

FROM FARM *to* SCHOOL – CROPS *of* NORTH CAROLINA

DIGGING *for* SWEET POTATOES ACTIVITY BOOK

Based on the story by
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Illustrations by Karen Baltimore

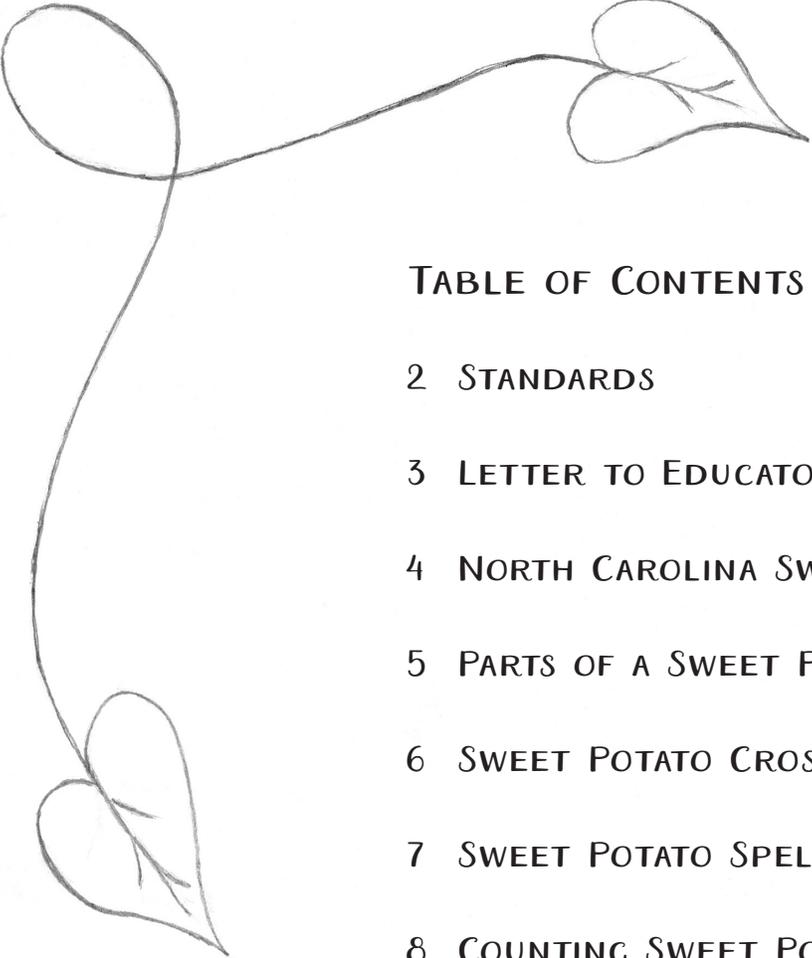


TABLE OF CONTENTS

- 2 STANDARDS
 - 3 LETTER TO EDUCATORS
 - 4 NORTH CAROLINA SWEET POTATOES AT A GLANCE
 - 5 PARTS OF A SWEET POTATO PLANT
 - 6 SWEET POTATO CROSSWORD
 - 7 SWEET POTATO SPELLING SHEET
 - 8 COUNTING SWEET POTATOES
 - 9 INTRODUCTION TO ROOT VEGETABLES
 - 10 SWEET POTATO COLOR BY NUMBER
 - 11 SWEET POTATO MAZE
 - 12 - 13 STORYBOOK WORKSHEET
 - 14 MORE FUN WITH SWEET POTATOES
 - 15 GLOSSARY
 - 16 ANSWER KEY
- 

STANDARDS

From Farm to School – Crops of North Carolina, Digging for Sweet Potatoes Storybook and Activity Book North Carolina Common Core and Essential Standards Quick Reference

