



1) The Earth's resources

A **resource** is a material from our environment that we use. For example, we use trees for building houses.

Finite resources: Resources that will run out. Once they've been used up, they will be gone e.g. coal, oil.

Renewable resources: Resources that can be replaced, so they won't run out e.g. wood, solar power

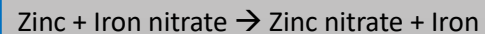
2) Displacement reactions & The reactivity series

K	Potassium	↑ most reactive
Na	Sodium	
Ca	Calcium	
Mg	Magnesium	
Al	Aluminium	
C	Carbon	
Zn	Zinc	
Fe	Iron	
Sn	Tin	
Pb	Lead	
H	Hydrogen	↓ least reactive
Cu	Copper	
Ag	Silver	
Au	Gold	
Pt	Platinum	

A more reactive element will **displace** a less reactive element.

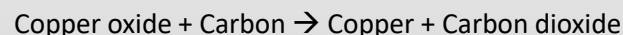
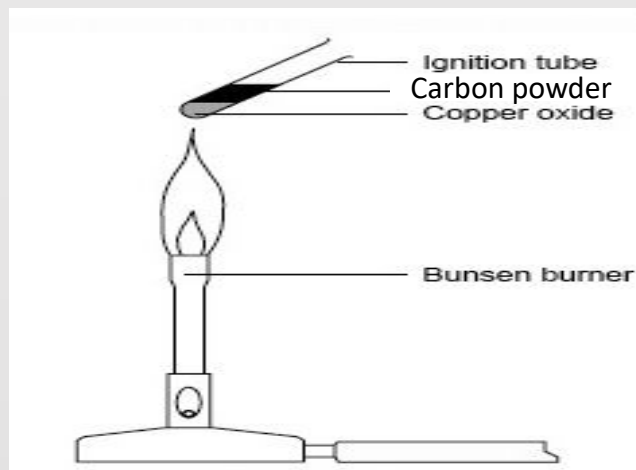
Example:

Zinc (solid metal) is added to a solution of Iron nitrate. Zinc is more reactive than Iron, so zinc 'displaces' iron, taking the nitrate ion from it.

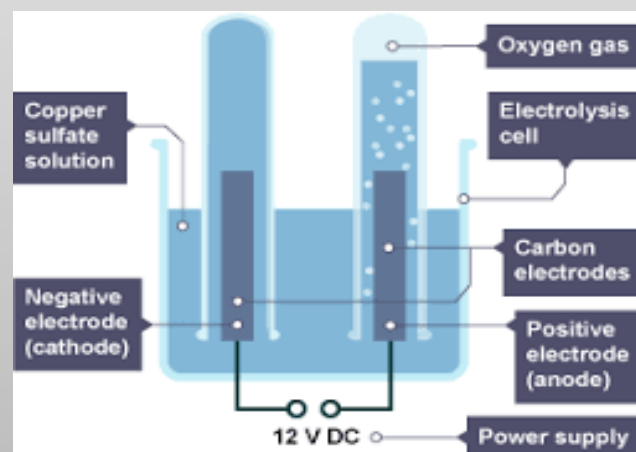


3) Extracting metals

- Metals are not pure when they are found in the Earth, they are found as '**ores**'. An ore is naturally occurring material from which a **metal** can be extracted **profitably**.
- Some less reactive metals can be extracted from their ore by heating them with carbon. This is shown below:



4) Electrolysis: Using electricity to split a compound into simpler substances e.g. extracting more reactive metals.



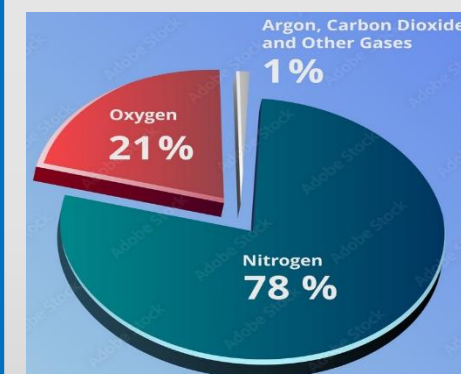
5) Human use of resources

Sustainability: Using the Earth's resources in a way that ensures there will be enough resources for future generations

Recycling: Converting a waste material into a usable one

Advantages of recycling	Disadvantages of recycling
<ul style="list-style-type: none"> Allows us to conserve finite resources Often uses less energy Creates jobs 	<ul style="list-style-type: none"> Still uses a lot of energy Can lead to some pollution Can be costly

6) Composition of the atmosphere



8) Climate change

- Human activities (e.g. burning fossil fuels) are increasing the levels of CO₂ in our atmosphere
- This has led to climate change, causing issues such as: Increased temperatures, more extreme weather events, changes in rainfall and potential species extinction

7) The Greenhouse effect

