Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Elements

_____ **1.** Which of the following is NOT a physical or chemical change?
- **a.** crushing
- **b.** weighing
- **c.** melting
- **d.** passing electric current

ELEMENTS, THE SIMPLEST SUBSTANCES

2. A pure substance that cannot be separated into simpler substances by physical or chemical means is a(n) _____.

3. A substance that contains only one type of particle is a(n) _____.

PROPERTIES OF ELEMENTS

4. The amount of an element present does not affect the element's _____.

5. Why does a helium-filled balloon float up when it is released?

_____

_____

Look at each property listed below. If it is a characteristic property of elements, write CP on the line. If it is not a characteristic property, write N.

_____ **6.** size

_____ **7.** melting point

_____ **8.** density

_____ **9.** shape

_____ **10.** mass

_____ **11.** volume

_____ **12.** color

_____ **13.** hardness

_____ **14.** flammability

_____ **15.** weight

_____ **16.** reactivity with acid

Name _____ Class _____ Date _____

CLASSIFYING ELEMENTS BY THEIR PROPERTIES

17. What are two common properties that most terriers share?

_____

_____

18. All elements can be classified as metals, metalloids, or _____.

19. An element that is shiny and that conducts heat and electric current well is a(n) _____.

20. An element that conducts heat and electric current poorly, and can be a solid, liquid, or gas is a(n) _____.

21. Elements that have properties of both metals and nonmetals are _____.

Indicate whether the description applies to a metal, a nonmetal, or a metalloid. Write the correct letter in the space provided.

a. metalloids
b. nonmetals
c. metals

_____**22.** are malleable

_____**23.** are dull or shiny

_____**24.** are poor conductors

_____**25.** tend to be brittle and unmalleable as solids

_____**26.** are always shiny

_____**27.** are also called semiconductors

_____**28.** are always dull

_____**29.** are somewhat ductile

_____**30.** include boron, silicon, antimony

_____**31.** include lead, tin, copper

_____**32.** include sulfur, iodine, neon

Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Compounds

1. List three examples of compounds you encounter every day.

_____

_____

COMPOUNDS: MADE OF ELEMENTS

_____ 2. Which of the following is NOT true about compounds?
   - **a.** Compounds are combinations of elements that join in specific ratios according to their masses.
   - **b.** The mass ratio of a specific compound is always the same.
   - **c.** Compounds are random combinations of elements.
   - **d.** Different mass ratios mean different compounds.

3. When two or more elements are joined by chemical bonds to form a new pure substance, we call that new substance a(n) _____.

4. A compound is different from the _____ that reacted to form it.

PROPERTIES OF COMPOUNDS

_____ 5. Which of the following statements is true about the properties of compounds?
   - **a.** A property of all compounds is to react with acid.
   - **b.** Each compound has its own physical properties.
   - **c.** Compounds cannot be identified by their chemical properties.
   - **d.** A compound has the same properties as the elements that form it.

6. Sodium and chlorine can be extremely dangerous in their elemental form. How is it possible that we can eat them in a compound?

_____

_____

_____

Name _____ Class _____ Date _____

Directed Reading A *continued*

Match the correct description with the correct term. Write the letter in the space provided.

_____ **7.** a poisonous, greenish yellow gas

_____ **8.** table salt

_____ **9.** a soft, silvery white metal that reacts violently with water

a. sodium chloride
b. chlorine
c. sodium

BREAKING DOWN COMPOUNDS

10. What compound helps give carbonated beverages their "fizz"?

_____

_____

11. Which elements make up the compound that helps give carbonated beverages their "fizz"?

_____

_____

12. The only way to break down a compound is through a(n) _____ change.

COMPOUNDS IN YOUR WORLD

13. Aluminum is produced by breaking down the compound _____.

14. Plants use the compound _____ in photosynthesis to make carbohydrates.

Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Mixtures

1. A pizza is a(n) _____.

PROPERTIES OF MIXTURES

2. A combination of two or more substances that are not chemically combined is a(n) _____.

3. When two or more materials combine chemically, they form a(n) _____.

4. How can you tell that a pizza is a mixture?

_____

_____

5. Mixtures are separated through _____ changes.

Match the correct method of separation with the each substance. Write the letter in the space provided. Each method may be used only once.

