Unit 2 Assessment	7th Grade
Matter	08/2004

1 A scientist separates an element from rocks and finds that the element has atomic number 19. The element is expected to be

Ⓐ a metal.
Ⓑ a nonmetal.
Ⓒ a halogen.
Ⓓ a noble gas.

2 When heating a solution in a test tube, a student should

Ⓐ point the test tube in any direction
Ⓑ hold the test tube with two fingers
Ⓒ cork the test tube
Ⓓ wear goggles

3 A compound formed between silver and sulfur is the same wherever it occurs because it always -

Ⓐ has many types of formulas
Ⓑ has many connected atoms
Ⓒ has the same number of atoms of silver and sulfur
Ⓓ has the same appearance

4 Which of the following is a chemical property associated with wood?

Ⓐ Ability to burn
Ⓑ Snapping when bent
Ⓒ Floating on water
Ⓓ Having a rough surface

5 Students are given a sample of an unknown material. They want to perform tests to determine its identity. Which test is MOST likely to change the sample into another material?

Ⓐ Dissolving its water
Ⓑ Heating it until it melts
Ⓒ Grinding it into a powder
Ⓓ Burning it in a flame

6 Which of the following is a physical property of iron?

Ⓐ Nonreactive when heated with helium.
Ⓑ Attracted to a magnet.
Ⓒ Rusts with covered with water.
Ⓓ Reacts with chlorine.

7 Which of the following contains the greatest number of particles?

Ⓐ S_8
Ⓑ CH_4
Ⓒ $AlCl_3$
Ⓓ HNO_2

8 All of the following changes to a metal are physical changes EXCEPT ____.

Ⓐ bending
Ⓑ melting
Ⓒ rusting
Ⓓ cutting

9

Name of acid	Chemical Formula
Acetic Acid	CH_3COOH
Carbonic Acid	H_2CO_3
Hydrochloric Acid	HCl

Name of Base	Chemical Formula
Ammonium Hydroxide	NH_4OH
Potassium Hydroxide	KOH
Calcium Hydroxide	$Ca(OH)_2$

Which base contains nitrogen?

Ⓐ Ammonium hydroxide

Ⓑ Calcium hydroxide

Ⓒ Potassium hydroxide

Ⓓ Ammonium and calcium hydroxide

10 Which of the following is the BEST evidence that rusting is a chemical property rather than a physical property of iron?

Ⓐ Rust forms slowly.

Ⓑ Rust can form on any iron.

Ⓒ Rust can be removed with sandpaper.

Ⓓ Rust can form only in the presence of oxygen.

11 Students collect rock samples on a field trip and test them for different properties. Which of the following is a chemical property of rocks?

Ⓐ Having a white color

Ⓑ Reacting when tested with a drop of acid

Ⓒ Having rough surface

Ⓓ Being easy to scratch with a piece of metal

12

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01					5 B 10.8	6 C 12.0	7 N 14.0	8 O 16.0	9 F 19.0	10 Ne 20.2
11 Na 23.0	12 Mg 24.3					13 Al 27.0	14 S 28.1	15 P 31.0	16 S 32.1	17 Cl 35.5	18 Ar 39.9

Based on the section of the periodic table shown above, which statement BEST describes the element carbon?

Ⓐ Carbon is a metal with an atomic number of 6.

Ⓑ Carbon is a metal with an atomic number of 12.

Ⓒ Carbon is a nonmetal with an atomic number of 6.

Ⓓ Carbon is a nonmetal with an atomic number of 12.

13 Which property of an element would be MOST helpful in determining its column in the periodic table?

Ⓐ Its melting point

Ⓑ Its elements hardness

Ⓒ The color of its crystals

Ⓓ Its ability to conduct electricity

14 An advertisement for a fertilizer claims: "Add valuable nutrients to your soil. Increase soil nitrogen levels by up to 35%!" Which of the following should a person infer from this advertisement?

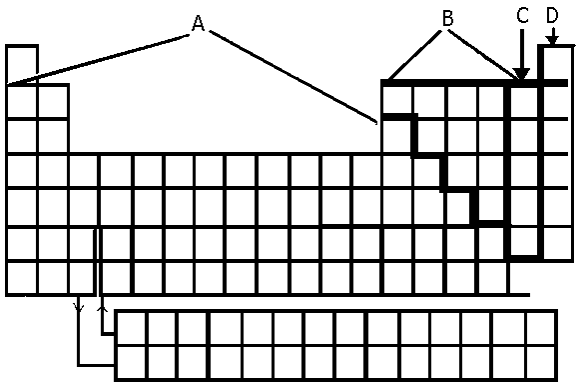
Ⓐ Levels of other soil nutrients will increase by less than 35%.

Ⓑ The fertilizer contains valuable nutrients such as vitamin A.

Ⓒ Adding nitrogen to your soil is beneficial for plant growth.

Ⓓ Plant growth in the fertilized soil will increase by about 35%.

15



Elements that are shiny solids, can be stretched and shaped, and are good conductors of heat and electricity, are found in which part of the above periodic table?

