Atomic model

Atomic structure

|  |  |
| --- | --- |
| **Key term** | **Definition** |
| Atomic number | the number of protons in the nucleus of an atom of a particular element |
| Compound | a pure substance made of two or more different elements whose atoms are joined by chemical bonds; the atoms are in a fixed ratio |
| Electron | a negatively charged subatomic particle with very little mass found in the electron shells/energy levels of atoms |
| Electron configuration/structure | gives the number of electrons in each shell/energy level around the nucleus of an atom |
| Electron shell/energy level | a region surrounding the nucleus of an atom where electrons are found; each level has a maximum number of electrons it can hold |
| Element | a pure substance made of only one type of atom |
| Isotopes | atoms with the same number of protons but different numbers of neutrons |
| Mass number | the total number of protons and neutrons in the nucleus of an atom of a particular element |
| Molecule | two or more atoms connected by chemical bonds |
| Neutron | a subatomic particle with no charge and a relative mass of 1, found in the nucleus of an atom |
| (Atomic) nucleus | the positively charged centre of the atom consisting of protons and neutrons |
| Proton | a positively charged subatomic particle with a relative mass of 1, found in the nucleus of an atom |
| Relative atomic mass (*A*r) | the average mass of an atom of an element taking into account the naturally occurring percentages of its isotopes |
| Relative charge | the positive (+) or negative (-) charge of a particle compared to the charge of a single proton |
| Relative mass | the mass of a particle relative to 1/12 of the mass of a 12C atom |
| Subatomic particle | a particle smaller than an atom |

Atoms and ions

|  |  |
| --- | --- |
| **Key term** | **Definition** |
| Atom | the smallest possible particle of an element; atoms are made up of protons, neutrons and electrons |
| Ion | a charged particle formed when one or more electrons are lost or gained from an atom or molecule |

Particle diagrams

|  |  |
| --- | --- |
| **Key term** | **Definition** |
| Inelastic | is not flexible |
| Intermolecular forces | the relatively weak attractive and repulsive forces between molecules |
| Kinetic energy | the energy an object has because of its motion |
| Latent heat | energy transferred to or from a substance during a change in its physical state that occurs without changing its temperature |
| Model | a simple representation of something or a way of explaining something complicated |
| Regular lattice | an arrangement of repeating atoms or ions that form a 3D structure |