_____ **6.** crude oil

_____ **7.** a mixture of aluminum and iron

_____ **8.** parts of blood

_____ **9.** sulfur and salt

a. distillation
b. magnet
c. filter
d. centrifuge

10. Granite can be pink or black, depending on the _____ of feldspar, mica, and quartz.

SOLUTIONS

_____ **11.** Which of the following is NOT true of solutions?

a. They contain a dissolved substance called a solute.
b. They are composed of two or more evenly distributed substances.
c. They contain a substance called a solvent, in which another substance is dissolved.
d. They appear to be more than one substance.

12. The process in which particles of substances separate and spread evenly through a mixture is known as _____.

Name _____ Class _____ Date _____

Directed Reading A *continued*

13. In a solution, the _____ is the substance that is dissolved, and the _____ is the substance in which it is dissolved.

14. Salt is _____ in water because it dissolves in water.

15. When two gases or two liquids form a solution, the substance that is present in the largest amount is the _____.

16. A solid solution of metals or nonmetals dissolved in metals is a(n) _____.

17. What can particles in solution NOT do because they are so small?

_____

_____

CONCENTRATION OF SOLUTIONS

18. A measure of the amount of solute dissolved in a solvent is called _____.

19. What is the difference between a dilute solution and a concentrated solution?

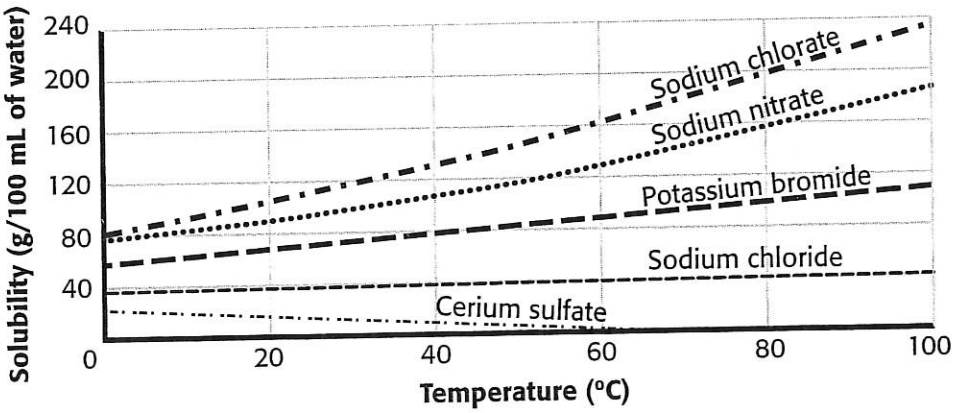
_____

_____

20. The ability of a solute to dissolve in a solvent at a certain temperature and pressure is called _____.

Name _____ Class _____ Date _____

Directed Reading A *continued*



_____**21.** Look at the graph. Which solid is less soluble at higher temperatures than at lower temperatures?

a. sodium chloride
b. sodium nitrate
c. potassium bromide
d. cerium sulfate

_____**22.** Look at the graph. Which compound's solubility is least affected by temperature changes?

a. sodium chloride
b. sodium nitrate
c. potassium bromide
d. cerium sulfate

Name _____ Class _____ Date _____

Directed Reading A *continued*

23. Solubility of solids in liquids tends to _____ with an increase in temperature.

24. Solubility of gases in liquids tends to _____ with an increase in temperature.

25. What are three ways to make a sugar cube dissolve more quickly in water?

_____

_____

_____

SUSPENSIONS

_____**26.** Which of the following does NOT describe a suspension?

a. Particles are soluble.
b. Particles settle out over time.
c. Particles can block light.
d. Particles scatter light.

27. Why are the particles in a snow globe considered a suspension?

_____

_____

COLLOIDS

28. What do gelatin, milk, and stick deodorant have in common?

_____

_____

Match the correct description with the correct term. Write the letter in the space provided.

a. colloid
b. solution
c. suspension

_____**29.** a mixture of two or more uniformly dispersed substances

_____**30.** a mixture in which particles of a material are more or less evenly dispersed throughout a liquid or gas

_____**31.** a mixture of particles that are large enough to scatter light but are not heavy enough to settle out

Name _____ Class _____ Date _____

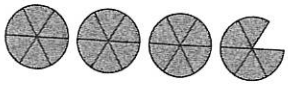
Practice 4-6

Mixed Numbers and Improper Fractions

What mixed number represents the amount shaded?

1. 

_____

2. 

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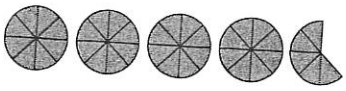
3. 