The *From Farm to School – Crops of North Carolina, Digging for Sweet Potatoes* storybook and activity book allow you to teach objectives of the Healthful Living Essential Standards while integrating the concepts of healthy eating into the Common Core Standards. The Quick Reference summarizes the standards addressed in the storybook and activity book. Additional standards and objectives may be applicable in utilizing and expanding upon these resources. Effective nutrition education can motivate and enable students to eat healthy and be active. Fit, healthy students are ready to learn. Teachers can make a difference by encouraging students to eat healthy every day, incorporating nutrition education into lesson plans to reinforce healthy choices for students, and teaching and role modeling healthy eating. For a description of each standard listed below, please visit www.ncfarmtoschool.com.

| Grade | English Language Arts | Math | Science | Social Studies | Healthful Living |
|-------|---|--|---------------------------|--|----------------------------------|
| K | RI.K.1, RI.K.4, RI.K.7 RF.K.1, RF.K.1.A, RF.K.1.B, RF.K.1.C, RF.K.1.D, RF.K.3, RF.K.4 L.K.4, L.K.5.A | K.CC.3, K.CC.4, K.CC.5, K.CC.6 K.MD.1 K.G.1, K.G.2, K.G.4 | K.P.1.1 K.P.2.1 | K.H.1.2 | K.NPA.1.1, K.NPA.1.2, K.NPA.2 |
| 1 | RI.1.1, RI.1.4, RI.1.5, RI.1.6, RI.1.7, RI.1.10 RF.1.1, RF.1.3, RF.1.4 L.1.4, L.1.5.A | 1.MD.4 | 1.L.1, 1.L.1.1 1.L.2.1 | 1.G.1.2 1.E.1.1, 1.E.1.2 | 1.NPA.1.1, 1.NPA.2.1 |
| 2 | RI.2.3, RI.2.4, RI.2.5, RI.2.7, RI.2.10 RF.2.3, RF.2.4 L.2.3, L.2.4 | 2.MD.3 2.MD.6 | 2.L.2.2 | 2.H.1.1 2.G.2.1 2.E.1.1, 2.E.1.2 | 2.NPA.1.2, 2.NPA.2 |
| 3 | RI.3.1, RI.3.4, RI.3.7, RI.3.10 RF.3.3, RF.3.4 L.3.3, L.3.4 | 3.MD.5 | 3.L.2.1, 3.L.2.3 | 3.G.1.1, 3.G.1.4 3.E.2.2 | 3.NPA.2, 3.NPA.2.1 |
| 4 | RI.4.3, RI.4.4, RI.4.10 RF.4.3, RF.4.4 L.4.3, L.4.4 | | 4.L.2.2 | 4.G.1.3 | 4.NPA.2, 4.NPA.3 |
| 5 | RI.5.3, RI.5.4, RI.5.10 RF.5.3, RF.5.4 L.5.3, L.5.4 | | 5.L.2, 5.L.2.2 | 5.G.1.3 | 5.NPA.2 |

| | |
|------------------|--|
| English LA | RI = Reading: Informational Text, RF = Reading: Foundational Skills, L = Language |
| Math | CC = Counting and Cardinality, G = Geometry, MD = Measurement and Data |
| Science | P = Physical Science, L = Life Science |
| Social Studies | H = History, G = Geography and Environmental Literacy, E = Economic and Financial Literacy |
| Healthful Living | NPA = Nutrition and Physical Activity |

LETTER TO EDUCATORS

Dear Teachers,

Agriculture is North Carolina's number one industry and can be the basis for lessons in math, language arts, science, social studies, art and other school subjects.

This activity guide is designed to be used with *From Farm to School: Crops of North Carolina – Digging for Sweet Potatoes* storybook. Both are available at no cost from NCDA&CS through our website, www.ncfarmtoschool.com.

Our state produces more sweet potatoes than any other and many are served in your schools. The North Carolina Department of Agriculture and Consumer Services (NCDA&CS) has been providing fresh fruits and vegetables grown in our state, including sweet potatoes, to schools across the state since 1997 through the NC Farm to School program.

