Grade 8 Integrated Science Topical Questions and Answers on Mixtures, Elements and Compounds

1. What is an element?

- An element is a pure substance that cannot be decomposed into simpler substances by chemical or physical means. It is composed of identical atoms.

2. What is a compound?

- A compound is a pure substance that consists of two or more elements chemically combined in fixed proportions.

3. How are compounds formed?

- Compounds are formed when atoms of different elements react chemically.

4. What is the difference between an element and a compound?

- An element is made up of only one type of atom, while a compound consists of atoms of different elements chemically bonded together.

5. Can you give an example of how elements combine to form a compound?

- Sodium and chlorine are elements that chemically combine to form sodium chloride (table salt).

6. What is the chemical formula for water, and what does it represent?

- The chemical formula for water is \(H_2O\), which indicates that water is made up of two hydrogen atoms and one oxygen atom.

7. Why do scientists use chemical symbols?

- Chemical symbols are used instead of names because they are universally recognized and provide a convenient shorthand notation for elements and compounds.

8. What is the origin of the chemical symbol for sodium (Na)?