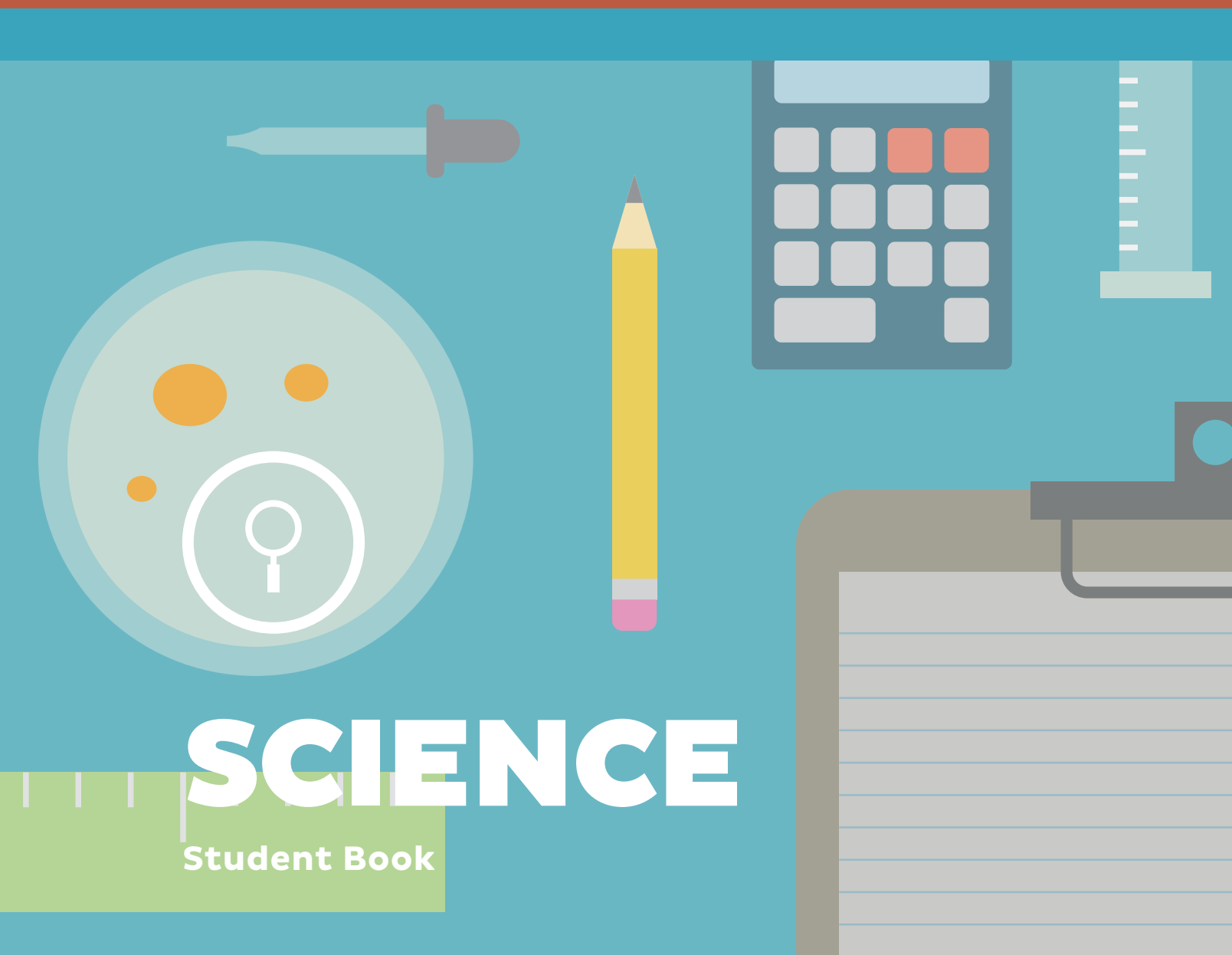




SCIENCE

Student Book

► **4th Grade | Unit 6**

.....

