SC5a Ionic bonds

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| Word | Pronunciation | Meaning |
| **anion** | **an**-i-on | Negatively charged ion. |
| **bond** |  | A force that holds some atoms tightly together. |
| **cation** | **cat**-i-on | Positively charged ion. |
| **electrostatic force** |  | Force of attraction between oppositely charged particles, and force of repulsion between particles with the same charge. |
| **ion** |  | Atom or group of atoms with an electrical charge. Atoms become positively charged ions if they lose electrons and negatively charged if they gain electrons. |
| **ionic bond** |  | Strong electrostatic force of attraction between oppositely charged ions. |

SC5b Ionic lattices

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| Word | Pronunciation | Meaning |
| **crystals** | **kris**-tals | Solids that are made up of a regular repeated pattern of atoms, molecules or ions, which form fixed shapes with flat surfaces and sharp edges. |
| **ionic compound** |  | Substance containing ions, formed by the loss and gain of electrons between two or more elements. |
| **lattice structure** |  | Regular grid-like repeating arrangement of particles such as atoms, molecules or ions. |
| **polyatomic ions** |  | A group of atoms that have a positive or negative charge due to the loss or gain of electrons. |

SC5c Properties of ionic compounds

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| Word | Pronunciation | Meaning |
| **anode** | an-**ode** | The positive electrode. |
| **aqueous solution** | **a**-kwi-ous sol-**ution** | A solution in which water is the solvent. |
| **cathode** | cath-**ode** | The negative electrode. |

SC6a Covalent bonds

| Word | Pronunciation | Meaning |
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| **covalent bond** | co-**vay**-lent | The bond formed when a pair of electrons is shared between two atoms. |
| **dot and cross diagram** |  | Diagram, to explain what happens when a bond is formed, which uses dots and crosses to represent the electrons of different atoms.  |
| **double bond** |  | The bond formed when two pairs of electrons are shared between the same two atoms. |
| **electrostatic forces** |  | Forces of attraction between oppositely charged particles, and forces of repulsion between particles with the same charge. |
| **molecular** |  | Referring to substances that are made up of molecules. |
| **molecular formula** |  | This shows the actual number of atoms of each element that combine to make a molecule of a substance. |
| **molecule** |  | A group of two or more atoms joined together by covalent bonds. |
| **outer electron shell** |  | The electron shell (or energy level that contains electrons) which is furthest away from the nucleus.  |
| **valency** | **vay**-len-see | The number of covalent bonds formed by an atom (or the charge number of the ion formed by an atom). |

SC7a Molecular compounds

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| Word | Pronunciation | Meaning |
| **bond** |  | A force that holds some atoms tightly together. |
| **compound** |  | Contains atoms of more than one element chemically joined together with bonds.  |
| **covalent bond** | co-**vay**-lent | The bond formed when a pair of electrons is sharedbetween two atoms. |
| **covalent, simple molecular structure** |  | Two or more atoms covalently bonded together to form a distinct unit.  |
| **element** |  | A simple substance, made up of only one type of atom.  |
| **intermolecular force** |  | A weak force of attraction between molecules. |
| **monomer** |  | A small, simple molecule that can be joined in a chain to form a polymer. |
| **poly(ethene)** |  | A common polymer made of ethane monomers. |
| **polymer** |  | A long-chain molecule made by joining many smaller molecules (monomers) together. |

SC7b Allotropes of carbon

| Word | Pronunciation | Meaning |
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| **allotropes** |  | Different structural forms of the same element. |
| **covalent, giant molecular structure** |  | Three‑dimensional lattice of carbon atoms linked by covalent bonds. |
| **delocalised electron** |  | An electron that is free to move and can carry an electrical current. |
| **fullerene** |  | A simple molecule in which each carbon atom is covalently bonded to three other carbon atoms, forming spheres or tube shapes.  |
| **graphene** |  | An allotrope of carbon consisting of a sheet that is one atom thick, with atoms arranged in a honeycomb shape.  |
| **lubricant** |  | A substance placed between two moving surfaces to reduce the friction between them. |

SC7c Properties of metals

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| Word | Pronunciation | Meaning |
| **electrical conductivity**  |  | Allowing electricity to pass through. |
| **lattice**  | **latt**-iss | An arrangement of many atoms or other particles that are bonded together in a fixed regular (grid-like) pattern. |
| **malleable** | **mal**-ee-uh-buhl | A substance that can be hammered or rolled into shape without shattering. |
| **metallic bonding** |  | The type of bonding found in metals. We can think of it as positively charged ions in a ‘sea’ of negatively charged electrons. |
| **metals** |  | Any element that is shiny when polished, conducts heat and electricity well, is malleable and flexible and often has a high melting point. |
| **non-metals** |  | Any element that is not shiny, and does not conduct heat and electricity well. |