

Reactions of Acids

Name	Class
Acids react with many materials, including metals.	. When an acid reacts with a metal, it produces
a salt and releases hydrogen gas.	

1. Complete the general word equation for the reaction between an acid and a metal.

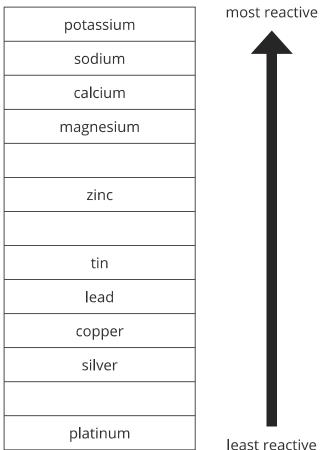
acid + metal → _____ + _____ +

Metals can be organised based on their reactivity. Part of the reactivity series for some common metals is shown below.

2. Complete the reactivity series by writing in the missing metals. Choose answers from the box.

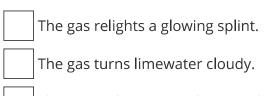
aluminium gold iron

most reactive



3. Which observation would identify a gas as hydrogen?

Tick **one** box.



The gas makes a squeaky pop when presented with a lit splint.



The name of the salt produced in a reaction between a metal and an acid depends on the metal and the acid involved in the reaction. The first part of the name comes from the metal, and the second part comes from the acid.

For example, potassium reacts with sulfuric acid to produce potassium sulfate.

The table below shows the general name of the salt produced by each acid.

Name of Acid	Name of Salt
sulfuric acid	sulfate
hydrochloric acid	chloride
nitric acid	nitrate

4. Complete the table to give the name of the salt produced in each reaction. The first one has been done for you.

Metal	Acid	Salt
sodium	hydrochloric acid	sodium chloride
zinc	nitric acid	
magnesium	sulfuric acid	
aluminium	hydrochloric acid	
silver	nitric acid	
copper	sulfuric acid	

5.

Э.	What is the word equation for the reaction between calcium and hydrochloric acid?
	Tick one box.

	hydrochloric acid + calcium → calcium sulfate + hydrogen
	hydrochloric acid + calcium \rightarrow calcium chloride + hydrogen
	hydrochloric acid + calcium → calcium sulfate + oxygen
	hvdrochloric acid + calcium → calcium chloride + oxygen

b.	Complete the word equation for the reaction between	magnesiun	n and hydrochloric acid
	magnesium + hydrochloric acid →	+	





Acids also react with metal oxides and metal hydroxides. Metal oxides and metal hydroxides are bases so they will neutralise the acid, producing water as well as the metal salt. This is called a neutralisation reaction.

6.	
a.	Complete the general word equation for the reaction between an acid and a metal oxide.
	acid + metal oxide → +
b.	Write the word equation for the reaction between sulfuric acid and potassium hydroxide.
oroc	is also react with metal carbonates. The reaction between an acid and a metal carbonate duces a metal salt, water and carbon dioxide gas. Carbon dioxide gas can be tested for using water. The general equation for the reaction is:
	acid + metal carbonate → metal salt + water + carbon dioxide
7.	Complete the word equation for the reaction below.
nitri	c acid + calcium carbonate -> + + + +