SCIENCE 406

PROPERTIES OF MATTER

Introduction | **3**

1. Water **5**

Water as a Solid | **8**

Water as a Liquid | **11**

Water as a Gas | **16**

Water as a Solvent | **19**

Self Test 1 | **26**

2. Matter **28**

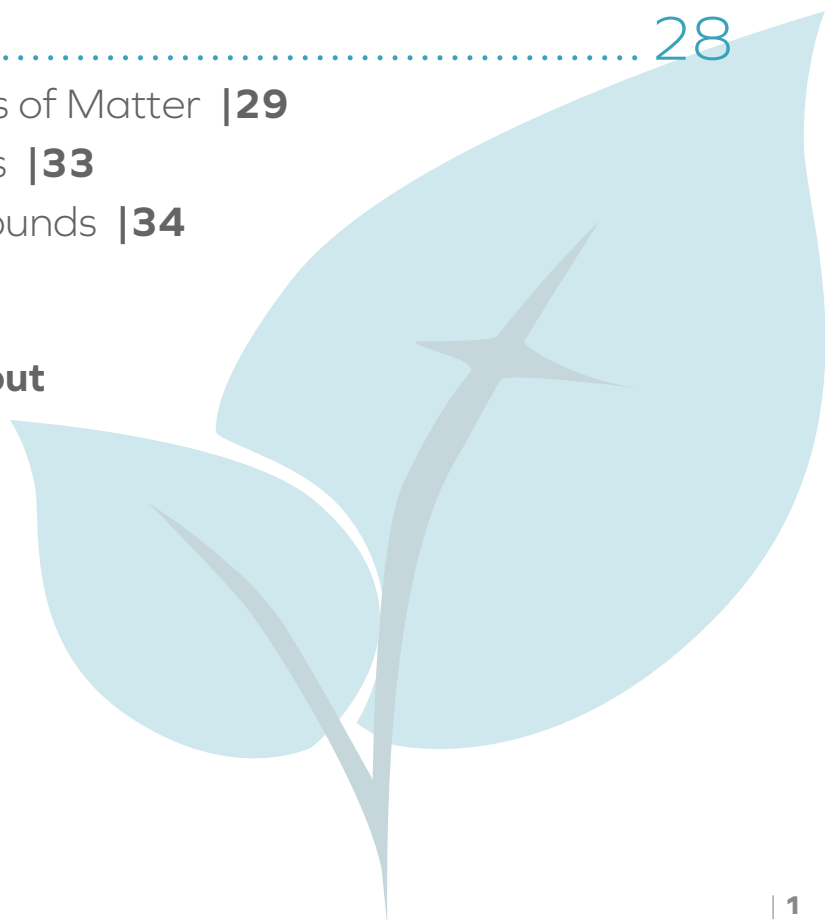
States and Properties of Matter | **29**

Molecules and Atoms | **33**

Elements and Compounds | **34**

Self Test 2 | **40**

LIFEPAC Test | **Pull-out**



Authors:

Barry Burrus, M.Div., M.A., B.S.

Rachelle Wiersma, M.A., B.A.

Editors:

Tricia Haley, B.A.,

Jennifer Davis, B.S.

Shelly Timmer, B.S.

Layout Design:

Dawn M. Tessier, B.A.

Media Credits:

Page 3: © VLADGRIN, iStock, Thinkstock **5:** © Digital Vision, Thinkstock; **8:** © Medioimages/Photodisk, Photodisk, Thinkstock; © Sebastian Kaulitzki, Hemera, Thinkstock; **16:** © Kichigin, iStock, Thinkstock; **28:** © peterscode, iStock, Thinkstock; **29:** © scyther5, iStock, Thinkstock; **37:** © Alexandr Mitiuc, iStock, Thinkstock; © Bob Eastman, iStock, Thinkstock.



**804 N. 2nd Ave. E.
Rock Rapids, IA 51246-1759**

© MMX by Alpha Omega Publications, Inc. All rights reserved.
LIFEPAC is a registered trademark of Alpha Omega Publications, Inc.

All trademarks and/or service marks referenced in this material are the property of their respective owners.

Alpha Omega Publications, Inc. makes no claim of ownership to any trademarks and/or service marks other than their own and their affiliates, and makes no claim of affiliation to any companies whose trademarks may be listed in this material, other than their own.

PROPERTIES OF MATTER

On the second day of creation, God separated the water from the sky, and on the third day He separated the water from the land. Without water, life would no longer exist on earth. God's gift of water **sustains** His creation.

There are hundreds of references to water in the Bible. In Psalm 1, the writer speaks of how water brings life to a tree planted by a stream. He explains that God's Word is like that life-giving water.

Blessed [is] the man that walketh not in the counsel of the ungodly, nor standeth in the way of sinners, nor sitteth in the seat of the scornful. But his delight [is] in the law of the LORD; and in his law doth he meditate day and night. And he shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season; his leaf also shall not wither; and whatsoever he doeth shall prosper.

(Psalm 1:1-3)

Studying and following God's Word produces positive effects in the lives of people and how they care for His creation.

In this LIFEPAK® you will learn more about this basic material that is necessary for life: water. You will learn about the three basic states (or forms) of water: solid, liquid, and gas. You will also learn about various uses of water. In the second section, you will learn more information about the basic building blocks of all matter, including water.