For more information on sweet potatoes visit the following:

North Carolina Farm to School program, NCDA&CS
www.ncfarmtoschool.com

North Carolina Sweet Potato Commission
www.ncsweetpotatoes.com

Ag in the Classroom, North Carolina Farm Bureau – Curricula, Workshops, Resources and Grants
www.ncagintheclassroom.com

NC Department of Public Instruction, School Nutrition Services
Childnutrition.ncpublicschools.gov/information-resources/nutrition-education

North Carolina 4-H Grow For It Program – Curricula, Programs, Resources
www.growforit.org



Design and illustration by Karen Baltimore
For more of her work, please visit
www.karenbaltimore.com

NORTH CAROLINA SWEET POTATOES AT A GLANCE

When Columbus docked his ships off the coast of the New World in 1492 he discovered Native Americans growing a number of crops, including sweet potatoes. Over the years, the vegetable became a staple in southern diets and is now consumed all over the world.

North Carolina farmers have been leaders in the sweet potato industry and now grow more than half of the United States crop every year. In 2014, farmers planted 73,000 acres of sweet potatoes in our state. One acre of land is 43,500 ft².

Sweet potatoes grown in our state are sold fresh and for processing into products like baby food, crackers and even dog food. Our farmers sell them across the United States and to other countries including Canada, England and Germany.

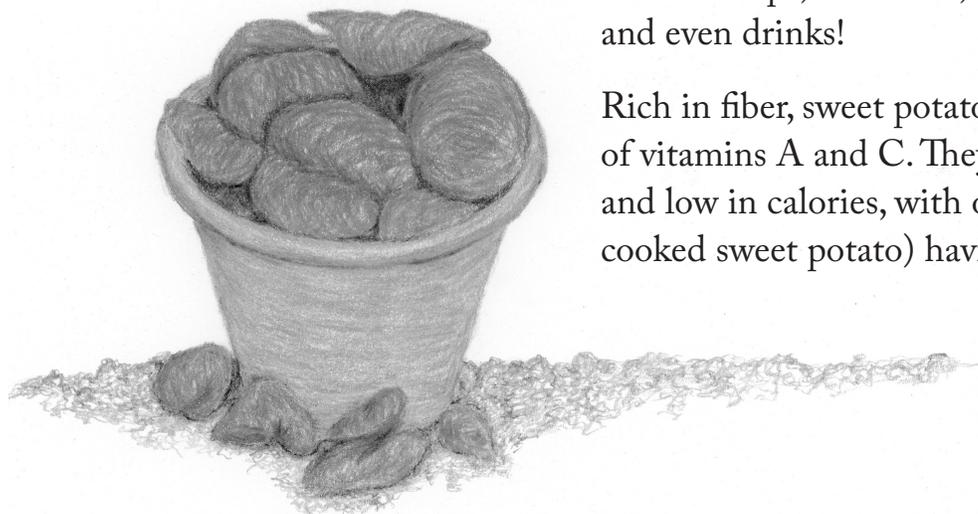
Sweet potatoes are often called yams, but they are actually two very different crops. When orange sweet potatoes were first introduced in the United States, growers needed a way to separate them from white flesh varieties. They decided to call the orange flesh sweet potatoes “yams,” an English version of the African word “nyami.” Most of the “yams” bought in the United States are actually orange flesh sweet potatoes.

A true yam is a starchy, edible root grown in Africa and the Caribbean and imported to the United States. This white fleshed vegetable can grow to seven feet in length.

February is North Carolina Sweet Potato month and recognizes our state vegetable. In 1993, students in Celia Batchelor’s fourth grade classroom in Wilson County started a letter writing campaign with a goal of having the sweet potato named our state vegetable. It took two years and a lot of letters before the North Carolina General Assembly gave sweet potatoes the honor.