_____

Write each mixed number as an improper fraction.

4. $1\frac{7}{8}$ _____

5. $2\frac{3}{4}$ _____

6. $7\frac{1}{3}$ _____

7. $3\frac{3}{4}$ _____

8. $4\frac{1}{4}$ _____

9. $5\frac{5}{6}$ _____

10. $2\frac{3}{8}$ _____

11. $4\frac{7}{8}$ _____

12. $2\frac{3}{5}$ _____

Write each improper fraction as a mixed number in simplest form.

13. $\frac{15}{2}$ _____

14. $\frac{8}{3}$ _____

15. $\frac{5}{2}$ _____

16. $\frac{11}{10}$ _____

17. $\frac{7}{6}$ _____

18. $\frac{9}{8}$ _____

19. $\frac{27}{12}$ _____

20. $\frac{26}{18}$ _____

21. $\frac{35}{21}$ _____

22. Find the improper fraction with a denominator of 6 that is equivalent to $5\frac{1}{2}$.

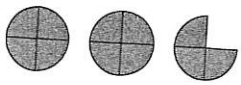
_____

Name _____ Class _____ Date _____

Practice 4-6

Mixed Numbers and Improper Fractions

What mixed number represents the amount shaded?

1. 

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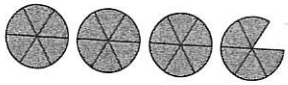
2. 

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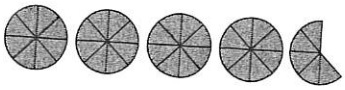
3. 

_____

Write each mixed number as an improper fraction.

4. $1\frac{7}{8}$ _____
5. $2\frac{3}{4}$ _____
6. $7\frac{1}{3}$ _____
7. $3\frac{3}{4}$ _____
8. $4\frac{1}{4}$ _____
9. $5\frac{5}{6}$ _____
10. $2\frac{3}{8}$ _____
11. $4\frac{7}{8}$ _____
12. $2\frac{3}{5}$ _____

Write each improper fraction as a mixed number in simplest form.

13. $\frac{15}{2}$ _____
14. $\frac{8}{3}$ _____
15. $\frac{5}{2}$ _____
16. $\frac{11}{10}$ _____
17. $\frac{7}{6}$ _____
18. $\frac{9}{8}$ _____
19. $\frac{27}{12}$ _____
20. $\frac{26}{18}$ _____
21. $\frac{35}{21}$ _____

22. Find the improper fraction with a denominator of 6 that is equivalent to $5\frac{1}{2}$.

_____

Name _____ Class _____ Date _____

Practice 4-4

Greatest Common Factor

List the factors to find the GCF of each set of numbers.

1. 8, 12 _____
2. 18, 27 _____
3. 15, 23 _____
4. 17, 34 _____
5. 24, 12 _____
6. 18, 24 _____
7. 5, 25 _____
8. 20, 25 _____

Use a division ladder to find the GCF of each set of numbers.

9. 10, 15 _____
10. 25, 75 _____
11. 14, 21 _____
12. 18, 57 _____
13. 32, 24, 40 _____
14. 25, 60, 75 _____
15. 12, 35, 15 _____
16. 15, 35, 20 _____

Use factor trees to find the GCF of each set of numbers.

17. 28, 24 _____
18. 27, 36 _____
19. 15, 305 _____
20. 57, 27 _____
21. 24, 48 _____
22. 56, 35 _____
23. 75, 200 _____
24. 90, 160 _____
25. 72, 108 _____

Solve.

26. The GCF of two numbers is 850. Neither number is divisible by the other. What is the smallest that these two numbers could be?

_____

27. The GCF of two numbers is 479. One number is even and the other number is odd. Neither number is divisible by the other. What is the smallest that these two numbers could be?

_____

Prime Factors (A)

Use a tree diagram to find the prime factors of each number.

91	100	220
205	201	124
194	231	118

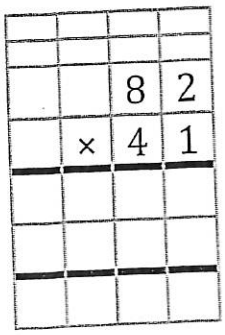
Subtraction Five Minute Frenzy (A)

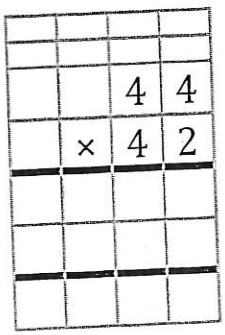
Subtract each row number from each column number.