Objectives

Read these objectives. The objectives tell you what you will be able to do when you have successfully completed this LIFEPAK. Each section will list according to the numbers below what objectives will be met in that section. When you have completed this LIFEPAK, you should be able to:

1. Tell the freezing point and boiling point of water on the Fahrenheit and the Celsius thermometers.
2. Name the three different states of water.
3. Describe the wisdom of God in making water.
4. Describe the wide variety of uses of water.
5. Tell about water when it is dew, rain, snow, ice, or glaciers.
6. Name some materials that are soluble in water and some that are insoluble in water.
7. Name the three states of matter and give an example of each.
8. Describe matter, molecules, and atoms.
9. Tell what elements and compounds are.



1. WATER

Water is one of the most important materials in the world. Without water, life on earth would no longer exist. Next to the air you breathe, water is most important. People can live longer without food than without water. We know our bodies need water every day to stay healthy.

In this section of the LIFEPAK, you will study water. You will learn that water can be a solid, a liquid, or a gas. You will also discover that water is useful when used with other materials.

Water is not only used for drinking. Water is also used by **hydroelectric** power plants to produce energy. Water supplies the energy needed to turn **turbines** that produce electricity. Water is also used in power plants to cool large equipment.

Raw materials are shipped from one place to another on rivers, lakes, and oceans. Finished goods are also shipped through waterways.

Water is also used for our basic needs. Water is used for washing clothes, cleaning dishes, and taking baths. Most people use about 70 gallons of water a day.

God created water to satisfy our physical thirst as well as to keep our bodies clean. However, we also have spiritual needs. Only Christ can keep us from a spiritual drought. Believing that Jesus came to die for your sins and is your Savior will quench your spiritual dryness. Jesus said in John 4:14, *But whosoever drinketh of the water that I shall give him shall never thirst; but the water that I shall give him shall be in him a well of water springing up into everlasting life.*

Scripture also speaks of how God cleanses from our sins, much like how a bath or shower cleanses our bodies: *Behold, thou desirest truth in the inward parts: and in the hidden [part] thou shalt make me to know wisdom. Purge me with hyssop, and I shall be clean: wash me, and I shall be whiter than snow. (Psalm 51:6–7)*

Not everyone will begin this study with the same understanding of water. List some ways that water is important to you.

Write some things you would like to learn about water in this LIFEPAK.

Objectives

Review these objectives. When you have completed this section, you should be able to:

1. Tell the freezing point and boiling point of water on the Fahrenheit and the Celsius thermometers.
2. Name the three different states of water.
3. Describe the wisdom of God in making water.
4. Describe the wide variety of uses of water.
5. Tell about water when it is dew, rain, snow, ice, or glaciers.
6. Name some materials that are soluble in water and some that are insoluble in water.

Vocabulary

Study these new words. Learning the meanings of these words is a good study habit and will improve your understanding of this LIFEPAK.

Celsius (sel' sē us): A temperature scale, also called centigrade (see below), named after its inventor, Anders Celsius.

centigrade (sen' tu grād): A temperature scale divided into 100 degrees between water's freezing point and boiling point.

condense (kun dens'): To change from a gas or vapor into a liquid.

dew point (doo' point): The temperature at which water vapor in the air begins to change into liquid water droplets.

dissolve (di zolv'): To make something break apart by putting it into a liquid.

evaporate (e vap' u rāt): To change from liquid to gas.

expand (ek spand'): To take up more space.

Fahrenheit (far' un hīt): A temperature scale with 32° as water's freezing point and 212° as its boiling point.

glacier (glā' shur): A huge amount of ice moving on land.

hydroelectric (hī' drō i lek' trik): Something that produces electricity by water power.

iceberg (īs' berg): A floating mountain of ice found in the oceans.

insoluble (in sol' yu bul): A material that will not dissolve in another material.

saturated solution (sach' u rā tud su loo' shun): A solution that contains as much dissolved matter as can be dissolved.

soluble (sol' yu bul): A material that can be dissolved in another material.

solution (su loo' shun): A mixture formed when one material is dissolved in another material.

solvent (sol' vunt): A material that can dissolve other materials.

steam (stēm): Vapor arising from a heated material.

suspension (su spen' shun): A condition that happens when one material will not dissolve in another.

turbine (tur' bun): A rotary engine turned by the impact of a fluid such as steam or water.

vapor (vā' pur): Gas formed from a material that is usually in liquid or solid form.

wood alcohol (wud al' ku hôl): A cleaning liquid.

Note: All vocabulary words in this LIFEPAK appear in **boldface** print the first time they are used. If you are unsure of the meaning when you are reading, study the definitions given.

Pronunciation Key: hat, āge, cāre, fār; let, ēqual, tērm; it, īce; hot, ōpen, ôrder; oil; out; cup, pūt, rüle; child; long; thin; /TH/ for then; /zh/ for measure; /u/ or /ə/ represents /a/ in about, /e/ in taken, /i/ in pencil, /o/ in lemon, and /u/ in circus.

