Year 11 Chemistry Glossary

# Topic 1

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| **Nanomaterials** | Substances with particles around 1-1000nm in size. | <https://en.wikipedia.org/wiki/Nanomaterials> |
| **Chemical properties** | What a substance will react with and how it will act during reactions. | <https://www.thoughtco.com/chemical-properties-of-matter-608337> |
| **Physical properties** | How a substance looks or acts without any chemical bonds being changed. | <https://www.thoughtco.com/physical-properties-of-matter-608343> |
| **Emission spectrum** | The wavelengths (colours) produced by a substance, usually shown as lines on a black background. | <https://www.thoughtco.com/definition-of-emission-spectrum-605081> |
| **Absorption spectrum** | The wavelengths (colours) blocked by a substance, usually shown as black lines in a rainbow. | <http://astronomy.swin.edu.au/cosmos/a/absorption+line> |
| **Energy levels** | The only places around the atom where electrons can be | <https://www.ck12.org/c/physical-science/energy-level/lesson/Energy-Level-MS-PS/> |
| **Subatomic particles** | Smaller than an atom (protons, neutrons, electrons) | <https://www.thoughtco.com/elementary-and-subatomic-particles-4118943> |
| **Isotopes** | Different masses of the same element (due to different number of neutrons) | <https://www.thoughtco.com/definition-of-isotopes-and-examples-604541> |
| **Monatomic ions** | A charged single atom (it has gained or lost one or more electrons) | <https://www.thoughtco.com/definition-of-monatomic-ion-605372> |
| **Mole (unit)** | The amount of a substance that weighs (in grams) the mass given on the periodic table | <https://www.thoughtco.com/what-is-a-mole-and-why-are-moles-used-602108> |
| **Atomic radius** | The size of the atom (measured from the centre to the outermost electrons) | <https://www.thoughtco.com/definition-of-atomic-radius-604377> |
| **Valency** | The number of electrons that need to be gained or lost to become stable (achieve a full outer shell) | <https://www.thoughtco.com/what-is-valence-or-valency-606459> |
| **Electronegativity** | Strength of attraction for electrons during bonding | <https://www.thoughtco.com/definition-of-electronegativity-604347> |

# Topic 2

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| **Molecular substances** | Atom bonded into groups which are separate from each other | <https://www.worldofmolecules.com/what-is-a-molecule.html> |
| **Non-molecular (continuous) substances** | All atoms are bonded together in a lattice (network) structure | <https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=72184&section=2.2> |
| **Primary bonding** | Attraction between atoms (metallic/ionic/covalent) | <https://depts.washington.edu/matseed/ces_guide/bonding.htm> |
| **Metallic bonding** | Attraction between metal ions in a lattice and their free-moving valence electrons | <https://www.thoughtco.com/metallic-bond-definition-properties-and-examples-4117948> |
| **Ionic bonding** | Attraction between metal ions and non-metal ions (all in a lattice) | <https://www.ausetute.com.au/ionicbond.html> |
| **Covalent bonding** | Attraction between two non-metal atoms and their shared valence electrons | <https://chemfiesta.org/2015/01/16/properties-of-covalent-compounds/> |
| **Valence-shell** | Outermost electron shell | <https://socratic.org/questions/what-is-a-valence-shell> |
| **Valence electrons** | Outermost electrons | <https://www.thoughtco.com/definition-of-valence-electron-in-chemistry-605938> |
| **Delocalised electrons** | Free to move around, not specific to a single atom or pair of atoms | <https://www.thoughtco.com/definition-of-delocalized-electron-605003> |
| **Molecular formula** | Number of each element in each molecule | <https://www.thoughtco.com/molecular-and-simplest-formula-problem-609514> |
| **Empirical formula** | Ratio of each element in the compound (simplest whole number) | <https://www.thoughtco.com/empirical-formula-practice-test-questions-604118> |
| **Polarity** | The unequal sharing of electrons in a covalent bond | <https://www.chegg.com/homework-help/definitions/bond-polarity-6> |

More chemistry glossary here: <https://sciencenotes.org/chemistry-dictionary-c-chemistry-definitions/>