Ⓐ A

Ⓑ B

Ⓒ C

Ⓓ D

16 The formula for glucose is $C_6H_{12}O_6$. How many elements does glucose contain?

Ⓐ 1

Ⓑ 3

Ⓒ 24

Ⓓ 432

17 When a substance becomes tarnished or rusted what happens to the initial substance?

Ⓐ It physically combines with another substance.

Ⓑ It physically combines with water.

Ⓒ It gets the physical properties of the substance it combines with.

Ⓓ Its physical properties are changed.

18

Observations of Unknown Substances

Sample	Conducts electricity	Color	Observation
1	No	Blue and gritty	snaps easily into small pieces
2	Yes	Shiny	bends easily
3	No	Blue	bends and snaps back to original shape
4	Yes	Clear	shatters easily

Which of the unknown substances is MOST likely a metal?

Ⓐ 1

Ⓑ 2

Ⓒ 3

Ⓓ 4

19 Which of these elements has physical and chemical properties most similar to silicon (Si)?

Ⓐ germanium (Ge)

Ⓑ phosphorus (P)

Ⓒ lead (Pb)

Ⓓ chlorine (Cl)

20 In the formation of chemical compounds, elements:

Ⓐ Will always combine in the same ratios every time.

Ⓑ Can combine in several different ratios.

Ⓒ Always have properties identical to those of the compounds formed.

Ⓓ Always combine in a 1:1 mass ratio

21 An unknown element is a poor conductor of thermal energy and electric current, has a dull appearance and is a brittle solid. Which of the following classifications best describes the unknown element?

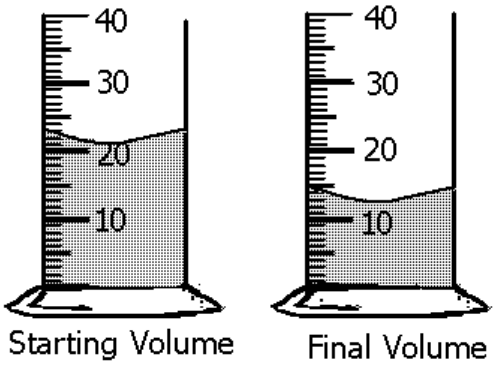
Ⓐ Nonmetal

Ⓑ Metalloid

Ⓒ Metal

Ⓓ Compound

22 A student poured a volume of water from a graduated cylinder, as shown in the figure below.



How much water did the student pour from the cylinder?

Ⓐ 6 milliliters

Ⓑ 8 milliliters

Ⓒ 10 milliliters

Ⓓ 12 milliliters

23 Which of the following lists all the elements that are present in the compound potassium carbonate, K_2CO_3?

Ⓐ Carbon and oxygen

Ⓑ Phosphate and calcium

Ⓒ Potassium, carbon, and oxygen

Ⓓ Phosphorus, cobalt

Use table for next two questions.

24

Sample	Observation when hit with hammer	Appearance	Conducts electricity
A	brittle	colorless	No
B	bends slightly then breaks	shiny solid	No
C	brittle	black solid	Yes as solid
D	bends	shiny solid	Yes as solid

The above data was collected by a group of students studying the properties of samples A, B, C, and D. What conclusions can be drawn about samples B and C?

Ⓐ They are both metals

Ⓑ They are both nonmetals

Ⓒ They are both metalloids

Ⓓ B is a nonmetal and C in a metal

25 What conclusion can the students draw from the data for element A

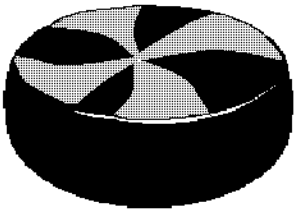
Ⓐ It is a nonmetal

Ⓑ It is a metal

Ⓒ It is a metalloid

Ⓓ It is a noble gas

26 Free Response



As the student chewed the candy, it was broken up into smaller pieces by her teeth and mixed with saliva. She swallowed the candy, and it entered her stomach. The acids in the student's stomach then broke the candy into small molecules that her body could use for energy.

Identify ONE physical property and ONE chemical property of the candy. Use what you know about physical and chemical properties to explain how you identified each property.

27 Elements are organized in the periodic table in such a way that there are patterns of elements placed close together that have similar properties. For example, knowing the properties of one element in a column of the periodic table will help a person predict the properties of other elements in that same column.

1. Describe two properties common to elements found at the far left of the periodic table.
2. Describe two properties common to elements found at the far right of the periodic table.

***Acces* format version 3.4W**
© 1997–2001 EducAide Software
Licensed for use by Garland ISD Central Admin

Unit 2 Assessment 7th Grade Matter 08/2004

Answer List

1. A	2. D	3. C
4. A	5. D	6. B
7. A	8. C	9. A
10. D	11. B	12. C
13. D	14. C	15. A
16. B	17. D	18. B
19. A	20. A	21. A
22. B	23. C	24. C
25. A	26.	27.