Water as a Solid

Normally, we think of water as a liquid; however, water changes with temperature changes. Water can be a solid, a liquid, or in a gas form. When water freezes, it is a solid—ice. At room temperature, water is liquid. When heated, water becomes a gas—**steam**.

Freezing water **expands**, taking up more space. You may be surprised to learn that ice is lighter than water. Because it is lighter, ice floats in liquid water. In cold winter months, ice forms on top of streams, ponds, and some lakes. Because ice floats, animals and plants in streams and ponds are able to survive the freezing winter months. Animals escape below the ice to the liquid water nearer the bottom of the pond or stream where plants remain alive.

A **glacier** is a large ice formation on land. These huge ice formations can move down the slope of a mountain or across a land area. The word *glace* means *ice*. People can see a large glacier in Montana’s Glacier National Park.

Sometimes, large chunks of ice break away from land and move out into the oceans. These floating mountains of ice are **icebergs**. The word *berg* means *mountain*. An iceberg is an “ice mountain.” Only about one-tenth of an iceberg is above the surface of the ocean. The rest of the iceberg is under the ocean’s surface.

Two types of thermometers are used for measuring the temperature of water. The first is known as the **Fahrenheit** thermometer. This thermometer was named for Gabriel Daniel Fahrenheit (1686-1736), a German scientist



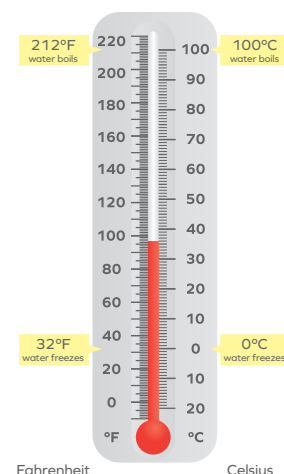
| A glacier



| An iceberg

born in Poland. The second is the **centigrade** thermometer. The centigrade scale is also called the **Celsius** scale. The Celsius scale was named for its inventor Anders Celsius, a Swedish scientist who developed this scale in 1742. When using the term Celsius scale, the name must be capitalized.

The freezing point of water is 32 degrees on the Fahrenheit thermometer, written as 32° F. It is 0 degrees on the Celsius thermometer, written as 0° C. The boiling point of water is 212° on the Fahrenheit thermometer (212° F). On the Celsius thermometer, the boiling point is 100° C.



ICE AND WATER E-406.A



View 406
Water as a Solid:
Grade 4 Science
experiments video

These supplies are needed:

- a plastic bowl large enough to hold 3 or 4 cups of water
- 2 or 3 ice cubes (these must be cubes or chunks of ice for floating)

Follow these directions and answer the questions. Check the boxes as you do each step.

- ☐ **1.** Fill the plastic bowl with 2 or 3 cups of cold tap water.
- ☐ **2.** Place the ice cubes in the bowl.

1.1 Does the ice float? _____

1.2 How does the floating ice keep fish and other animals from getting crushed to death in winter by freezing lakes and ponds? _____

EXPANSION OF WATER

E-406.B



View 406

Water: Solid versus

Liquid Grade 4

Science experiments
video

These supplies are needed:

small paper cup

enough crushed ice to fill the cup

Follow these directions and answer the questions. Check the boxes as you do each step.

- ☐ 1. Fill the paper cup completely full of crushed ice. Set the cup aside.
- ☐ 2. Place the cup in the warmest spot, perhaps near a sunny window.
- ☐ 3. Wait for the ice in the cup to melt. Do not spill the ice or water. Save all of the melted water.
- ☐ 4. Check the cup of ice that you left to melt.
- ☐ 5. Record the amount of water as soon as the ice has completely melted.

1.3 Is the cup full of water? _____

1.4 Why or why not? _____

1.5 Why does ice float? _____



Do these activities.

- 1.6** Draw an iceberg and a glacier. On a clean sheet of paper, you are to make two separate drawings. Space your drawings so that you can get two on a page. Use about half the sheet for each drawing. First, draw an iceberg. Make a white mountain of ice floating on a blue ocean. Make the sky above also blue. Label your drawing: Iceberg—a Floating Mountain of Ice. Next, make a drawing of a glacier on this same sheet of paper. Make a white mountain of ice with green grass around it. You can make the sky blue. Label your drawing: Glacier—a Huge Mountain of Ice on Land.



Teacher check:

Initials _____ Date _____

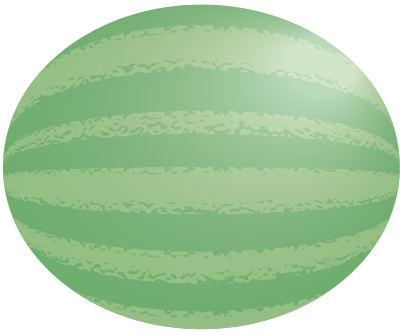
Water as a Liquid

Water has been on earth since the beginning of creation (Genesis 1:6). Water is all around you in the air, in the soil, and in the leaves and trunks of trees. Did you know that your body is $\frac{7}{10}$ (seven-tenths) or 70% water?

