

# The Periodic Table

## Lesson 8 - Conservation of Mass

Science

Chemistry - Key Stage 3

Miss Willett



# **What have you learnt already?**

- 1. What is an atom?**
- 2. What are the columns on the periodic table called?**
- 3. What type of compound is made when a metal reacts with oxygen?**



# Describing experiments

## Match up the definitions

Repeatable

Close to the true value

Accurate

Same person, same  
equipment, similar results

Reproducible

Close to each other

Precise

Different person, different  
equipment, similar results



# Describing experiments

**Use the keywords to describe the scenarios.**

Scenario:	Repeatable/ reproducible/ accurate/ precise?
<p>1) I want to find the density of a rock. I decide to repeat my experiment 3 times and the 3 densities I measure are:</p> <p>2.5g/cm<sup>3</sup>                      2.3g/cm<sup>3</sup>                      2.3g/cm<sup>3</sup></p>	
<p>2) I want to find out how quickly pondweed photosynthesises in different coloured lights. I choose red light and repeat the experiment 3 times. I get the following number of bubbles in 1 minute, each time: 10, 11, 10</p> <p>My friend, in a different class, does the same experiment but gets these results: 27, 28, 26</p>	



**Chemical or physical?!**

**New products are formed (that are different to the reactants)**

**The change is easily reversible**

**Atoms rearrange**



## Complete the table to compare chemical and physical changes

Chemical	Physical
Not easily _____	Easily _____
New _____ formed	No _____ _____formed
_____ used up	Usually just a _____ _____ _____
Heat _____/ _____/ _____ may be given out	
_____ may occur	

Think about:  
Products?  
Signs of a chemical  
reaction?  
Reversible?



**What is the missing mass?**

$$16\text{g} + 14\text{g} \rightarrow \underline{\hspace{2cm}}$$

$$3.5\text{g} + 7.5\text{g} \rightarrow \underline{\hspace{2cm}}$$

$$8\text{g} + \underline{\hspace{2cm}} \rightarrow 22\text{g}$$



# Bringing it all together..

	Mass before (g):	Mass after (g):
<b>Student 1</b>	<b>12g</b>	<b>12g</b>
<b>Student 2</b>	<b>13g</b>	<b>8g</b>

Q1) Describe the reproducibility of the results.

Q2)) Why does Student 1 have the same mass before and after?

Q2) Why might Student 2 have apparently lost mass?

