Contents

TEACHER GUIDE

- Assessment Rubric 4
- How Is Our Resource Organized? 5
- Bloom's Taxonomy for Reading Comprehension 6
- Vocabulary 6

STUDENT HANDOUTS

- Reading Comprehension

1. What Is Matter? .....
2. Three States of Matter .....
3. Physical Properties of Matter .....
4. Physical Changes of Matter .....
5. Physical Changes vs. Chemical Changes .....
6. Chemical Changes and Chemical Properties .....
7. Mixtures and Solutions 7

- Hands-on Activities 11
- Crossword 15
- Word Search 16
- Comprehension Quiz 17

EASY-MARKING™ ANSWER KEY

..... 19

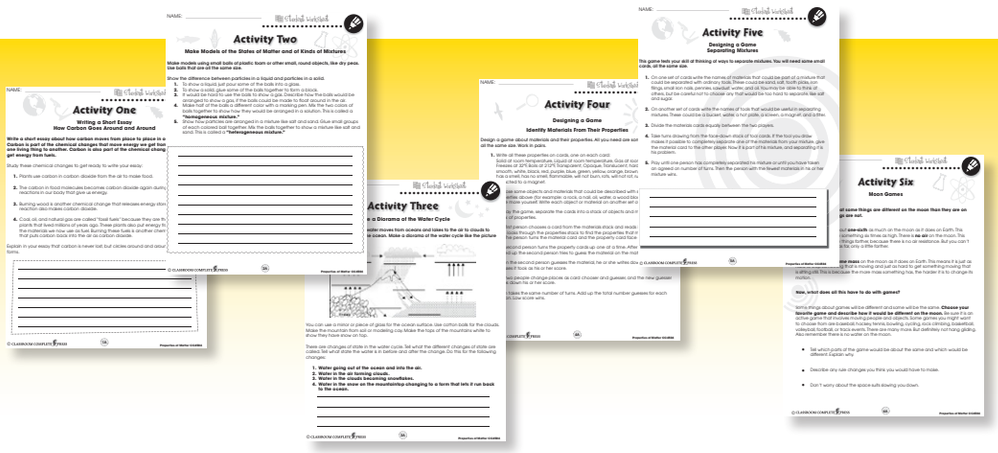
MINI POSTERS

..... 21

FREE! **6 Bonus Activities!**

3 EASY STEPS to receive your 6 Bonus Activities!

- Go to our website: **www.classroomcompletepress.com\bonus**
- Click on item CC4504 – Properties of Matter
- Enter pass code CC4504D



Before You Read

NAME: _____

Mixtures and Solutions

1. Write each word or group of words beside its meaning.

mixture	**solution**	**dissolve**
pure material	**physical change**	**physical property**

_____ **a)** a property that tells how a material looks or behaves as long as it does not change into an new material

_____ **b)** a material that is made of only one kind of particle

_____ **c)** what something does when it forms a solution

_____ **d)** a mixture of a material and a liquid where the particles of the materials are completely scattered among each other

_____ **e)** a combination of two pure materials

_____ **f)** a change that does not produce a new materia

2. Circle T if the statement is True or F if it is False.

T F a) Air is a mixture.

T F b) Ocean water is a mixture.

T F c) Sugar is a mixture.

T F d) Mixtures can be separated into their parts.

T F e) Sand dissolves in water.

PREASSESSMENT

NAME: _____

Reading Passage

Mixtures and Solutions

Pure materials are made of only one kind of particle. The particles may be atoms or molecules. Water, gold, oxygen, salt, sugar, and snow flakes are all pure materials.

Two or more pure materials mixed together are called a **mixture.** Soil, ocean water, air, blood, and chocolate chip cookies are all mixtures.

There are two kinds of mixtures. In some mixtures, chunks of different pure materials are mixed together. You can usually see the bits of the different materials. Soil and chocolate chip cookies are this kind of mixture.

In the other kind of mixture, separate particles are mixed together. Air is a mixture of oxygen, nitrogen, and other gas molecules. Ocean water is a mixture of salt particles and water molecules. **Solutions** are formed when the particles of one material are scattered among the particles of a liquid.

STOP

Write P after each material that is a pure material. Write M after each material that is a mixture.

Air ( ) Lemonade ( ) Ice ( )

Iron ( ) Chicken Soup ( ) Oxygen ( )

When salt is mixed with water, it seems to disappear. But the salt is in the water, and it is still salt. We can't see it because it is separated into single particles. When we make this kind of mixture we say the solid **dissolves** in the water. The amount of solid that will dissolve is called its **solubility.** Dissolving is a physical change and solubility is a physical property.

Mixtures can usually be separated into their parts. When heat is added to salt water, the water **evaporates,** and the solid salt is left behind. A mixture of salt, sand, and sawdust can be separated by adding water. The sand sinks, the sawdust floats, and the salt dissolves in the water.

READING PASSAGE

After You Read

NAME: _____

Mixtures and Solutions

1. Put a check mark next to the answer that is most correct.

a) Which material is a mixture?

- ◯ **A** table salt
- ◯ **B** lemonade
- ◯ **C** aluminum
- ◯ **D** snow flakes

b) Which is a pure material and not a mixture?