Water is also in the food you eat. A cucumber is over $\frac{9}{10}$ (nine-tenths) water; lean meat is $\frac{6}{10}$ (six-tenths) water; and cheese is $\frac{4}{10}$ (four-tenths) water.

The chief sources of our water come from rain and melting snow. Water that falls in the form of rain, snow, and sleet comes originally from oceans, lakes, and streams. When the sun warms the oceans, lakes, and streams, water **evaporates**. Water **vapor** rises into the air, forming clouds. As water vapor cools, it turns into a liquid. The cooled water vapor leaves the clouds, returning to earth through rain, snow, sleet, and sometimes hail.

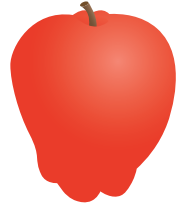
Water in its liquid form is not pure. Liquid water picks up something from what it touches. Raindrops pick up tiny pieces of other materials as they fall to earth.



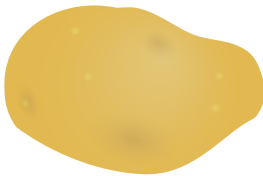
watermelon: $\frac{9}{10}$



milk: $\frac{9}{10}$



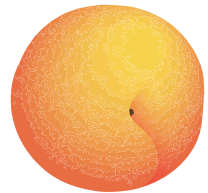
apple: $\frac{8}{10}$



potato: $\frac{8}{10}$



egg: $\frac{7}{10}$



peach: $\frac{9}{10}$

| Amount of Water In Some Food

These tiny pieces of materials captured by the rain go into the soil and are used by plants as food. In the plants, water acts as a delivery system, moving the food to all parts of the plants. The roots take water from the soil. Small tubes carry the water from the roots through the stems and to the leaves.

Just as in a plant, water works as a delivery system for humans and animals. Water dissolves food into nutrients so it can be used by the body. Water carries nutrients to all parts of the bodies of people and animals. Your blood is about 50 percent water and carries food to all parts of the body. Water also cleanses the inside of the body by carrying off body wastes.

All living things need water. It keeps plants, animals, and people alive. God provides life-giving water to the earth.

WATER IN A POTATO E-406.C



View 406
Water in Food:
Grade 4 Science
experiments video

These supplies are needed:

- 1 raw potato
- 1 scale (to weigh ounces or grams)
- 1 heavy-duty plastic knife
- a paper towel

Follow these directions and answer the questions. Check the boxes as you do each step.

- ☐ 1. Slice the potato into thin slices.
 - ☐ 2. Weigh all the slices while they are still wet.
 - ☐ 3. How much do the slices weigh while wet? Be careful to weigh all the slices. Record the wet weight of the potatoes here. _____
 - ☐ 4. Place the slices of potato on a paper towel. Leave them in a sunny window or warm place to dry for 3 days.
 - ☐ 5. Weigh the slices again in 3 days. Record the dry weight here. _____
 - ☐ 6. Subtract the dry weight from the wet weight. How much water did the potatoes lose in 3 days? Record the difference here. _____
 - ☐ 7. You were not able to get all of the water out of the potato. The potato would have to be dried many days in an oven to get all the water out.
- 1.7** What fraction or percent of water is in a potato? _____



Teacher check:

Initials _____ Date _____



Do these activities.

- 1.8

Write Isaiah 55:10 _____

- 1.9

Tell two things (from Isaiah 55:10) that the rain and snow will help.

a. _____

b. _____

WATER DELIVERY IN PLANTS E-406.D

These supplies are needed:

1 stalk of celery

1 heavy-duty plastic knife

1 clear plastic glass (disposable type)

red food coloring

Follow these directions and answer the questions. Check the boxes as you do each step.

☐

1. Cut off the bottom of a celery stalk.

☐

2. Place the celery stalk in a glass of water so that the fresh cut is down.

☐

3. Add several drops of food coloring. Stir gently.

☐

4. Leave celery in colored water at least 3 hours or overnight.

1.10

Did the water go up the celery stalk? _____

1.11

What did the water go through to get to the top of the celery?

**Complete these activities.**

- 1.12** Your body is about _____ parts out of ten parts water.
- 1.13** Clouds are made of water _____.
- 1.14** The real sources of our water are a. _____ and b. _____.
- 1.15** When the sun warms the oceans, lakes, and streams, it causes water to _____.
- 1.16** Clouds return water to us in the form of a. _____, b. _____, c. _____, and sometimes d. _____.
- 1.17** Water is used by plants and animals to deliver _____ to all parts of their bodies.
- 1.18** If you were extremely thirsty and could not get any water, what would you do for water? _____

- 1.19** Rainwater is not pure. Raindrops pick up tiny _____ from the air as they fall to earth.
- 1.20** Water helps your body stay alive. Name three ways that water helps the body.
a. _____
b. _____
c. _____
- 1.21** God made water. How do you know from the Bible that water is very old?

