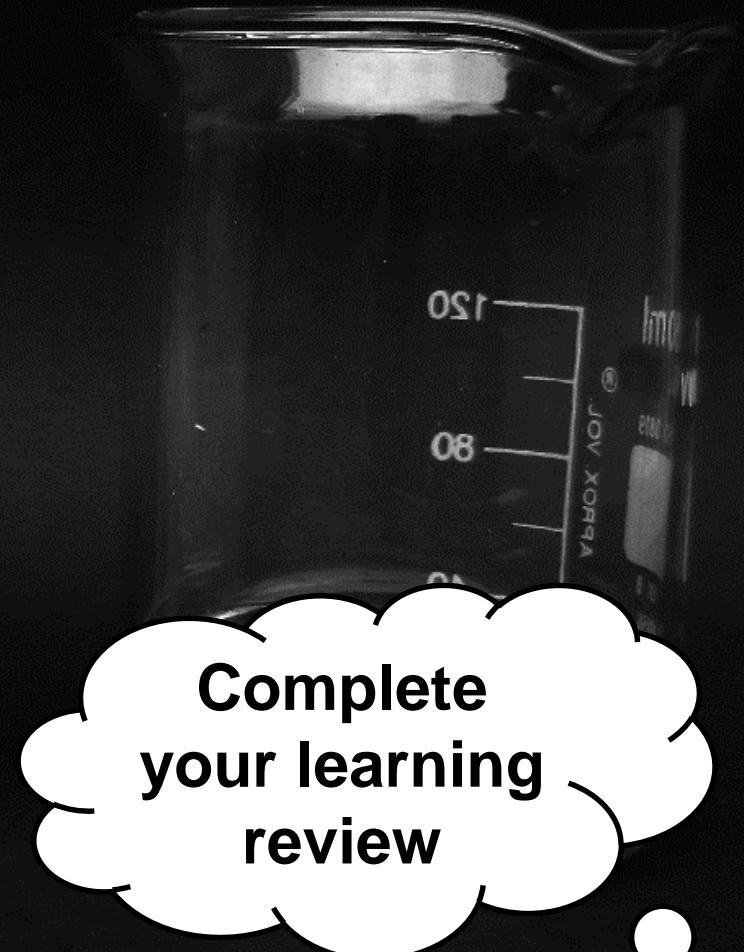


**Can you think of any chemical changes that take place during preparation of food or cooking?**

# Physical and chemical changes

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Complete  
your learning  
review