

Directed Reading for Content Mastery

Overview Elements and Their Properties

Directions: Use the terms below to correctly complete the statements. Write the terms in the blanks to the left. Then find and circle each term in the puzzle.

metals	lanthanide	alkali	salts
metalloids	hydrogen	noble gases	allotropes

- _____ Elements with atomic numbers from 58 through 71 are part of the _____ series.
- _____ have both metallic and nonmetallic properties.
- Diamond and graphite are _____ of carbon.
- All of the elements in the boron group except boron are _____.
- Halogens form _____ when combined with metals.
- The _____ do not naturally mix with other elements to form compounds.
- The _____ metals are the most reactive group of elements.
- _____ is the only nonmetal on the left side of the periodic table.

O T N M E W U I D F A S R Q F M K L O
 U H L O H O A N G R S C O N C E V R A
 R H E C Y Z R P H I G A R J R T N H A
 S E L P D O O B S A L T S O I A M N F
 E P T I R N B S L L C A B I T L U F L
 K M P G O E P M S K A L E N I L A R T
 R M I S G I O E M A L L O T R O P E S
 S S U S E H A T E L M T E M A I R M C
 G O L A N T H A N I D E C S L D S B A
 I E C L N D A L K E S C H C T S D R G
 N O B L E G A S E S T N A I I G E B A

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Key Terms Elements and Their Properties

Directions: Draw a line connecting each definition to its term.

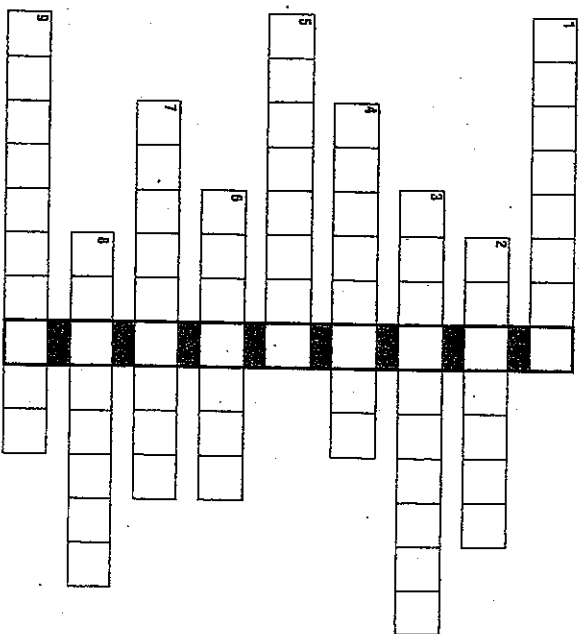
- | | |
|--|----------------------|
| 1. consists of two atoms of the same element in a covalent bond | metals |
| 2. element in Group 3 through Group 12 of the periodic table | malleable |
| 3. positively charged metallic ions surrounded by a cloud of electrons | diatomic molecule |
| 4. capable of being hammered or rolled into sheets | metallic bonding |
| 5. elements that are shiny, good conductors of heat and electricity, and solids at room temperature | radioactive element |
| 6. elements that conduct an electric current under certain conditions | transition element |
| 7. elements that are usually gases or brittle solids at room temperature, do not conduct heat or electricity well, and are not shiny | nonmetals |
| 8. element having more than 92 protons, the atomic number of uranium | ductile |
| 9. the ability to be drawn into wires | metalloids |
| 10. forms of the same element that have different molecular structures | semiconductors |
| 11. element whose nucleus breaks down, giving off particles and energy | allotropes |
| 12. elements having properties of metals and nonmetals | transuranium element |

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Section 1 - Metals
Section 2 - Nonmetals

Directions: Use the terms below to complete the puzzle. The letters in the vertical box answer question 10.

diatomic hydrogen fluorine transition noble gases
halogens malleable ductile bromine



- _____ is the only nonmetal on the left side of the periodic table.
- _____ is the only liquid nonmetal.
- Metals in Groups 3 through 12 of the periodic table are called _____ elements.
- Two atoms of the same element, when bonded, form a(n) _____ molecule.
- _____ is the most chemically active element.
- Copper is useful as wire in a lamp because it conducts electricity and is _____.
- Aluminum can be made into foil and cans because it is _____.
- Fluorine, chlorine, bromine, and iodine are _____.
- The elements in Group 18 are commonly known as the _____.
- What category of elements is found on the right side of the periodic table?

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Section 3 - Mixed Groups

Directions: Complete the table below using the correct terms from the list. You will use some terms more than once. Some terms might not be used.

metal 14 nonmetal coal, oil, natural gas
multivitamins 13 metalloid sand, rock, soil
paint siding on buildings 16 laundry products

Element	Group number	Metal, nonmetal, or metalloid	Found in/Used for
1. sulfur			
2. silicon			
3. boron			
4. selenium			
5. carbon			
6. aluminum			

Directions: Select the term from the following list that correctly completes each statement. Use each word only once.

- nitrogen metalloids transuranium allotropes carbon
- Elements with properties of both metals and nonmetals are called _____.
 - _____ are different forms of the same element, but with different molecular structures.
 - Elements having more than 92 protons, the atomic number of uranium, are called _____ elements.
 - All organic compounds contain _____.
 - Elements in the _____ group share electrons and form covalent compounds with other elements.