



8E Atoms and Elements

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- What are atoms and elements?

- Symbols for elements

- Elements in the periodic table

- Making compounds

- Chemical reactions

- Summary activities





How to write symbols for elements

- Two important rules should be followed when writing the symbols of elements so that there is no confusion.

1. The first letter of an element's symbol is always a capital letter

e.g. **N** (not **n**) for **nitrogen**

2. If there are two letters in the element's symbol, the second letter is always a small letter.

e.g. **Co** (not **CO**) for **cobalt**



No, Watson! It was carbon monoxide poisoning – not cobalt.

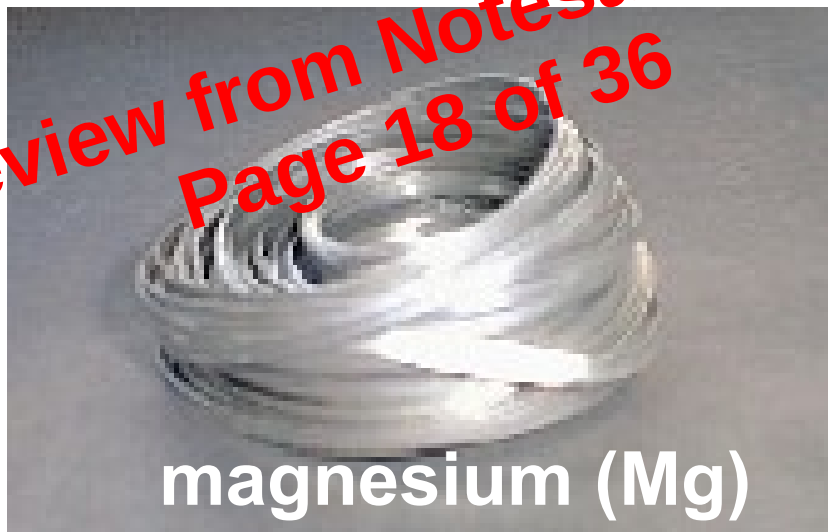




Metal or non-metal?



Is this element a **metal** or a **non-metal** ?



Hard to say!

H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	?	?	?						





Types of elements in the periodic table



board
works

Which elements are metals, non-metals
or metalloids?

H	Which elements are metals, nonmetals, or metalloids?																He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	?	?	?						



metals



non-metals



metalloids

reveal all

clear table

?





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- **atom** – The smallest particle that can exist on its own.
- **compound** – Substance made up of two or more different elements that are chemically joined together.
- **element** – Substance made up of only one type of atom.
- **formula** – The symbols and numbers that represent the atoms in a substance.
- **molecule** – Two or more atoms that are chemically joined together.
- **periodic table** – Table in which all known elements are arranged based on their properties.
- **symbol** – One or two letters that represent an element.

