



God Made **PLANTS**



Science | Level 2
Activity Book

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CONTENTS

Introduction	13
Supplies list.....	15
 Activity 1	
Things Plants Use to Make Food	20
 Activity 2	
Hay, How Tall Are You?	22
 Activity 3	
Plant Grass Seeds.....	24
 Activity 4	
Create a Collage with Cellulose	26
 Activity 5	
Make Ink!.....	27
 Activity 6	
Make a Leaf Collection	29
 Activity 7	
Chemistry Coloring Page	31
 Activity 8	
Gifts from Plants.....	33
 Activity 9	
Make a Flower Collection and a Plant Character	34

Activity 10

Where Are the Grasslands?36

Activity 11

Grass Roots.....39

Activity 12

Savannas41

Activity 13

Preserve Flowers by Drying43

Activity 14

Which Pollinator Was Created to Help These Flowers?45

Activity 15

Make a Greeting Card by Pounding Flowers.....46

Activity 16

Color the Parts of a Flower.....48

Activity 17

God Matches Moth Mouths and Orchid Tubes.....49

Activity 18

Examine Flowers53

Activity 19

Color the Pollinator.....55

Activity 20

Be a Buzzer57

Activity 21

Collect Some Pollen58

Activity 22	
Where Are the Deserts?	60
Activity 23	
Desert Rain.....	63
Activity 24	
Desert Animals	64
Activity 25	
Look at Leaf Veins	65
Activity 26	
A Microscopic Look at Leaves	67
Activity 27	
Separate the Colors in Leaves	69
Activity 28	
Set a Guard over My Mouth.....	73
Activity 29	
Stomata Open or Stomata Closed?.....	74
Activity 30	
Plant Some Tree Seeds	77
Activity 31	
A Close-Up look at a Green Machine.....	79
Activity 32	
See If You Remember Photosynthesis	81
Activity 33	
Extract Chlorophyll.....	82

Activity 34

Where Are the Deciduous Forests?84

Activity 35

Read the Poem, Find Herby, and Color the Tree86

Activity 36

Praise God for Forest Animals!87

Activity 37

Play “What Stem Am I?”88

Activity 38

Make Wood-Slice Chips90

Activity 39

Visit a Nursery92

Activity 40

Have You Tasted Xylem Sap?94

Activity 41

The Art of a Tree.....96

Activity 42

“X-amin” Some Xylem.....98

Activity 43

Turn and Bend.....100

Activity 44

Grow a New Plant Without a Seed.....101

Activity 45

Grow Pea Shoots.....102

Activity 46

Where are the Coniferous Forests?104

Activity 47

Special Words for Special Plants.....107

Activity 48

Porcupine in the Conifer109

Activity 49

God's Deep Thoughts.....111

Activity 50

Root Puzzle.....113

Activity 51

Root a Potato.....115

Activity 52

In Search of Good Things.....118

Activity 53

Choose to Eat Healthy Foods.....119

Activity 54

See How Auxin Works.....123

Activity 55

Soil Creatures127

Activity 56

Soil Nutrients128

Activity 57

A Close Look at Soil.....132

Activity 58

Where is the Tundra.....134

Activity 59

Glacier Mice137

Activity 60

Find an Arctic Tundra Animal139

Activity 61

Which Vegetables Are Fruits?.....141

Activity 62

Gifts from Apple Trees.....143

Activity 63

Make Applesauce145

Activity 64

Fruit-Tasting Game147

Activity 65

Tools for Transportation.....148

Activity 66

Make Fruit Leather.....152

Activity 67

Make a Wall Hanging.....154

Activity 68

God Gives Animals Food to Last Through the Winter157

Activity 69

Dry Some Fleshy Fruits159

Activity 70	
Where Are the Tropical Rainforests?	161
Activity 71	
Same Tree, Different Leaves	163
Activity 72	
Tropical Water Creatures.....	165
Activity 73	
Make Seed Bark Cookies	167
Activity 74	
Seed-Planting Advice.....	171
Activity 75	
Seeds Promise Fruitfulness	172
Activity 76	
Genetics with Playing Cards	176
Activity 77	
From Pollination to Grown-Up Seed.....	178
Activity 78	
Roast Your Homegrown Sunflower Seeds.....	179
Activity 79	
Are You Sleeping?	180
Activity 80	
What's Happening in Me?	182
Activity 81	
Sprout Some Seeds	186