Water as a Gas

Water can be found in three forms: solid, liquid, and gas. When you boil water in a teakettle, the steam that results is water vapor. Water vapor is an example of water in gas form. The boiling point of water is 212° on the Fahrenheit scale and 100° on the centigrade or Celsius scale. At those temperatures, water changes from a liquid form to a gas form. The boiling point of any material is the temperature at which it changes from a liquid to a gas.

Water vapor forms when the sun warms oceans, lakes, and ponds. The wind carries the vapor into the sky. Clouds are made of the water vapor. When the clouds gather lots of moisture, rain falls. Rain is water vapor returning to earth in the form of water droplets.

When steam from a teakettle contacts a cool windowpane, water droplets form. This is similar to the way in which dew forms on the ground. Dew and the water droplets on the windowpane are both examples of how water vapor from the air will **condense** on objects. The **dew point** is the temperature at which water vapor in the air begins to change into liquid water droplets. The temperature at which water vapor forms dew will vary with the amount of moisture in the air.

Dew is not the only form of water vapor. Snow is frozen water vapor. Snow is a form of solid water. Each snowflake crystal is different and is designed by God. A snowflake is actually a water crystal. Snow is mentioned in the Bible to show how God can wash away sins (Isaiah 1:18): "Come now, and let us reason together, saith the LORD: though your sins be as scarlet, they shall be as white as snow; though they be red like crimson, they shall be as wool."



| A snowflake

DEW E-406.E



View 406
Water as a Gas:
Grade 4 Science
experiments video

These supplies are needed:

1 small tin can, fruit juice type (be sure there are no sharp edges)
enough ice to fill the can

Follow these directions and answer the questions. Check the boxes as you do each step.

- ☐ 1. Fill the tin can with ice.
- ☐ 2. Set the can aside until droplets collect on the outside of the tin.

1.22 Where did the water droplets come from? _____

1.23 Why did the droplets form on the can? _____



Write *true* or *false*.

- 1.24** _____ Water can be in the form of a solid, liquid, or gas.
- 1.25** _____ Water freezes at 0° Celsius and 32° Fahrenheit.
- 1.26** _____ Frozen water is lighter than liquid water.
- 1.27** _____ Water boils at 50° Celsius and 100° Fahrenheit.
- 1.28** _____ The boiling point is the same for all materials.
- 1.29** _____ Dew is formed from water vapor.
- 1.30** _____ Snow is not a form of water vapor.
- 1.31** _____ All snowflakes are exactly alike.

1.42 Ice floats because it expands.

1.43 Ice melts when it is heated.

Write your own cause and effect sentence using water vapor and liquid water for cause and effect.

1.44

Water as a Solvent

A **solvent dissolves** other materials. Water is a good solvent because it is able to dissolve many materials. Water can dissolve sugar, salt, and other foods. As you learned earlier, blood, which is mostly water, is a delivery system for nutrients in the body. God created water with the ability to dissolve many substances, including food. Food moves to different parts of our bodies through the water in our bloodstream.

Substances that dissolve are **soluble**.

Substances that do not dissolve are **insoluble**. Other substances do not completely dissolve. Maybe you have drunk hot chocolate where the mix was not completely dissolved. By heating the milk, the mix will dissolve more easily.

It's also possible for materials to be soluble in one liquid but not in another. An example of another good solvent is **wood alcohol**. Sometimes it is helpful to use more than one kind of a solvent to dissolve a material.

A **solution** is formed when a substance is dissolved into another. For example, when sugar is mixed with water, the sugar disappears. The sugar has become part of the solution. The sugar has spread through the water in tiny parts that cannot be seen.



| Sugar is soluble in water and forms a solution. Oil is insoluble in water and forms a suspension.

Sugar dissolves quickly in water. If you keep adding more, not all of it will dissolve. When a solution will not dissolve any more material, it is saturated. A **saturated solution** contains as much material as can be dissolved. If you heat the solution, you may be able to dissolve more of the material. Even when heated, a solution will reach a point where it will not dissolve any more material.

Oil is an example of a substance that will not dissolve in water. Because oil is lighter than water, it floats on top of the water. Oil stays on the surface of the water. Oil floating on water is called a **suspension**. A suspension is a material that will not dissolve in another substance.

