

IGCSE Chemistry

Name: _____ Score: _____

1. An element is a substance made of:
 - ☐ two elements bonded together
 - ☐ only compounds
 - ☐ a mixture of substances
 - ☐ only one type of atom
2. Which subatomic particle has a positive charge?
 - ☐ neutron
 - ☐ none of them
 - ☐ electron
 - ☐ proton
3. What is the maximum number of electrons in the first (innermost) shell?

4. Isotopes are atoms of the same element with different numbers of:
 - ☐ electrons
 - ☐ protons
 - ☐ neutrons
 - ☐ shells
5. When a metal atom forms an ion, it:
 - ☐ loses electrons to form a positive ion
 - ☐ gains electrons to form a negative ion
 - ☐ gains protons
 - ☐ loses protons
6. Ionic compounds form a:
 - ☐ single atom
 - ☐ small molecule
 - ☐ sea of electrons
 - ☐ giant lattice of oppositely charged ions

7. In a covalent bond, atoms _____ a pair of electrons.

8. Diamond and graphite are both made of pure carbon.

☐ True ☐ False

9. The outer electrons in a metal are delocalised, meaning free to move.

☐ True ☐ False

10. In a mixture, the substances are chemically bonded together.

☐ True ☐ False

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1. **only one type of atom**

Elements contain a single type of atom.

2. **proton**

Protons are positive; neutrons neutral; electrons negative.

3. **2**

The first shell holds up to 2 electrons.

4. **neutrons**

Isotopes differ only in neutron number.

5. **loses electrons to form a positive ion**

Metals lose electrons, becoming positive.

6. **giant lattice of oppositely charged ions**

A giant 3D lattice of ions forms.

7. **share**

Sharing lets both atoms fill their outer shells.

8. **True**

Different bonding arrangements give different properties.

9. **True**

Delocalised electrons explain conduction and malleability.

10. **False**

False. In a mixture the substances are not chemically bonded and can be separated by physical methods. Elements are chemically bonded only in a compound.