Activity 82

Where Is the Freshwater Biome?188

Activity 83

Plants That Catch Animals.....191

Activity 84

Guess the Names of These Freshwater Creatures.....193

Activity 85

Healthy Treasure.....196

Activity 86

Search for Good Things.....200

Activity 87

Make a Nutritious Tropical Fruit Salad203

Activity 88

Geraniums vs. Japanese Beetles.....205

Activity 89

Medicines Made from Plant Phytochemicals207

Activity 90

Serve Your Family Sunglasses for Supper.....209

Activity 91

I Smell Spaghetti!.....211

Activity 92

The Most Pleasant Fragrance in the World.....214

Activity 93

Make an Apple Head.....216

Activity 94

Where is the Saltwater Biome?218

Activity 95

Make a Spice Ship221

Activity 96

Be Observant in the Coral Reef.....227

Answer Key229

Image Credits231



INTRODUCTION

This introductory science course for young, school-age children (grades 1-3) is designed to bring to light the love, wisdom, and power of God that is evident in His creation. *God Made Plants* presents the amazing way that plants are perfectly designed to provide the earth with food, oxygen, moisture, healthy soil, and materials for supplies. There would be no life on Earth without plants!

Designed to complement the way God created children to learn, this activity book provides hands-on learning to go along with the auditory presentation and beautiful visuals in the read-aloud textbook.

Herby, the hard-working leaf, and Flora, the lovely flower, visit this activity book as well as the textbook. Their love for God's creation shines here too!

The *God Made Plants Activity Book* features 96 activities that involve all the senses as well as the muscles! Yet they are designed in such a way so as not to be overly burdensome for the parent/teacher. The science topics are reinforced with a balance of action, observation, experiments, imagination, logic, Scripture, art, cooking, poetry, math, geography, exercise, music, and a little bit of writing. Each activity reinforces the material in-

troduced in the textbook, and every exercise is numbered for easy reference.

How to Use the *God Made Plants Activity Book*

God Made Plants is divided into nine units of four chapters each. Units 1-8 each have a memory verse and a children's hymn that children will have an opportunity to work on while completing the activities in the activity book.

Unit 9 is "How to Sow and Grow a Garden." The gardening chores for Unit 9 are found exclusively in the textbook and take place throughout the year. Therefore, we do not include any activity book activities for Unit 9. Please see the introduction to Unit 9 in the textbook for a schedule of when you may need to allow gardening time throughout the year.

The *God Made Plants* books are organized in a way to enable children to internalize what they have learned. Learning comes easiest in small doses with time between each session. Children solidify what they have learned as they play. It becomes permanent as they sleep. To enable this structure of learning, a schedule is suggested below for Units 1-8.

For convenience, this activity book includes a supplies list and answer key.

May the Lord be glorified, and may

you be richly blessed as you and your little learners study God's creation in *God Made Plants!*

Suggested Schedule

One chapter per week for 32 weeks.

Day 1	Read aloud the first section of the textbook chapter. Complete the corresponding activity in the Activity book (as announced at the end of that section of the text).
Day 2	Break
Day 3	Read aloud the second section of the textbook chapter. Complete the corresponding activity in the Activity Book.
Day 4	Break
Day 5	Complete the Green Thumb Activity from the activity book. This day does not have a read-aloud section in the textbook. Instead, there is time allowed for a special activity. These Green Thumb activities usually take a little more preparation and materials than the week's earlier activities. Note: The biome chapters do not have a Green Thumb Activity on day 5. However, day 5 of the biome chapters does have a read-aloud section in the text and a short activity in the activity book.

