# Reactivity
# Lesson 3 - Chemical Formulae

Chemistry - Key Stage 3
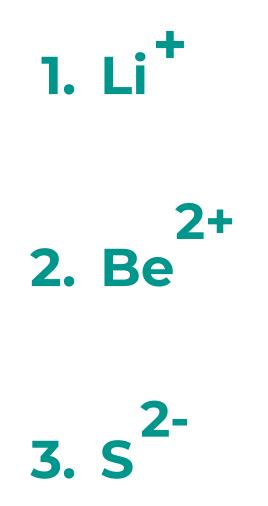
Miss Fenner

# Independent Practice

1. Lithium is in group 1 of the periodic table. State the charge of a lithium ion.

2. Beryllium is in group 2 of the periodic table. State the charge of a beryllium ion.

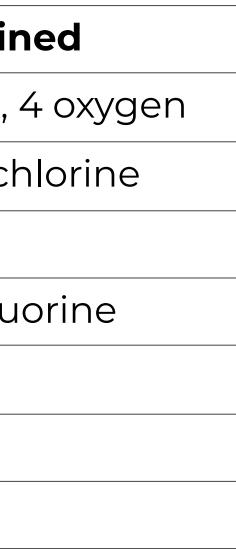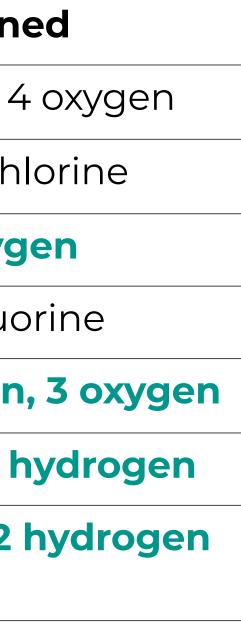3. Sulfur is in group 6 of the periodic table. State the charge of a sulfur ion.

# Independent Practice

1. $Li^+$

2. $Be^{2+}$

3. $S^{2-}$

# Independent Practice

Copy and complete this table. The first compound has been done for you.

| Compound name | Formula | Atoms contained |
|---|---|---|
| Sulfuric acid | $H_2SO_4$ | 2 hydrogen, 1 sulfur, 4 oxygen |
| Magnesium chloride | | 1 magnesium, 2 chlorine |
| Sodium oxide | $Na_2O$ | |
| Potassium fluoride | | 1 potassium, 1 fluorine |
| Magnesium carbonate | $MgCO_3$ | |
| Lithium hydroxide | LiOH | |
| Calcium hydroxide | $Ca(OH)_2$ | |

# Independent Practice

| Compound name | Formula | Atoms contained |
|---|---|---|
| Sulfuric acid | $H_2SO_4$ | 2 hydrogen, 1 sulfur, 4 oxygen |
| Magnesium chloride | **$MgCl_2$** | 1 magnesium, 2 chlorine |
| Sodium oxide | $Na_2O$ | **2 sodium, oxygen** |
| Potassium fluoride | **KF** | 1 potassium, 1 fluorine |
| Magnesium carbonate | $MgCO_3$ | **1 magnesium, 1 carbon, 3 oxygen** |
| Lithium hydroxide | LiOH | **1 lithium, 1 oxygen, 1 hydrogen** |
| Calcium hydroxide | $Ca(OH)_2$ | **1 calcium, 2 oxygen, 2 hydrogen** |

# Independent Practice

What is the relative atomic mass of:

1. Hydrogen?
2. Aluminium?
3. Neon?
4. Helium?
5. Silver?

1

H

hydrogen

1

4

He

helium

2

27

Al

aluminium

13

108

Ag

silver

47

20

Ne

neon

10

# Independent Practice

1. $A_r(H) = 1$

2. $A_r(Al) = 27$

3. $A_r(Ne) = 20$

4. $A_r(He) = 4$

5. $A_r(Ag) = 108$

# Independent Practice

Copy and complete this table.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 14 **N** nitrogen 7 | 23 **Na** sodium 11 | 1 **H** hydrogen 1 | 16 **O** oxygen 8 | 12 **C** carbon 6 | 24 **Mg** magnesium 12 | 40 **Ca** calcium 20 | 35.5 **Cl** chlorine 17 |

| Substance | Formula | Formula Mass |
|---|---|---|
| Ammonia | $NH_3$ | |
| Sodium oxide | $Na_2O$ | |
| Sodium Chloride | $NaCl$ | |
| Calcium carbonate | $CaCO_3$ | |
| Magnesium hydroxide | $Mg(OH)_2$ | |

# Independent Practice

| Substance | Formula | Formula Mass |
|---|---|---|
| Ammonia | $NH_3$ | $14 + (3 \times 1) = 17$ |
| Sodium oxide | $Na_2O$ | $(2 \times 23) + 16 = 62$ |
| Sodium Chloride | $NaCl$ | $23 + 35.5 = 58.5$ |
| Calcium carbonate | $CaCO_3$ | $40 + 12 + (16 \times 3) = 100$ |
| Magnesium hydroxide | $Mg(OH)_2$ | $24 + 2(16+1) = 58$ |