

Set B: Properties Metal, metalloid, and nonmetals

Objective: To your knowledge of properties of the three types of elements

Write in the space "**metals**" "**metalloids**" or "**nonmetals**" to indicate which the type of element each statement is describing.

- | | |
|--|-----------|
| 18. Located to the right of the Periodic Table. | 18. _____ |
| 19. Located to the left of the Periodic Table. | 19. _____ |
| 20. Located along the zigzag line of the Periodic Table. | 20. _____ |
| 21. Majority of the elements. | 21. _____ |
| 22. Gain electrons to form negative ions. | 22. _____ |
| 23. Solid may have luster, and is brittle. | 23. _____ |
| 24. Solids are malleable | 24. _____ |
| 25. Tend to have low ionization energy | 25. _____ |
| 26. Tend to lose electrons and form positive ions. | 26. _____ |
| 27. Have elements in the solid, liquid, and gas phases at STP . | 27. _____ |
| 28. Elements only exist as solids at STP. | 28. _____ |
| 29. Have elements in the solid and in the liquid phase at STP. | 29. _____ |
| 30. Tend to have high ionization energy. | 30. _____ |
| 31. Ionic size (radius) is generally smaller than the atomic size. | 31. _____ |
| 32. Are good electrical and heat conductor. | 32. _____ |
| 33. Are ductile. | 33. _____ |
| 34. Are poor electrical and poor heat conductor. | 34. _____ |
| 35. Atomic radius (size) is generally smaller than the ionic radius. | 35. _____ |
| 36. Solids are generally brittle. | 36. _____ |
| 37. Tend to have high electronegativity value. | 37. _____ |
| 38. Have luster. | 38. _____ |
| 39. Tend to have low electronegativity values. | 39. _____ |

Set A: Classifying elements

Objective: To test your ability to determine types of element .

Below, symbols of elements are given. Check one or more columns that each element is classified as.

metal nonmetal metalloid alkali alkaline transition halogen noble gas monatomic diatomic

1. Sb												
2. Sr												
3. Rn												
4. P												
5. Pt												
6. Cs												
7. S												
8. Fe												
9. Br												
10. Ar												

Set B: Properties of elements

Objective: To test your ability to determine properties of a given element

Symbols of elements are given below. Check one or more columns of properties that best describe each element.

Physical properties Conductivity Ionization energy electronegativity Lose or gain e-
luster malleable ductile brittle good poor low high low high lose gain

11. C												
12. Ag												
13. Mg												
14. I												
15. S												
16. Au												

Set B: Properties Metal, metalloid, and nonmetals

Objective: To your knowledge of properties of the three types of elements

Write in the space "metals" "metalloids" or "nonmetals" to indicate which the type of element each statement is describing.

- | | |
|--|----------------------|
| 18. Located to the right of the Periodic Table. | 18. <u>nonmetal</u> |
| 19. Located to the left of the Periodic Table. | 19. <u>metal</u> |
| 20. Located along the zigzag line of the Periodic Table. | 20. <u>metalloid</u> |
| 21. Majority of the elements. | 21. <u>metals</u> |
| 22. Gain electrons to form negative ions. | 22. <u>nonmetals</u> |
| 23. Solid may have luster, and is brittle. | 23. <u>metalloid</u> |
| 24. Solids are malleable | 24. <u>metal</u> |
| 25. Tend to have low ionization energy | 25. <u>metal</u> |
| 26. Tend to lose electrons and form positive ions. | 26. <u>metal</u> |
| 27. Have elements in the solid, liquid, and gas phases at STP . | 27. <u>nonmetal</u> |
| 28. Elements only exist as solids at STP. | 28. <u>metalloid</u> |
| 29. Have elements in the solid and in the liquid phase at STP. | 29. <u>metal</u> |
| 30. Tend to have high ionization energy. | 30. <u>nonmetal</u> |
| 31. Ionic size (radius) is generally smaller than the atomic size. | 31. <u>metal</u> |
| 32. Are good electrical and heat conductor. | 32. <u>metal</u> |
| 33. Are ductile. | 33. <u>metal</u> |
| 34. Are poor electrical and poor heat conductor. | 34. <u>nonmetal</u> |
| 35. Atomic radius (size) is generally smaller than the ionic radius. | 35. <u>nonmetal</u> |
| 36. Solids are generally brittle. | 36. <u>nonmetal</u> |
| 37. Tend to have high electronegativity value. | 37. <u>nonmetal</u> |
| 38. Have luster. | 38. <u>metal</u> |
| 39. Tend to have low electronegativity values. | 39. <u>metal</u> |

Set A: Classifying elements

Objective: To test your ability to determine types of element.

Below, symbols of elements are given. Check one or more columns that each element is classified as.
 metal nonmetal metalloid alkali alkaline transition halogen noble gas monatomic diatomic

1. Sb			✓							✓	
2. Sr	✓				✓					✓	
3. Rn		✓							✓	✓	
4. P		✓								✓	
5. Pt	✓					✓				✓	
6. Cs	✓			✓						✓	
7. S		✓								✓	
8. Fe	✓					✓				✓	
9. Br		✓					✓				✓
10. Ar		✓							✓	✓	

diatomic elements: H, O, F, Br, I, N, Cl

Set B: Properties of elements

Objective: To test your ability to determine properties of a given element

Symbols of elements are given below. Check one or more columns of properties that best describe each element.

Physical properties Conductivity Ionization energy electronegativity Lose or gain e-
 luster malleable ductile brittle good poor low high low high lose gain

11. C				✓		✓	✓	✓		✓		✓
12. Ag	✓	✓	✓		✓		✓		✓		✓	
13. Mg	✓	✓	✓		✓		✓		✓		✓	
14. I				✓		✓		✓		✓		✓
15. S				✓		✓		✓		✓		✓
16. Au	✓	✓	✓		✓		✓		✓		✓	