SOLUTIONS AND SUSPENSIONS E-406.F



View 406
Water as a Solvent:
Grade 4 Science
experiments video

These supplies are needed:

- 4 plastic glasses (1 for each test material)
- 1 teaspoon of salt
- 1 teaspoon of sugar
- 1 teaspoon of sand
- 1 teaspoon of salad or cooking oil
- a plastic spoon or wooden stick for stirring

Follow these directions and answer the questions. Check the boxes as you do each step.

- ☐ 1. Fill each of the four glasses half full of water.
- ☐ 2. Number each of the glasses 1–4.
- ☐ 3. In glass number 1, add 1 teaspoon of salt and stir.
- 1.45 Did the salt disappear? _____
- 1.46 Is salt soluble in water? _____
- ☐ 4. In glass number 2, add 1 teaspoon of sugar and stir.
- 1.47 Did the sugar disappear? _____

- 1.48** Is sugar soluble in water? _____
- ☐ **5.** In glass number 3, add 1 teaspoon of sand and stir.
- 1.49** Did the sand disappear? _____
- 1.50** Is sand soluble in water? _____
- ☐ **6.** In glass number 4 add 1 teaspoon of oil and stir.
- 1.51** Is oil soluble in water? _____



Match these items by writing the correct letter in the blank.

- | | | |
|-------------|---|--------------------------|
| 1.52 | _____ mixture formed when one material is dissolved in another material | a. an insoluble material |
| 1.53 | _____ a material that will not dissolve in another material | b. wood alcohol |
| 1.54 | _____ oil on water | c. solution |
| 1.55 | _____ sugar | d. a soluble solid |
| 1.56 | _____ a good solvent | e. suspension |
| 1.57 | _____ a material that will dissolve in another | f. saturated solution |
| 1.58 | _____ a solution that will not dissolve any more of a material | g. soluble |
| | | h. crystal |



Answer this question.

- 1.59** How is water necessary to dissolve food for your body? _____
- _____
- _____
- _____
- _____

SATURATED SOLUTION

E-406.G



View 406

Crystals: Grade 4
Science experiments
video

When a saturated solution such as salt water is cooled, salt crystals form. Diamonds, sugar, and most metals are also crystals that have formed from saturated solutions. Try this experiment at home. Have one of your parents check in the space provided.

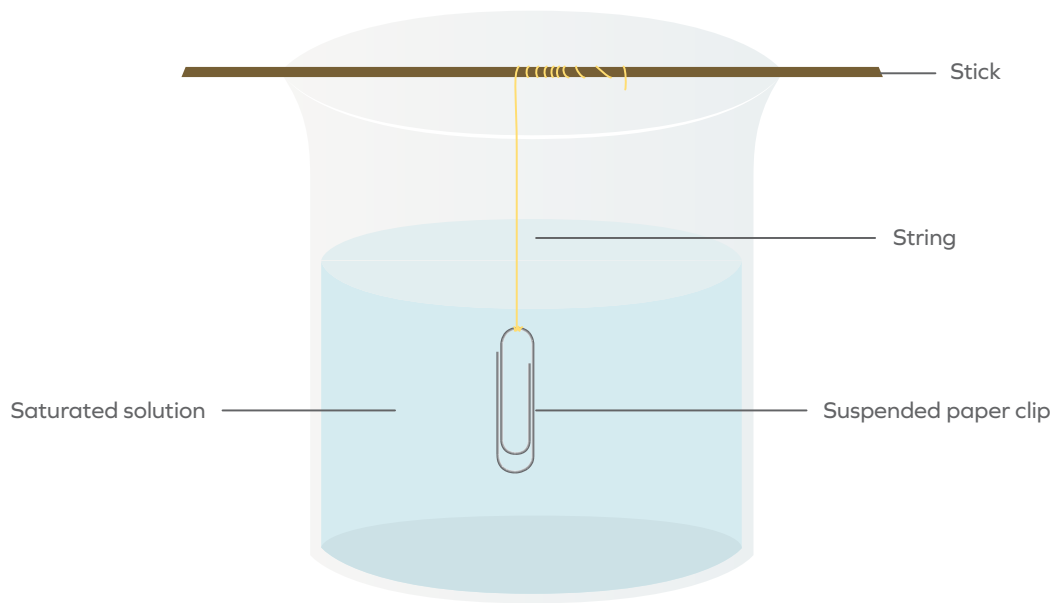
These supplies are needed:

A very small pan that holds about 1 or 2 cups of water
about $\frac{1}{3}$ (one-third) cup of water
about 1 cup of sugar or salt
a piece of string
a paper clip or small nail
a pencil or stick
a beaker or Pyrex®-type cup

Follow these directions and answer the questions. Have a parent supervise heating of the solution. Check the boxes as you do each step.