- ◯ **A** blood
- ◯ **B** ice
- ◯ **C** milk
- ◯ **D** soil

c) Which property could be used to separate sand and sugar?

- ◯ **A** color
- ◯ **B** hardness
- ◯ **C** size
- ◯ **D** solubility

2. Salt, sand, and sawdust can be **separated** in four steps. Number the steps from **1** to **4** in the order they should be done.

◯ **a)** Remove the sawdust from the top.

◯ **b)** Evaporate all the water to get the salt.

◯ **c)** Pour the water off of the sand.

◯ **d)** Dump the mixture into a bucket of water.

COMPREHENSION QUESTIONS

NAME: _____

After You Read

Mixtures and Solutions

3. What is a mixture?

_____

_____

4. What does solubility mean?

_____

_____

Extensions & Applications

5. Separating a Mixture

Suppose you have a mixture of sand, marbles, sawdust, and blocks of wood. You can separate these four things with a window screen, a bucket, and water. This will take three steps.

The screen is used in the first step.

The bucket and water is used in the second and third steps.

a) Describe the three steps.

Step One

_____

_____

Step Two

_____

_____

Step Three

_____

_____

b) Which properties of the materials made it possible to separate the mixture?

_____

_____

SHORT ANSWER QUESTIONS

Hands-On Activity # 4

Photosynthesis, An Important Chemical Change

You learned earlier about an important chemical change that takes place in PLANTS. Plants turn carbon dioxide and water into oxygen and food molecules. Our bodies get energy from the food molecules. Do you know where the plants get the energy they put in the food? All that energy comes from the sun.

The scientific name for this reaction is **photosynthesis.** A material in plants called **chlorophyll** soaks up the sun's energy. The plant uses the energy from the sun in the photosynthesis reaction. Chlorophyll is green. It is what makes most plants green. Wherever you see green in a plant, photosynthesis can happen.

Experiment

For this experiment, you will need a small sheet of paper. It should be thick enough so that light cannot shine through it. You will also need something to cut the paper and some tape.

You are going to make a **pattern on a leaf.** To make the pattern, you will blocking some light from the leaf and let some light shine on the leaf. Where light hits the leaf it will be green.

Steps:

1. Cut holes in a piece of paper to make a word or picture that you want to see on the leaf. You could cut out the letters of your name; or, if you are very patient, the word "photosynthesis". Remember, whatever you cut out will have to fit on a leaf.
2. Find a large, strong leaf that gets sunlight. Tape the paper with the cut-out word or picture to the side of the leaf that gets the sun. Put it on so that the leaf is completely covered except for the cut-out.
3. Every few days, peek under the paper to see if the picture or word is starting to show up.
4. When you have a good picture, remove the leaf and bring it to school.

On the Internet, you can see pictures like this made by an artist by searching for "chlorophyll art"!

Reading Passage

NAME: _____

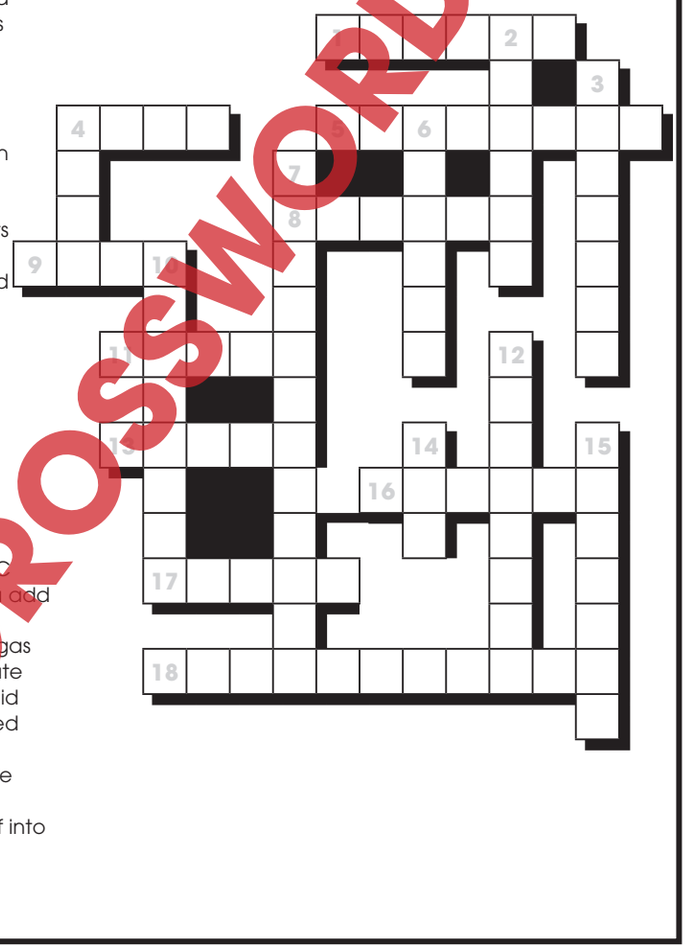
Crossword Puzzle!