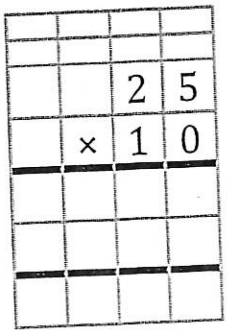
-	10	13	11	18	9	12	16	15	14	17
5										
8										
9										
6										
3										
2										
0										
7										
1										
4										

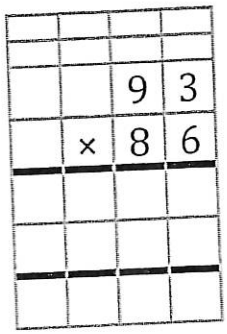
2-Digit by 2-Digit Multiplication (A)

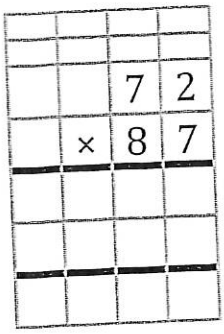
Use the grid to help you multiply each pair of factors.

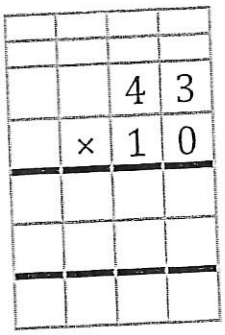


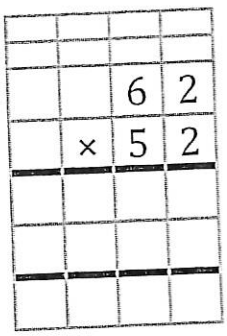


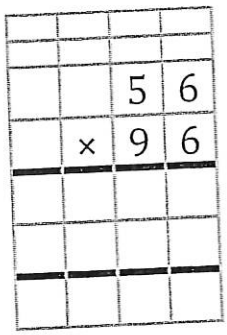


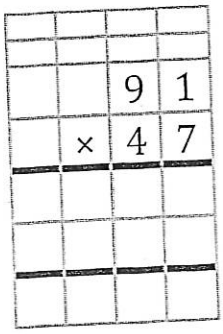


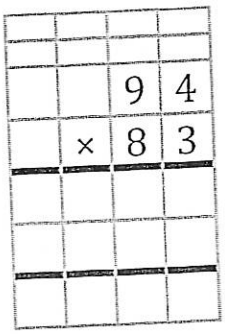


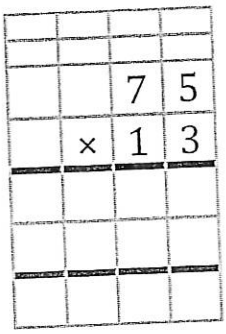


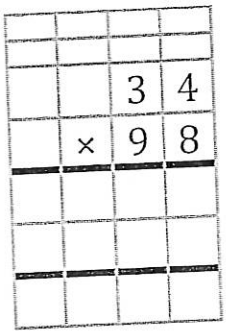


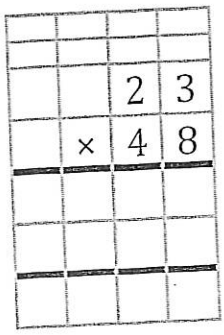


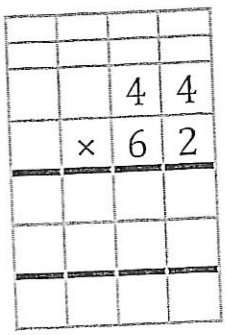


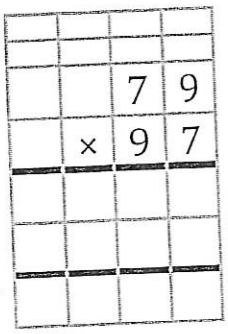


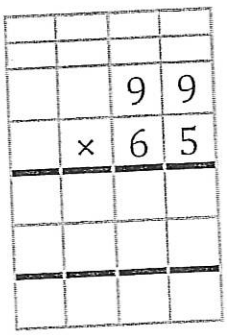








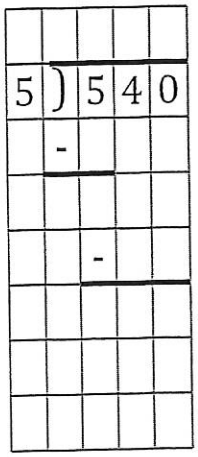


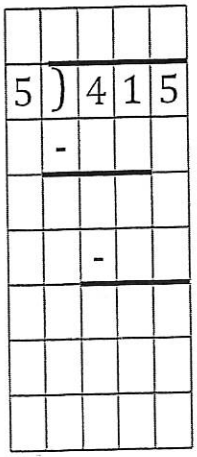


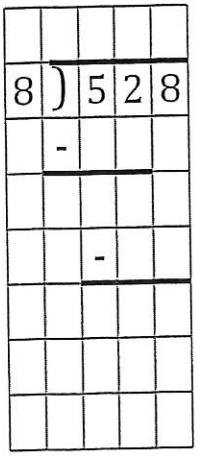
Long Division with a Grid (A)

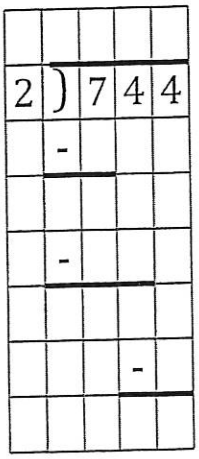
Name: _____ Date: _____

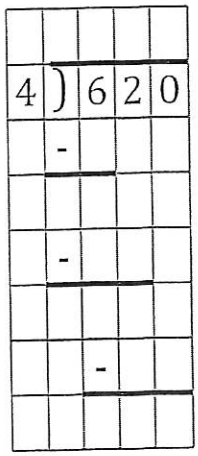
Calculate each quotient.