SUPPLIES LIST

SUPPLIES TO HAVE ON HAND THROUGHOUT THE ACTIVITY BOOK:

- A Bible
- A Pencil
- Blank paper for artwork, notebook size
- Colored pencils, full selection of colors
- Crayons, full selection of colors
- A Pair of scissors
- White school glue
- Tape
- Potting soil: 10 quarts (10 L) should be enough for the course.
- Water
- A magnifying glass
- A hand lens to magnify 10x

CHAPTER 1

- An egg carton
- Potting soil
- A spray bottle
- A trowel or plastic spoon
- Two kinds of whole grain kernels like wheat, popcorn, barley, and rice

CHAPTER 2

- Paper or poster board
- White school glue
- Things made of cellulose (wooden toothpicks, craft sticks, bark, twigs, cotton balls, cotton cloth, dried parts from plants, colored paper)

- A short candle and a match
- A shallow metal pan
- Aluminum foil
- A wet cotton swab
- White paper
- An adult to help
- Plant clippers
- A grocery bag
- Two cardboard egg cartons
- Newspaper
- Bungee cords, rope, or string

CHAPTER 3

- A large kettle
- A baking sheet
- 1/2 cup (100 g) evaporated cane juice or brown sugar
- 1/2 cup (80 ml) light corn syrup
- 1/4 cup (55 g) butter
- 1/2 teaspoon (3 g) salt
- 8 cups (2 L) popped popcorn
- Plant clippers
- A grocery bag
- Two cardboard egg cartons
- Newspaper
- Bungee cords, rope, or string
- Parts of plants (flowers, buds, cones, leaves, berries)
- Toothpicks
- White school glue
- A black permanent marker

CHAPTER 4

- Grains that sprouted in Activity 3

- Measuring stick
- A bucket

CHAPTER 5

- Fresh flowers
- Scissors
- String
- A hammer
- Watercolor paper or card stock, cut to the size of a greeting card
- A piece of white cloth, cut to match the size of your paper
- A flat board or pounding surface at least as big as your paper.
- Scissors
- Fresh flowers
- Colored pencils

CHAPTER 6

- A magnifying glass or hand lens
- Four different types of flowers

CHAPTER 7

- Different kinds of flowers
- A roll of clear tape
- A pencil or pen
- A hand lens

CHAPTER 8

- Nothing extra

CHAPTER 9

- Fresh leaves, if available, or leaves from your Activity 6 leaf collection
- A piece of crayon with its paper removed
- A piece of printer paper
- Four fresh green leaves of two to four kinds. Try to get at least one kind that turns yellow in the fall.
- Two to four jars

- Two to four spoons
- Rubbing alcohol
- Hot water
- Plastic wrap
- A paper coffee filter
- Tape
- A bowl for the jars to sit in

CHAPTER 10

- A small piece of plastic wrap
- Green food coloring
- A cotton swab
- An adult's help
- Two whole avocados
- One whole citrus fruit with seeds
- Two jars
- Six toothpicks
- A small, zippered plastic bag
- A paper towel
- Six medium pots or containers with drainage holes
- Potting soil

CHAPTER 11

- Optional: leafy salad for dinner
- A small pan
- A green leaf (not conifer needles)
- A canning jar (Other jars may break in hot water.)
- Rubbing alcohol
- Tweezers
- A paper towel
- An adult's help

CHAPTER 12

- Nothing extra

CHAPTER 13

- A large bowl
- A baking sheet

- A pointed bottle opener
- One unpeeled white potato for each person
- 1 teaspoon cornstarch (2.5 g) for each person
- 1 teaspoon olive oil (5 ml) for each person
- Salt to taste
- Ground cinnamon

CHAPTER 14

- Optional: real maple syrup
- A piece of white construction paper or drawing paper
- Waterproof black ink or very thin black acrylic paint
- A drinking straw
- A golf ball-sized piece of sponge torn into an irregular shape
- Blue and yellow liquid or gel paint
- A disposable lid or plate

CHAPTER 15

- A basil plant
- A medium-sized, shallow pot or container with drainage holes
- Potting soil
- Plastic wrap
- About 50 pea seeds

CHAPTER 16

- Nothing extra

CHAPTER 17

- One third to one half of a white potato with one or two “eyes.”
- Three round toothpicks
- A glass or jar of water

CHAPTER 18

- A bed that you can fit under
- A water bottle filled with water

- Several small containers of healthy foods
- A clear, glass, wide-mouth jar or drinking glass. You will need to be able to fit your hand inside it.
- A bowl of water
- Paper towels
- Four bean seeds

