<table>
<tr><th>Percentage</th><th>I can …</th><th></th><th>Prove it!</th></tr>
<tr><td> 
</td><td>- Describe how metals can be extracted from their ore

- Use the reactivity series to predict the outcome of reactions involving metals

- Use the idea of conservation of mass during a chemical reaction to make a prediction

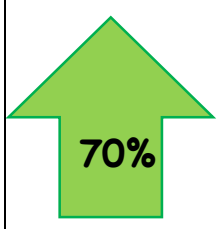
- Write balanced symbol equation</td><td></td><td>1) Explain how copper can be removed from its ore applying the idea of reactivity.

2) Lithium is more reactive than Magnesium. What do you think would happen when it was reacted with hydrochloric acid? Explain what products would be made, whether a gas would be produced, how you could test this gas to prove your prediction and whether the reaction would be exo or endothermic.

3) Calcium carbonate is reacted with hydrochloric acid. Write a word and balanced symbol equation for this reaction.

Giorgio weighs the test tube with the reactants in it before the reaction and reweighs it after the reaction. What do you predict will have happened to the mass? Explain your answer.

4) Magnesium reacts with Oxygen when heated. Write a word and balanced symbol equation for this reaction.

Sabrina weighs the test tube with the reactants in it before the reaction and reweighs it after the reaction. What do you predict will have happened to the mass? Explain your answer.</td></tr>
<tr><td> 
</td><td>- Arrange metals in order of reactivity based on evidence

- Identify a metal based on evidence

- Write a word equation to show the reactants and product in an equation

- Use general equations to predict the products of a reaction

- Explain temperature changes in a reaction in terms of energy</td><td></td><td>1) Salah adds 3 metals to some hydrochloric acid and some water.

<table><tr><th>Metal</th><th>In hydrochloric acid</th><th>In water</th></tr><tr><td>A</td><td>Bubbles vigorously</td><td>Bubbles a little</td></tr><tr><td>B</td><td>Bubbles vigorously producing large amounts of heat</td><td>Bubbles vigorously</td></tr><tr><td>C</td><td>Explodes, breaking container</td><td>Catches fire</td></tr><tr><td>D</td><td>No Change</td><td>No Change</td></tr><tr><td>E</td><td>Bubbles a little</td><td>No Change</td></tr><tr><td>F</td><td>No Change</td><td>No Change</td></tr></table>
(a) Which metal is the most reactive? Explain your answer
(b) Which material would you use to make a bicycle frame out of? Explain your answer.

2) Taylor has a mysterious sample. She wanted to find out which metal was in the compound. It was blue in colour and burnt with a blue flame. Which metal was present?

3) Can you write a word equation for the following reactions:

(a) Lizzy reacted copper with Sulphuric acid. It produced Copper sulphate and a gas.
(b) Archie reacted Sodium Hydroxide with Sulphuric acid. It produced Sodium Sulphate and one other product.
(c) Rhianne reacted Copper Carbonate and Hydrochloric acid together. It produced Copper Chloride and two other products.

4) Shayhan noticed that when mixing magnesium and hydrochloric acid together, it got incredibly hot. Is this an exothermic or endothermic reaction? Explain your answer in terms of energy being released or absorbed.</td></tr>
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Percentage	I can …		Prove it!
60%	- **Describe key properties of metals using appropriate key terms** - **Give the symbols for some common compounds** - **Describe the 5 common reactions** - **Name some common salts** - **Identify the gas produced during a reaction using evidence**		1) Describe two ways that Sam could test whether a substance is a metal. 2) What are the symbols for the following compounds? Water Methane Hydrochloric acid Sodium Hydroxide Sulphuric acid Carbon Dioxide Copper Sulphate Calcium Carbonate 3) Complete the general equations below and for each one, say whether a gas is produced. (a) Acid + Metal ->\ (b) Acid + Hydroxide (Alkali) ->\ (c) Acid + Carbonate ->\ (d) Hydrocarbon + Oxygen ->\ (e) Metal + Oxygen ->\ 4) Can you name these salts? CaCl2 MgCl2 NaSO4 CaCO3 AlO NaOH 5) Kieren has mixed together two chemicals. A chemical reaction has happened and a gas has been produced. He places a lit splint in the gas and it stays alight but doesn't pop. What must the gas be? Explain your answer.
50%	- **Name some common metals and identify their uses** - **Give the symbol for some common elements** - **Describe the three tests for gases** - **Explain why a substance is classified as a solid, liquid or gas** - **Identify the reactants and products from a given word equation** - **Describe the process of combustion** - **Decide whether a change is a physical change or a chemical reaction**		1) Name 4 metals and give a use of each one. 2) Give the symbol for: Hydrogen Carbon Nitrogen Copper Sodium Aluminium Chlorine Bromine Oxygen Sulphur Lithium Magnesium 3) Make a revision card to teach the year 7s the test for the three common gases (include the name of the gas, the procedure for the test and the result they would get if the gas was present). 4) Explain your answers to 3 (a),(b), (c). (Stretch Q -> Can you describe/draw what the particles would look like in each?) 5) Colour the reactants in green and the products in red for each reaction below. (a) copper + Oxygen -> Copper Oxide (b) Sodium + Hydrochloric acid -> Sodium Chloride + Hydrogen (c) Copper carbonate + Sulphuric acid -> Copper Sulphate + Carbon dioxide + Water 6) Ms Chalke is explaining to Mr Utting what combustion is. Can you write a script for her to describe this process? Can you include what is necessary for combustion to take place in your script? 7) For each of the changes below, decide whether it is a chemical reaction or a physical change. (a) Melting an ice cube (b) Squashing a tomato (c) Burning a piece of bacon (d) Boiling water (e) Chopping a cucumber (f) Mixing magnesium and hydrochloric acid together

Chemical Reactions

40%

- **Identify some of the characteristics of metals and non-metals**
- **Name 3 common gases**
- **Classify a substance as a solid, liquid or gas**
- **Identify the three things needed for combustion**
- **Describe some changes that occur during a chemical reaction**

1x) List 3 characteristics of a metal and 3 characteristics of a non-metal.

2) Name 3 common gases.

3) For each example, decide whether it is a solid, liquid or gas.

(a)  (b)  (c) 

4) What are the three things needed for combustion (burning) to happen?

5) List the 6 things I might see if a chemical reaction has happened.

Key Words:

Solid
Liquid
Gas
Metal
Non-Metal
Effervesce
Vigorous
Colourless
Precipitate
Odour
Combustion
Extinguish
Symbol
Formula

Atom
Conservation of Mass
Carbonate
Sulphate
Hydroxide
Acid
Hydrocarbon
Classify
Exothermic
Endothermic
Bonding
Element
Compound
Oxidation
Reactivity