

The relative atomic mass of an atom is the average mass of an atom (taking into account different isotopes) relative to an atom of carbon-12.

Because of isotopes this number is not always a whole number.

Isotopes

Isotopes are atoms of the same element that have different numbers of neutrons. They have the same properties and charge, but a different mass.

Electrons

Electrons are arranged in shells. The shells are configured 2,8,8, meaning that the first shell can hold two electrons, the second eight and so on.

Elements in the same group have the same number of electrons in their outermost shell.

This is why periodicity exists- "characteristics of repeating patterns of properties in the periodic table". This is because the elements have a similar atomic structure and therefore are arranged in the same group. For example, if an element in group two (X) is reacted with oxygen, it produces the compound XO.

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Page 2 of 7