

# What Are Elements and Chemical Symbols?

## Worksheet

Elements are pure substances with a fixed atomic number. Symbols are abbreviations: H for hydrogen, O for oxygen, C for carbon. The first letter is uppercase; second (if any) is lowercase.

## Questions

1. Which is a chemical symbol for an element?  
A) HO  
B) H  
C) NaCl  
D) O
2. Gold has the symbol Au. Where does this come from?  
A) English 'gold'  
B) Latin 'aurum'  
C) Greek 'autos'  
D) German 'Gold'
3. Sodium's symbol is Na. What is it NOT based on?  
A) English 'sodium'  
B) Latin 'natrium'  
C) Derived symbol  
D) Historical name
4. How many letters can an element symbol have?  
A) 1 only  
B) 2 only  
C) 1 or 2  
D) Up to 3
5. Helium (He) is element 2. How many protons does a helium atom have?
6. Iron has the symbol Fe and atomic number 26. Why is the symbol not 'Ir'?
7. Write the symbol for: (a) Carbon, (b) Nitrogen, (c) Sulfur.
8. Define: What is an element?
9. Define: What is a chemical symbol?
10. Define: Why is iron Fe, not Ir?

## Answer Key

1. B) H - H is the symbol for hydrogen (an element). HO, NaCl, O are molecules/compounds.
2. B) Latin 'aurum' - Au comes from the Latin name 'aurum' for gold.
3. A) English 'sodium' - Na comes from Latin 'natrium', not English 'sodium'.
4. C) 1 or 2 - Symbols are 1-2 letters: C, Cl, Au, Uuu (recently named elements).
5. Element number = atomic number Z. Helium: Z = 2, so 2 protons. Neutral He: 2 protons + 2 electrons.
6. Fe comes from the Latin name 'ferrum'. Many element symbols derive from historical or Latin names, not English.
7. (a) Carbon = C (b) Nitrogen = N (c) Sulfur = S (not 'Su' - symbols are 1-2 letters, standardized)
8. A pure substance made of only one type of atom, characterized by a fixed atomic number.
9. A 1-2 letter abbreviation for an element (e.g., H, He, Au). First letter uppercase; second (if any) lowercase.
10. Fe comes from the Latin name 'ferrum'. Many symbols derive from Latin or Greek origins.

### **Bounlu**

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