CHAPTER 19

- A large jar with a tight-fitting lid
- A trowel
- A place where soil has not been disturbed for at least a year
- Water
- A hand lens
- Paper towels
- An old spoon

CHAPTER 20

- Nothing extra

CHAPTER 21

- Six pounds (3 kg) of apples
- 1 1/2 cups (350 ml) of water
- A large kettle



- Special applesauce-making equipment like a food mill or chinois. Or you can use a potato masher, but you will need to peel and core the apples before cooking.
- A sharp knife
- A peeler (if you will be using a potato masher)

CHAPTER 22

- Six or seven different fruits cut into pieces. You will need enough pieces for each player to have a taste. The fruits can be fresh or dried, a sweet fruit or a “vegetable” fruit.
- A blindfold for each player
- A small piece of hook-and-loop fastener like Velcro (hook side)
- Cotton ball fibers
- Brown paper
- Glue
- Scissors
- A piece of an old sock or sweater
- One quart (1 L) applesauce, homemade or purchased
- Baking parchment paper
- A large baking sheet
- Cinnamon and nutmeg if desired

CHAPTER 23

- A baking sheet
- Baking parchment paper
- Fresh fruit that’s ripe but not bruised or overripe. Some fruits that dry well are apples, pears, peaches, apricots, bananas, cherries, and berries.

CHAPTER 24

- Nothing extra

CHAPTER 25

- A large bowl

- A small bowl
- A baking sheet
- Baking parchment
- A large chopping knife or nut grinder
- A rolling pin (optional)
- 1 cup nuts (150 g). Remember, nuts are seeds!
- 2/3 cup (25 g) unsweetened shredded coconut
- 1/4 cup (40 g) pumpkin seeds
- 1/4 cup (25 g) almond flour
- 1/4 teaspoon (1.5 g) salt
- 1 tablespoon (13 g) sugar
- 2 tablespoons (30 ml) melted coconut oil
- 1 tablespoon (15 g) creamy nut butter
- 3 tablespoons (60 g) honey
- A paper towel that will fit over both circles on the bean activity page.
- At least 121 dry beans of any kind
- White school glue
- A container such as a salad mix “clamshell” with drainage holes. It should be large enough so that the bean activity page can lie flat inside it.
- Potting soil
- A tray to put under the container

CHAPTER 26

- A deck of playing cards with red and black suits.
- Pencil and paper
- 1 cup (130 g) raw, in-shell sunflower seeds
- 2 tablespoons (35 g) salt
- 1 quart (1 L) water
- A large bowl
- A baking sheet
- Baking parchment

CHAPTER 27

- Several different kinds of seeds found in the kitchen and outdoors

- Damp paper towels
- Small, zippered plastic bags
- A permanent marker

CHAPTER 28

- An eyedropper
- A bowl of water
- Little pieces of sand or dirt

CHAPTER 29

- A die for rolling numbers one through six
- Six coins for each player
- A copy of the treasure chest page for each player
- Fruit salad Ingredients to choose from:
- Pineapples
- Mangos
- Bananas
- Kiwi
- Papaya
- Coconut (shredded)

CHAPTER 30

- Frying pan
- A 13 x 9 inch (33 x 23 cm) baking pan
- 1 very large onion, sliced into thin rings
- 1 large orange pepper
- 2 tablespoons (30 g) butter
- 2 cups (225 g) grated cheddar cheese
- 12 ounces (340 g) frozen corn
- 1 teaspoon (5 g) salt
- 1/8 teaspoon (0.3 g) pepper
- 3 eggs
- 1 cup (250 ml) milk

CHAPTER 31

- Colored pencils or washable markers
- Glue
- Dried or fresh herbs of the kinds below
- Oregano

- Basil
- Thyme
- Rosemary
- A blindfold
- Vanilla
- Cocoa powder
- Cinnamon
- Cloves
- Nutmeg
- Ginger
- An apple with a long stem
- A vegetable peeler
- A plastic knife
- Whole cloves
- Strong thread