Across

1. How much space something takes up
4. How much matter is in something
5. A material dissolved in a liquid
8. Something light cannot pass through
9. A particle that cannot be divided with everyday tools
11. A new material formed when something combines with oxygen
13. What iron does when it reacts with oxygen
16. Something that has mass and takes up space
17. The state of matter that has a fixed shape and a fixed volume
18. Some light passes through it and some does not

Down

2. See 16 Across
3. What water is doing at 212°C
4. What a solid does when you add heat
6. A material that is not in the gas state and not in the solid state
7. The change from gas to liquid
10. Two pure materials scrambled together
12. Either an atom or a molecule
14. Oxygen is one of these
15. It keeps you from floating off into space



NAME: _____

Reading Passage

Comprehension Quiz

Answer each question in complete sentences.

1. Describe the **motion** of particles in each state of matter. (3)

2. Using the words "mass," "space," and "atoms," tell **three** things that are true of all matter. (3)

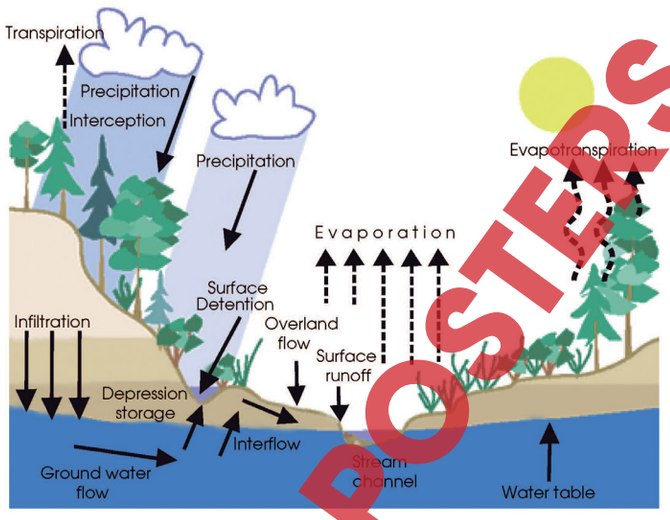
3. What does the **density** of a material tell about the way particles are packed in a material? Name the **two** things you need to know to find the density of a material. (3)

4. What is a **physical change**? Give an example of a physical change. What is a **chemical change**? Give an example of a chemical change. (4)

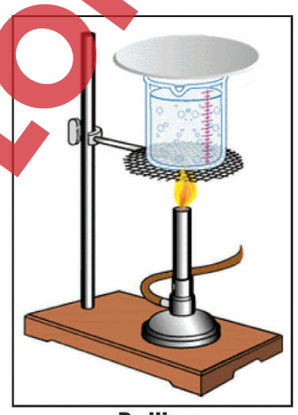
5. Explain how a mixture of salt and water is different from a mixture of pebbles and water. (3)

SUBTOTAL: /16

Phase Changes



Evaporation as water leaves ocean, Condensation as water forms clouds, Freezing as water goes from clouds to snow, and Melting as water goes from snow-capped mountains to run off.



Boiling

HANDS-ON ACTIVITIES
CROSSWORD
ASSESSMENT
COLOR POSTERS

NAME: _____

After You Read

Mixtures and Solutions

3. What is a mixture?

_____

_____

4. What does solubility mean?

_____

_____

Extensions & Applications

5. Separating a Mixture

Suppose you have a mixture of sand, marbles, sawdust, and blocks of wood. You can separate these four things with a window screen, a bucket, and water. This will take three steps.

The screen is used in the first step.

The bucket and water is used in the second and third steps.

a) Describe the three steps.

Step One

_____

_____

Step Two

_____

_____

Step Three

_____

_____

b) Which properties of the materials made it possible to separate the mixture?

_____

_____

EASY MARKING

© CLASSROOM COMPLETE PRESS

3.

Possible answer:
A combination of two or more pure materials

4.

Possible answer:
How much of a material will dissolve in a liquid

5.

Accept any reasonable answers

Answers will vary

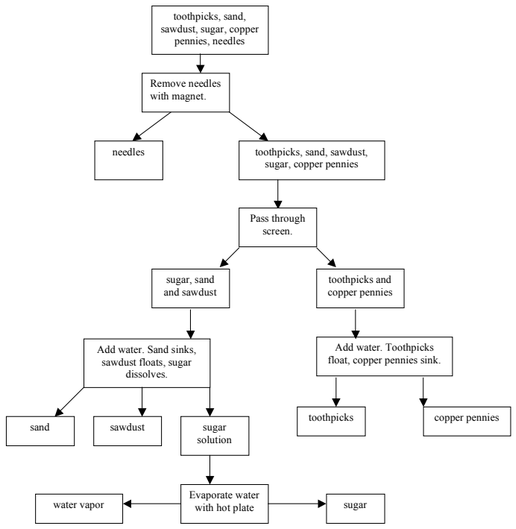
A. No

B. Yes

C. No matter could enter or leave in the first experiment. In the second experiment, no iron left, but oxygen from the air combined with the iron and added to the mass.

D. Yes, because the mass gained by the rusting iron equaled the mass lost by the air.

EZ



ANSWER KEY