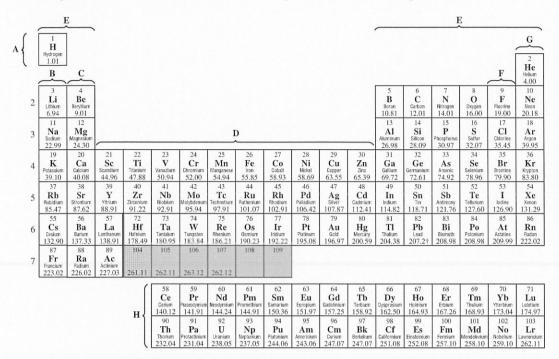
Name	Class	Date	

Assessment)

Chapter Test A

Chapter: The Periodic Law

Use the periodic table below to answer the questions in this Chapter Test.



In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- 1. Mendeleev organized the chemical elements based on their
 - **a.** symbols.
 - **b.** properties.
 - c. atomic numbers.
 - d. charges.
- **2.** A horizontal row in the periodic table is called a(n)
 - a. family.
 - **b.** group.
 - c. octet.
 - **d.** period.

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	 The periodic law states that a. no two electrons with the same spin can be found in the same place in an atom. b. the physical and chemical properties of the elements are functions of their atomic number. c. wave patterns repeat at regular intervals.
	d. the chemical properties of elements can be grouped according to periodicity.
	An element with the general electron configuration ns^2np^1 for its outermost electrons would be in Group a. 2. b. 13. c. 14. d. 15.
	When a carbon atom is in its ground state, how many electrons does it have in its outermost shell? a. 1 b. 2 c. 3 d. 4
	Which of the following elements is most similar in behavior to calcium? a. magnesium b. sodium c. sulfur d. chlorine
	Which periodic group or family of elements is <i>not</i> correctly matched with its common family name? a. Group 2: alkaline-earth metals b. Group 3: alkali metals c. Group 17: halogens d. Group 18: noble gases
8.	The electron configurations of main-group elements end in
	a. d and f orbitals.
	b. s and p orbitals.
	c. s and d orbitals. d. p and d orbitals.
	p and a dibitals.

Name		Class	Date
Chapter	Test A, continued		
9.	 Which of the following e a. calcium b. iron c. sodium d. sulfur 	lements is a tra	ansition metal?
10.	 All the alkali metal elem a. Group 1. b. Group 2. c. Period 1. d. Period 2. 	ents are found	on the periodic table in
11.	 A measure of the ability electrons from another a a. electron affinity. b. electron configuration c. electronegativity. d. ionization potential. 	ntom in the con	a chemical compound to attract apound is called
12.	. Which of the following e	lements has th	e greatest atomic radius?
	a. Alb. Sc. Sid. C		
13.	 a. C b. F c. Li d. O 	lements has th	e lowest electronegativity?
14.	Which of the following ea. Gab. Kc. Bid. As	lements has th	e greatest ionization energy?
15.	. Which of the following e	lements has an	electron affinity of 0 kJ/m?
	b. Asc. Ard. I		

Name	Class Date
Chapter	Test A, continued
16.	Which of the following elements have full outer energy levels when they are in the ground state? a. alkali metals b. noble gases c. halogens d. transition metals
17.	In which period is an element that has the electron configuration $1s^22s^22p^63s^23p^63d^{10}4s^24p^1$ when it is in its ground state? a. Period 1 b. Period 2 c. Period 3 d. Period 4
18.	Which of the following elements is <i>not</i> a metal?
10.	a. H b. K c. Na d. Fr
19.	For atoms of <i>p</i> -block elements, the total number of electrons in the
	highest occupied level is equal to the a. period number. b. group number. c. period number minus 10. d. group number minus 10.
20.	As electrons add to <i>s</i> and <i>p</i> sublevels in the same main energy level, they are pulled closer to the more highly charged nucleus, causing a. the electron cloud around the nucleus to expand. b. atoms to lose electrons more easily. c. atomic radii to decrease in size. d. a noble gas configuration.
21.	Which electron configuration would result in the largest negative electron affinity? a. $[He]2s^1$ b. $[He]2s^22p^2$ c. $[He]2s^22p^3$
	d. [He] $2s^22p^5$
22.	In forming an ion, from which sublevel would an atom of nickel lose electrons first? a. $4s$ b. $3d$ c. $3p$
	d. 3s

Name	Class	Date
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23. Which one o	f the following groups contain	as atoms that, in compounds,
have the low	rest attraction for electrons?	
a. Group 1		
b. Group 2		
c. Group 16		
d. Group 17		
24. Which ioniza	ation energy is generally the la	rgest?
a. first ioniza	ation energy	
b. second io	nization energy	
c. third ioniz	zation energy	
d. fourth ion	ization energy	
25. The metalloi	ds are located on the periodic	table between
a. halogens	and noble gases.	
b. nonmetals	s and metals.	
c. alkaline-e	arth metals and other metals.	
d. alkali met	als and transition metals.	