CHAPTER 32

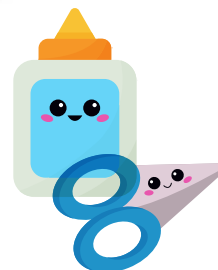
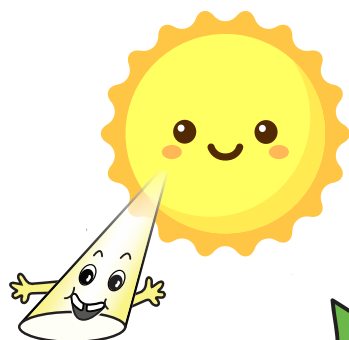
- Glue
- Scissors
- Seaweed snack sheets or green tissue paper
- A selection of powdered spices of different colors:
- Cinnamon
- Cloves
- Ginger
- Turmeric
- Garlic powder

ACTIVITY 1

Things Plants Use to Make Food



Circle the three things near Herby that God put everywhere on Earth so that plants can make food anywhere.



ACTIVITY 1: THINGS PLANTS USE TO MAKE FOOD



Sing the hymn for this unit.



Write or repeat the memory verse for this unit.

The earth is full of the goodness of the LORD. (Psalm 33:5)



Praise God for His wisdom in perfectly making sunlight, water, air, and plants work together to make food all over the earth.

ACTIVITY 2

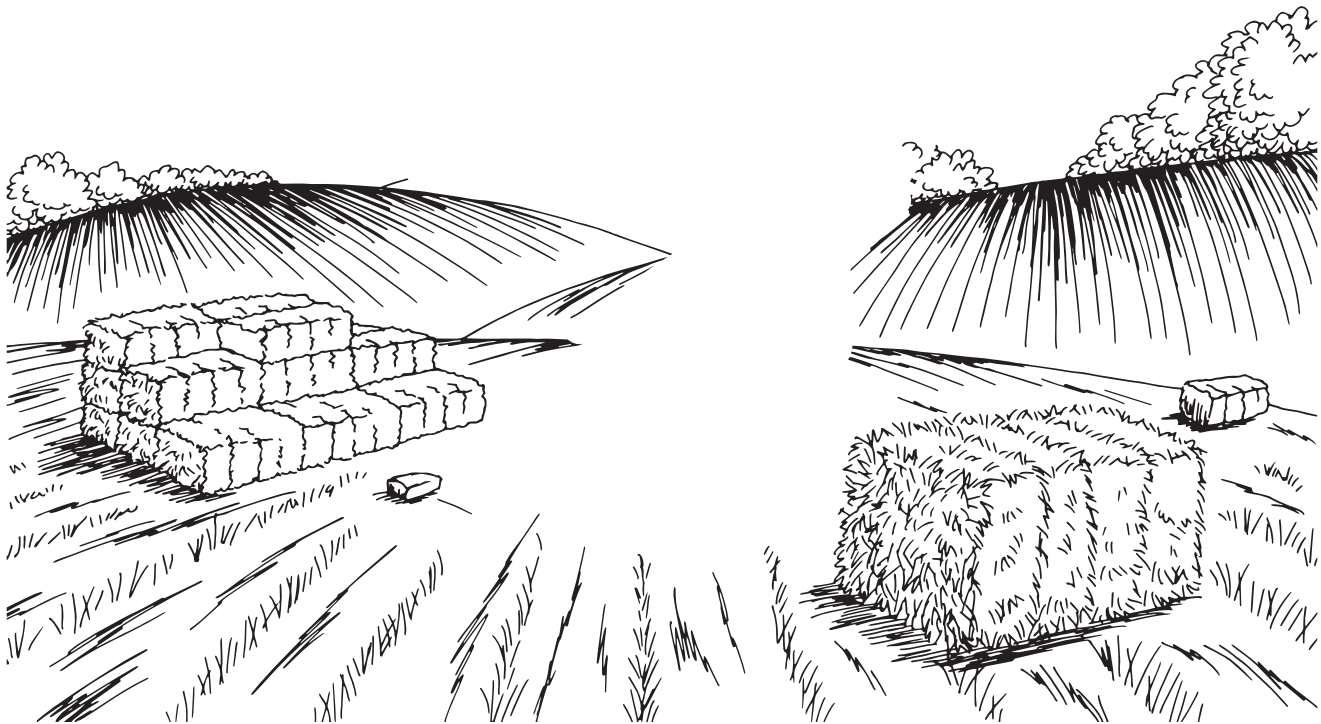
Hay, How Tall Are You?