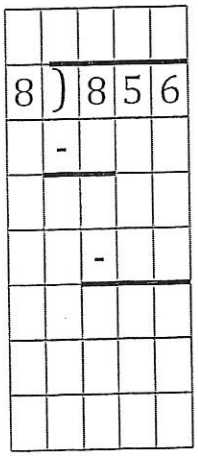


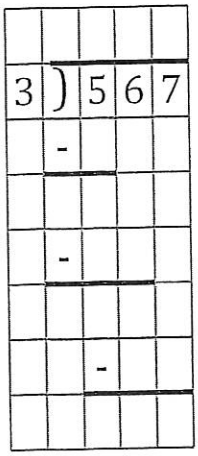


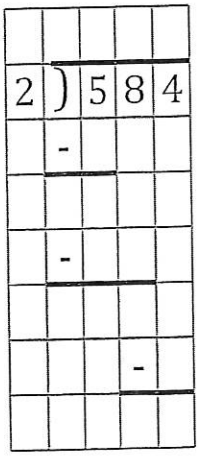












Five Minute Adding Frenzy (A)

Write the sum of the column and row numbers in each space.

(Range 11 to 20)

+	15	20	16	19	18	12	11	14	17	13
20										
13										
19										
11										
14										
12										
15										
16										
17										
18										

Time:_____ **/100**

Multiplication Facts to 144 (A)

Find each product.

7 × 12	3 × 10	2 × 11	11 × 9	2 × 2	12 × 11	4 × 8	7 × 12	2 × 10	7 × 2
12 × 7	5 × 9	3 × 12	7 × 10	6 × 9	10 × 12	2 × 7	12 × 7	6 × 3	3 × 9
3 × 7	9 × 7	10 × 12	7 × 7	11 × 9	5 × 7	10 × 2	4 × 12	5 × 10	12 × 3
5 × 8	12 × 9	12 × 12	4 × 9	2 × 3	6 × 6	3 × 8	9 × 10	10 × 4	6 × 10
2 × 2	7 × 9	2 × 11	8 × 3	5 × 9	5 × 4	4 × 4	2 × 3	2 × 4	9 × 2
2 × 5	2 × 10	4 × 6	11 × 11	10 × 10	8 × 8	8 × 6	2 × 12	7 × 12	3 × 3
8 × 2	3 × 9	10 × 11	5 × 11	3 × 7	7 × 7	4 × 3	9 × 2	5 × 7	12 × 3
12 × 8	3 × 9	10 × 8	12 × 6	4 × 10	5 × 5	6 × 2	3 × 11	7 × 6	4 × 7
8 × 11	8 × 11	5 × 3	9 × 9	8 × 7	3 × 10	4 × 11	4 × 3	11 × 7	11 × 6
5 × 6	12 × 5	12 × 8	7 × 4	3 × 12	8 × 9	6 × 11	2 × 8	11 × 4	6 × 4