1.60

- ☐ 1. Place about one-third of a cup of water in the small pan.
- ☐ 2. DO NOT ADD SUGAR YET. Bring the water to a boil. Pour the water into the beaker.
- ☐ 3. Stir in the sugar or salt until no more can be dissolved.
REMEMBER: DO NOT BOIL THE SUGAR OR SALT. STIR IT IN AFTER THE WATER IS HOT.
- ☐ 4. When the solution is complete and all the material dissolved that will go into the water, you have a saturated solution.
- ☐ 5. Suspend a paper clip on a string and let it dangle down in the sugar or salt solution. (See the following illustration.) As the saturated solution cools, sugar or salt crystals will form on the paper clip.



Method of Making Crystals

- ☐ 6. Show some of your crystals to someone if you are successful.



Teacher check:

Initials _____ Date _____



Do these activities. The same method used for making salt or sugar crystals in the previous experiment is used for making alum crystals.

- 1.61** Use the dictionary, encyclopedia, or the Internet to answer this question: What is alum used for? _____

When your body needs water, you become thirsty. Water satisfies thirst. Jesus Christ satisfies the thirst for spiritual life. When you receive Him as your Savior, He will satisfy that thirst of longing for life with Him. The Bible says (Revelation 22:17) "And the Spirit and the bride (the body of Christ) say, Come. And let him that heareth say, Come. And let him that is athirst come. And whosoever will, let him take the water of life freely."

1.62 Write Revelation 22:17 in the space provided below.

Memorize this verse.

**Write a Report.**

- 1.63** Use an encyclopedia, the library, and/or the Internet to do some research on one of the following subjects about water. If you do not want to choose one of the subjects given, you may select some other subject about water. You must have an adult sign approval of your choice.
- a. The use of water for winter sports and fun
 - b. The use of water for summer sports and fun
 - c. Water used for irrigation
 - d. Water as a source of power
 - e. Water as a means of transportation
 - f. The use of water as punishment from God (example, the Flood)
 - g. God's use of water for performing His marvelous works
 - h. Ways of keeping water clean
 - i. The choice I have made is: _____

Write a one-page report on your approved subject. Use your very best handwriting in your report. Then turn in your report to your teacher.

**Teacher check:**

Initials _____ Date _____



Review the material in this section to prepare for the Self Test. The Self Test will check your understanding of this section. Any items you miss on this test will show you what areas you will need to restudy in order to prepare for the unit test.

SELF TEST 1

Fill in the blanks using words from the Word Bank (each answer, 4 points).

snow	expands	ice	suspension
blood	iceberg	glacier	dew
0° Celsius	100° Celsius		

- 1.01** A(n) _____ is a large mountain of ice in the ocean.
- 1.02** Ice moving on land is called a(n) _____.
- 1.03** Water freezes at _____.
- 1.04** _____ is a form of frozen water vapor.
- 1.05** _____ is water in solid form.
- 1.06** _____ is cooled water vapor.
- 1.07** _____ carries nutrients throughout the human body.
- 1.08** Oil or sand added to water creates a(n) _____.
- 1.09** Water boils at _____.
- 1.010** When something _____, it takes up more space.

Circle the letter of the correct answer (each answer, 3 points).

- 1.011** Water freezes at 32° on the ____ scale.
 a. Fahrenheit b. Celsius c. Centigrade
- 1.012** Freezing water _____.
 a. contracts b. evaporates c. expands
- 1.013** _____ floats because it is lighter than water.
 a. Oil b. Sugar c. Salt
- 1.014** A(n) _____ plant produces electricity through water power.
 a. gasoline b. hydroelectric c. coal
- 1.015** A(n) _____ substance can be dissolved in another material.
 a. soluble b. material c. expander

- 1.016** A(n) _____ is a mixture in which one material is dissolved in another.
a. material b. solution c. nutrient
- 1.017** A material that does not dissolve in another is called _____.
a. soluble b. sugar c. insoluble
- 1.018** Chief sources of water include _____ and melted snow.
a. icebergs b. glaciers c. rain
- 1.019** Water may be a solid, liquid, or _____.
a. invisible b. gas c. soluble
- 1.020** You can _____ a liquid so that it dissolves additional material.
a. freeze b. cool c. heat

Write *true* or *false* (each answer 3 points).

- 1.021** _____ Wood alcohol is a good solvent.
- 1.022** _____ Two types of thermometers are Fahrenheit and Celsius.
- 1.023** _____ Because ice sinks, animals struggle to live in lakes during the winter months.
- 1.024** _____ Water is pure in liquid form.
- 1.025** _____ Foods contain little or no water.
- 1.026** _____ The Bible describes Jesus as living water.
- 1.027** _____ Oil dissolves in water.
- 1.028** _____ Sugar dissolves in water.
- 1.029** _____ Water is delivered to plants through bees.
- 1.030** _____ Water can be used for transportation.



Teacher check:

Score _____

Initials _____

Date _____

