7 Matter 2 – Elements and Compounds

Must Remember

- All materials are made up of one or more elements
- Elements are substances that cannot be broken down.
- There are 92 elements that exist naturally.
- The Periodic Table lists all the elements
- Every element has its own chemical symbol.
- An atom is the smallest part of an element that can exist.
- Every element is made up of one type of atom. All the atoms of an element are the same.
- The atoms of one element are different to the atoms of all other elements.
- The properties of a substance are the properties of many atoms, not just a single atom.
- A compound is a substance made up of atoms of two or more elements, strongly joined together.
- The properties of a compound are different to the properties of the elements that it is made from.
- A molecule is a group of two or more atoms that are strongly joined together.
- A chemical formula shows the relative number of atoms of each element in a compound.

Maritime Futures – Rusting

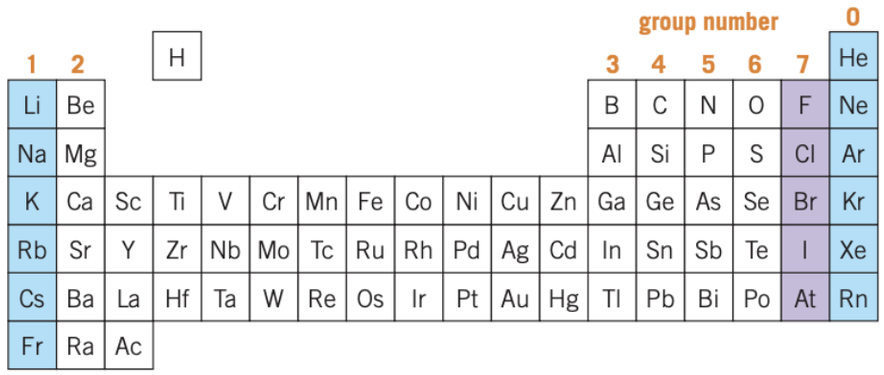
Many boats are made of metal. The metal used to make these boats can react with sea water and rust in an oxidation reaction. Rusting can damage a boat and so sacrificial metals are placed on the sides of the boat. These sacrificial metals rust instead of the metal used to make the hull of the boat. Sacrificial metals ensure that boats are not damaged by the oxidation reaction that is rusting.

Further Study

BBC Bitesize – Atoms, elements and compounds

Nice to know that...

- Atoms are composed of a nucleus which consists of protons and neutrons, and electrons in shells that surround the nucleus.
- Each type of atom has different properties (size or mass).
- The names and symbols of all elements can be found on the Periodic Table, the symbol for each element is universal.
- Elements are grouped on the Periodic Table based on properties.
- Metal elements are on the right-hand side and the non-metals are on the left-hand side of the Periodic Table.



- Each symbol in the Periodic Table is accompanied by two numbers, the atomic number tells you how many protons are in the atom, the mass number tells you how many protons and neutrons make up the nucleus.
- A molecule is made up of atoms all chemically bonded to each other.
- In a compound made of a metal and a non-metal the name of the metal element comes first and the non-metal element second.

Key Terms

compound:
a substance made up of atoms of two or more elements, strongly joined together

element:
a substance that cannot be broken down into other substances