Science Fables

The Mystery of the Electron Shells

Story Quiz

This quiz checks what you learned about electron shells, electronic configuration, and valence electrons.

1. What is the maximum number of electrons the K shell can hold?

A. 1
B. 2
C. 8
D. 18

2. What is the electronic configuration of oxygen?

A. 2,6
B. 2,8
C. 2,8,1
D. 2,4

3. What is the electronic configuration of sodium?

A. 2,6
B. 2,8
C. 2,8,1
D. 2,8,7

4. What are valence electrons?

A. Electrons in the nucleus
B. Electrons in the outermost occupied shell
C. All electrons in an atom
D. Electrons in the first shell

5. Why is neon very stable and unreactive?

A. It has one electron in its outermost shell
B. It has no electrons in its outermost shell
C. It has eight electrons in its outermost shell
D. It has seven electrons in its outermost shell

Answer Key

1. B — 2

The K shell (n = 1) can hold a maximum of 2 electrons.

2. A — 2,6

Oxygen has 8 electrons, arranged as 2 in the K shell and 6 in the L shell: 2,6.

3. C — 2,8,1

Sodium has 11 electrons, arranged as 2,8,1.

4. B — Electrons in the outermost occupied shell

Valence electrons are the electrons in an atom’s outermost occupied shell.

5. C — It has eight electrons in its outermost shell

Neon has eight electrons in its outermost shell, which makes it very stable and unreactive.