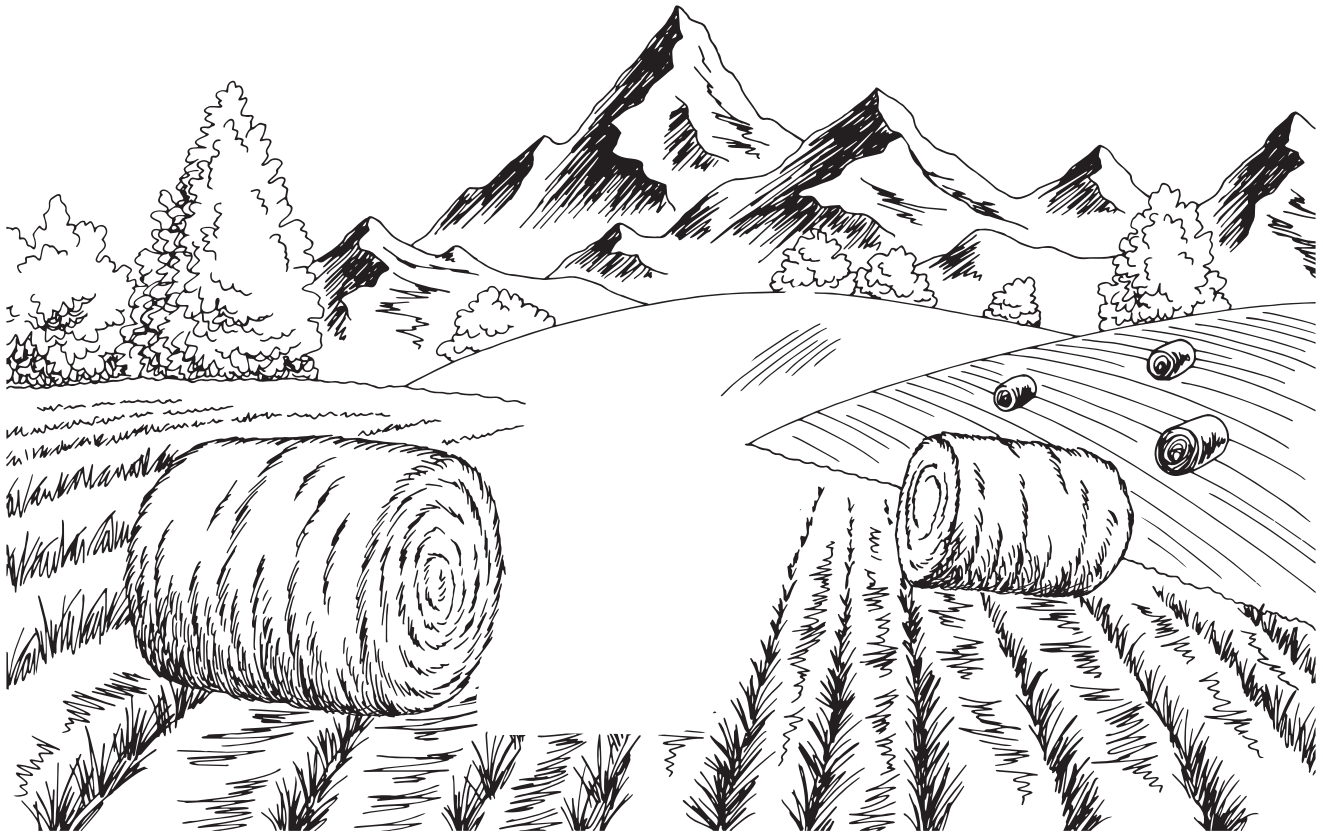


After grass is cut and dried for hay, it must be stored. The picture below shows hay that has been made into **square bales** for storage. Square bales can be lifted by a man and are about 16 inches (40 cm) tall (about the height of an adult's knee). How tall are you?



A dairy cow can eat about 50 pounds (23 kg) of hay a day (or 100 pounds if the plants are fresh)!





This picture shows **round** or **rolled bales** of hay. Round bales can only be lifted by tractors. They are up to six feet (almost 2 m) tall, or about the height of a man. Draw a picture of yourself next to a square bale of hay and another one next to a round bale. How big do you think you would be compared to each bale? Try to show that in your drawings. Color the pictures.



