

# The Periodic Table

**B** Boron  
Atomic Number: 5  
Atomic Mass: 10.81

**Directions:** Match the following statements with the best term.

- |   |                            |
|---|----------------------------|
| <u>B</u> 1. ductile and malleable with a high melting point                         | <del>A. family</del>       |
| <u>F</u> 2. the properties of the elements are periodic functions of atomic numbers | <del>B. metal</del>        |
| <u>C</u> 3. has properties of both metals and nonmetals                             | <del>C. metalloid</del>    |
| <u>A</u> <u>D</u> 4. a column of elements in the periodic table                     | <del>D. period</del>       |
| <u>G</u> 5. the number of bonds an element can have                                 | <del>E. nonmetal</del>     |
| <u>D</u> 6. horizontal row of elements in the periodic table                        | <del>F. periodic law</del> |
| <u>E</u> 7. brittle and breaks easily with low melting point                        | <u>G. valence</u>          |

## Short Answer

- Chemical & Physical Prop. 8. How are the elements in the modern periodic table arranged?  
Metals
- Groups / Families 9. What is most common – nonmetals, metals or metalloids?  
Groups / Families 10. What are the names for the columns?  
Periods 11. What is the name for the rows?  
Groups 12. What is the valence number of an element?  
Energy Levels 13. What do periods represent about the atom?

**Directions:** List the information that is in each square of the periodic table.

- |                     |                   |
|---------------------|-------------------|
| <u>Atomic #</u> 14. | <u>Symbol</u> 15. |
| <u>Name</u> 16.     | <u>Mass</u> 17.   |

**Directions:** List the names of the following groups.

- |                               |                              |
|-------------------------------|------------------------------|
| <u>Alkali Metals</u> group 1A | <u>Alkali Earth</u> group 2A |
| _____ group 7A                | _____ group 8A               |



**Directions:** Match the following statements with the best term.

- E 24. he first organized the elements into a pattern
- D 25. able to be hammered out into a thin sheet
- B 26. gradual wearing away of metal due to a chemical reaction
- F 27. he proposed the modern periodic law
- D 28. able to be made into a thin wire
- C 29. shininess
- G 30. transfers electricity and heat

- A. ~~ductile~~
- B. ~~corrosion~~
- C. ~~luster~~
- D. ~~malleable~~
- E. ~~Mendeleev~~
- F. ~~Moseley~~
- G. ~~conductive~~

**Directions:** Determine the valence number in the following.

- 5 nitrogen family      4 ~~16~~ carbon      2 alkaline earth family
- 7 halogen family      1 alkaline family      ~~3-10~~ transition metals
- 6 Oxygen family      2 helium      1 hydrogen

**Directions:** Match the following statements with the best term.

- C 40. metals with one bond and one valence electron
- S 41. nonmetals with two bonds and six valence electrons
- D 42. the metals in lanthanoid and actinoid series
- A 43. the period that is all radioactive
- B 44. metals with two bonds and two valence electrons
- E 45. nonmetals with one bond and seven valence electrons
- F 46. nonmetals that have zero bonds and eight valence electrons

- A. ~~actinoid series~~
- B. ~~alkali earth metals~~
- C. ~~alkali metals~~
- D. chalcogens
- E. ~~halogens~~
- F. ~~noble gases~~
- G. rare earth metals

**Directions:** List three <sup>physical</sup> properties of the elements that changes as you move across the periodic table.

- 47. malleable
- 48. ductile
- 49. conductivity

**Directions:** Decide whether the following characteristics describes a metal (M) or a nonmetal (NM).

- M 50. malleable      NM 51. brittle      M 52. good conductor of heat
- NM 53. low melting point      M 54. ductile      M 55. conduct electricity well

### Short Answer

- Higher 56. How does reactivity change as you go to the left across the periodic table?  
increase 57. What is the pattern for valence numbers as you go right across the periodic table?  
SODIUM 58. Which is MORE reactive – sodium or carbon?  
Gallium 59. What is LESS metallic – calcium or gallium?  
Yes 1+6=7 60. Would oxygen chemically combine with lithium? Why or why not?  
No 5+6=11 61. Would aluminum chemically combine with lithium? Why or why not?

### Essay Answers

62. Why do elements in the same family have similar properties?

Valence Electrons

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63. Florence What is the most reactive element?

**"Forget past mistakes. Forget failures. Forget everything except what you're going to do now and do it." --William Durant**