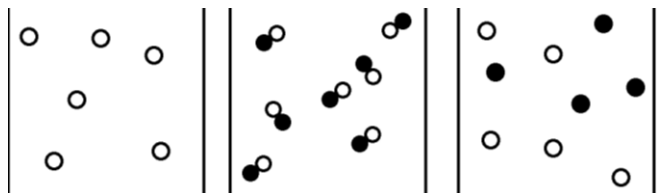


## Atoms, Elements and Compounds

The air we breathe is made up of a mixture of gases – Nitrogen, Oxygen, Argon, Carbon Dioxide.  
The simplest form of matter are called atoms.

Elements, compounds and mixtures:

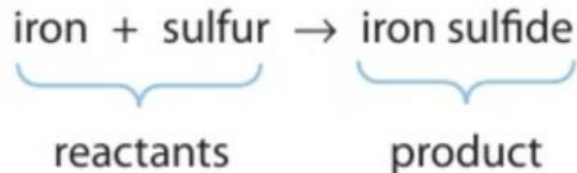


**Metals properties:** Solids with high melting and boiling points, strong and flexible, good conductors, malleable.  
**Non metal properties:** Low melting points, poor conductors, brittle, not shiny.

**Naming compounds:**

- If one of the elements in the compound is a metal, its name goes first.
- The non-metal side has its name changed so it ends in -ide.

**Word equations:**



## Energy

The unit for measuring energy is **Joule (J)**

**A balanced diet** includes all the right nutrients in the right proportions.

**The law of conservation of energy:** Energy cannot be created or destroyed; it can only be transferred and stored in different ways.

Energy is stored in food, fuel, atoms, etc.

There are many different types of energy store: Kinetic, Gravitational Potential, Elastic Potential, Thermal, Nuclear, etc.

**Non-Renewable fuels:** these cannot be replaced at the rate that humans use them up (e.g. oil, gas and coal).

**Renewable fuels:** these are made of plant or animal waste and therefore are easily available.

**Renewable energy resources:** these harvest energy from the sun's radiation (solar power), wind (wind turbines) and water movement (hydroelectric power) and the Earth's radiation (geothermal) and from atoms (nuclear power). Each of these renewable resources has advantages and disadvantages and this is often to do with socioeconomical and weather factors.

Efficiency shows how much energy used by a machine is useful. The less wasted/dissipated energy the more efficient the machine is.



## Key vocabulary:

**Atom:** small particles from which all substances are made.

**Molecules:** Two or more atoms joined together in a group of set size.

**Element:** A substance made of one type of atom.

**Compounds:** Contains the atoms of two or more elements chemically joined.

**Periodic Table:** An ordered list of all known elements.

**Malleable:** Able to be beaten and bent into shape.

**Reactants:** A substance that takes part in a chemical reaction.

**Products:** A new substance made in a chemical reaction.

**Joules** – Unit for measuring energy

**Diet** – The food you eat

**Balanced** – Eating a variety of foods to provide all the things the body needs.

**Nutrients** – Substances needed in the diet

**Ratios** – A way of comparing two different quantities.

**Chemical energy** – Energy when it is stored in chemicals

**Thermal Energy** – Energy stored in hot objects.

**Elastic Potential energy** – energy in objects when they are stretched or squashed and can change back to their original shape.

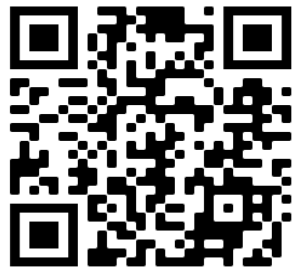
**Gravitational Potential energy** – energy when it is stored in objects in high places that can fall down.

**Nuclear energy** – Energy when it is stored inside materials

**Kinetic energy** – energy in moving objects

**Energy transfer** – when energy is moved from one store to another.

## Videos



## Quizzes