Sing the hymn for this unit.



Repeat the memory verse for this unit.



Thank God for the huge amount of grass on Earth that gives food to people and animals.

Plant Grass Seeds

Have you eaten any grass seeds today? What about oatmeal for breakfast? Did you eat any grain yesterday? Maybe you had a popcorn snack. Several kinds of grass seeds can probably be found in your kitchen.



Make a list below of grains you have eaten since this time yesterday.

_____	_____
_____	_____
_____	_____

You Will Need...

- An egg carton
- Potting soil
- A spray bottle
- A trowel or plastic spoon
- Two kinds of **whole grain kernels** like wheat, rice, barley, and popcorn



Definitions

Whole grain kernels are seeds that haven't been cut or ground into flour. Whole grains also have not had their nutritious **bran** (outer coating) or their **germ** (baby plant) removed. Sometimes bran and germ are removed to help grains last longer or taste milder when they are ground into flour. But without them, the seeds and flour are less nutritious and the seeds are unable to grow into plants.

1. If your egg carton is plastic or Styrofoam, poke a drainage hole in the bottom of each section.
2. Use your plastic spoon to put potting soil in each section so that it's one inch (2.5 cm) deep.
3. Sprinkle one kind of grain in six of the sections. Use enough seeds to make them cover about half of the soil's surface. Do the same with the other kind of grain.
4. Cover the seeds with 1/2 inch (1 cm) of soil.
5. Cut the lid off your egg carton and place it under the bottom half of your carton. If your egg carton is made of pressed cardboard, you will need to place it on a tray.
6. Water the soil with a mist from your spray bottle so that you don't disturb the seeds. Check it every day to make sure the soil stays damp.
7. After the seeds sprout, keep them alive with water and sunshine. You will need the grass plants for another activity.



Sing the hymn for this unit.



Repeat the memory verse for this unit.



Ask God to help you remember to water and care for your seeds.

ACTIVITY 4

Create a Collage with Cellulose

A **collage** is a work of art that is made by attaching pieces of different materials (such as paper, cloth, or wood) to a flat surface. Let's make a cellulose collage by gluing things made of cellulose onto paper or poster board (which are both made of cellulose).

You Will Need...

- Paper or poster board
- Glue
- Cellulose supplies (wooden toothpicks, craft sticks, bark, twigs, cotton balls, cotton cloth, dried parts from plants, colored paper)



Definitions

A **landscape** is made of all the things you can see in one area of the countryside. They all work together to make it beautiful.

A **still-life** is a painting or drawing of nicely arranged objects such as fruit or flowers.



Make a **landscape** or **still-life** collage with as many different cellulose supplies as you can!



Sing the hymn for this unit.



Repeat the memory verse for this unit.



Praise God for all the cellulose He put around the world! He made useful supplies grow in most places.

ACTIVITY 5

Make Ink!

Let's make our own ink out of a plant product!

Soot is the black powder that collects on surfaces near the place where something has burned. You might see soot in a fireplace after wood has burned. Or you might see soot inside a car's exhaust pipe because fossil fuel (from plants) has been burned. We have learned that soot from burned fossil fuel is used to make ink for computer printers. In fact, scientists are working on making something that can be attached to exhaust pipes to collect soot for making ink. Instead of burning fossil fuel in a factory to get soot, ink makers can get the soot from the fossil fuel already being burned by cars.

Make ink out of soot from a candle. Candles are usually made of fossil fuels.

1. Place the candle in the metal pan.
2. Use the aluminum foil to form a tent arched over the pan. Leave the ends open.
3. Light the candle. Let it burn with the flame almost touching the foil until you see black soot forming on the foil. Be careful! The foil will be hot!
4. After about an hour, blow out the candle and let the foil cool.

You Will Need...

- A short candle and a match
- A shallow metal pan
- Aluminum foil
- A wet cotton swab
- White paper
- An adult to help





5. Use the wet cotton swab to collect soot from the foil.

6. Write or draw with the swab on white paper.



Sing the hymn for this unit.



Repeat the memory verse for this unit.



Thank God for His wisdom in creating so many helpful things from plants.