

Intro to the Periodic Table

The periodic table is organized into **periods** and **groups**:

- **Periods** – the horizontal rows on the periodic table.
- **Groups** – the columns on the periodic table. Elements in the same group have the same number of valence electrons.

Periods

1	2																18
2																	
3			3	4	5	6	7	8	9	10	11	12					
4																	
5																	
6																	
7																	

Groups

1	2																18
2																	
3			3	4	5	6	7	8	9	10	11	12					
4																	
5																	
6																	
7																	

Instructions: Use the periodic table to answer the questions below:

- 1) How many **periods** are there on the periodic table? 7
- 2) How many **groups** are there on the periodic table? 18
- 3) Which element is found in **Group 2** and **Period 3**? magnesium
- 4) Which element is found in **Group 17** and **Period 2**? fluorine
- 5) Which element is found in **Group 10** and **Period 4**? nickel
- 6) Which element is found in **Group 18** and **Period 6**? radon
- 7) Which element is found in **Group 1** and **Period 7**? francium
- 8) Which element is found in **Group 14** and **Period 6**? lead

Metals, Nonmetals, and Metalloids

The periodic table contains **three types of elements**:

- **Metals** – hard, shiny elements that conduct heat and electricity.
- **Nonmetals** – poor conductors of heat and electricity.
- **Metalloids** – Have some properties of metals and some of nonmetals.

Instructions: In the periodic table below, label *metals*, *nonmetals*, and *metalloids*.

1																	18
1																	
2																	
3																	
4																	
5																	
6																	
7																	

Instructions: Classify the elements below as *metals*, *nonmetals*, or *metalloids*.

- 1) Sodium (Na) metal
- 2) Iodine (I) nonmetal
- 3) Silicon (Si) metalloid
- 4) Zinc (Zn) metal

- 5) Krypton (Kr) nonmetal
- 6) Barium (Ba) metal
- 7) Antimony (Sb) metalloid
- 8) Radium (Ra) metal

Groups of the Periodic Table

- Elements on the periodic table are categorized into **groups**.
- Elements in the same **group** have similar **properties**.

Instructions: In the periodic table below, label *each identified group*.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Alkali Metals

Alkaline Earth Metals

Transition Metals

Noble Gases

Halogens

Lanthanides

Actinides

Instructions: Identify the *group* that each element belongs to.

- | | | | |
|-----------------|------------------------------|-----------------|--------------------------|
| 1) Calcium (Ca) | <u>Alkaline Earth Metals</u> | 5) Lithium (Li) | <u>Alkali Metals</u> |
| 2) Neon (Ne) | <u>Noble Gases</u> | 6) Silver (Ag) | <u>Transition Metals</u> |
| 3) Bromine (Br) | <u>Halogens</u> | 7) Xenon (Xe) | <u>Noble Gases</u> |
| 4) Copper (Cu) | <u>Transition Metals</u> | 8) Thorium (Th) | <u>Actinides</u> |

Intro to the Periodic Table – Questions

Instructions: Use the periodic table to answer the questions below:

- | | |
|--|------------------|
| 1) Which element is found in Group 1 and Period 6 ? | <u>cesium</u> |
| 2) Which element is found in Group 16 and Period 5 ? | <u>tellurium</u> |
| 3) Which element is found in Group 11 and Period 6 ? | <u>gold</u> |
| 4) Which element is found in Group 18 and Period 2 ? | <u>neon</u> |
| 5) Which element is found in Group 13 and Period 3 ? | <u>aluminum</u> |

Instructions: Classify the elements below as *metals*, *nonmetals*, or *metalloids*.

- | | | | |
|------------------|------------------|------------------|-----------------|
| 6) Cesium (Cs) | <u>metal</u> | 9) Silver (Ag) | <u>metal</u> |
| 7) Boron (B) | <u>metalloid</u> | 10) Nitrogen (N) | <u>nonmetal</u> |
| 8) Chlorine (Cl) | <u>nonmetal</u> | 11) Carbon (C) | <u>nonmetal</u> |

Instructions: Use the periodic table to answer the questions below about *groups*.

- | | |
|---|------------------------------|
| 12) Argon (Ar) is part of what periodic group? | <u>Noble Gases</u> |
| 13) Chromium (Cr) is part of what periodic group? | <u>Transition Metals</u> |
| 14) Francium (Fr) is part of what periodic group? | <u>Alkali Metals</u> |
| 15) Beryllium (Be) is part of what periodic group? | <u>Alkaline Earth Metals</u> |
| 16) Cesium (Cs) is part of what periodic group? | <u>Alkali Metals</u> |
| 17) Chlorine (Cl) is part of what periodic group? | <u>Halogens</u> |

Instructions: Identify the *group number* and *period* of each element below.

Identify whether that element is a *metal*, *metalloid*, or *nonmetal*.

Name the *group* that each element belongs to.

Element	Group Number	Period Number	Metal, Metalloid, Nonmetal	Group Name
Magnesium (Mg)	2	3	Metal	Alkaline Earth Metals
Chlorine (Cl)	17	3	Nonmetal	Halogens
Zirconium (Zr)	4	5	Metal	Transition Metals
Potassium (K)	1	4	Metal	Alkali Metals
Radon (Rn)	18	6	Nonmetal	Noble Gases
Lithium (Li)	1	2	Metal	Alkali Metals
Cadmium (Cd)	12	5	Metal	Transition Metals
Strontium (Sr)	2	5	Metal	Alkaline Earth Metals
Helium (He)	18	1	Nonmetal	Noble Gases
Astatine (At)	17	6	Metalloid	Halogens
Rubidium (Rb)	1	5	Metal	Alkali Metals

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- 1) How many **periods** are there on the periodic table? _____
- 2) How many **groups** are there on the periodic table? _____
- 3) Which element is found in **Group 2** and **Period 3**? _____
- 4) Which element is found in **Group 17** and **Period 2**? _____
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- 6) Which element is found in **Group 18** and **Period 6**? _____
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- Elements in the same **group** have similar **properties**.

Instructions: In the periodic table below, label *each identified group*.

Instructions: Identify the *group* that each element belongs to.

- 1) Calcium (Ca) _____
- 2) Neon (Ne) _____
- 3) Bromine (Br) _____
- 4) Copper (Cu) _____

- 5) Lithium (Li) _____
- 6) Silver (Ag) _____
- 7) Xenon (Xe) _____
- 8) Thorium (Th) _____

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Instructions: Use the periodic table to answer the questions below:

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- 2) Which element is found in **Group 16** and **Period 5**? _____
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- | | |
|------------------------|------------------------|
| 6) Cesium (Cs) _____ | 9) Silver (Ag) _____ |
| 7) Boron (B) _____ | 10) Nitrogen (N) _____ |
| 8) Chlorine (Cl) _____ | 11) Carbon (C) _____ |

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- 14) **Francium (Fr)** is part of what periodic group? _____
- 15) **Beryllium (Be)** is part of what periodic group? _____
- 16) **Cesium (Cs)** is part of what periodic group? _____
- 17) **Chlorine (Cl)** is part of what periodic group? _____

Instructions: Identify the *group number* and *period* of each element below.

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Chlorine (Cl)				
Zirconium (Zr)				
Potassium (K)				
Radon (Rn)				
Lithium (Li)				
Cadmium (Cd)				
Strontium (Sr)				
Helium (He)				
Astatine (At)				
Rubidium (Rb)				