Many people only think about eating sweet potatoes at Thanksgiving and Christmas but North Carolina sweet potatoes are a versatile vegetable available all year long. It can be used in soups, casseroles, main dishes, desserts and even drinks!

Rich in fiber, sweet potatoes are a good source of vitamins A and C. They are high in antioxidants and low in calories, with one serving (one medium cooked sweet potato) having just 103 calories.



PARTS OF A SWEET POTATO PLANT

Use the words in the box to label the parts of a sweet potato plant.

Flower
Stem
Fibrous roots
Storage root
Hill
Leaf



Bonus question: How many sweet potatoes are in the hill? _____

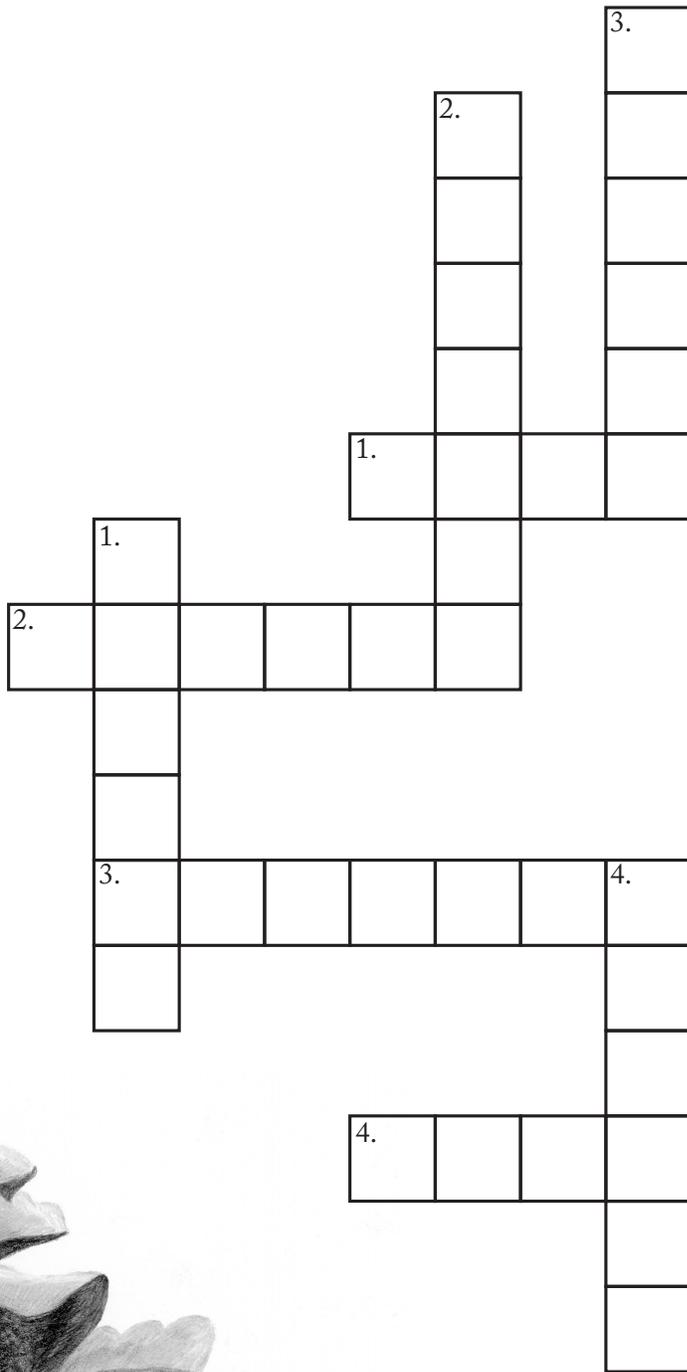
SWEET POTATO CROSSWORD

ACROSS

1. Group of sweet potatoes attached to the vine underground
2. Process causing starch in the sweet potato to change to sugar
3. Instead of seeds, sweet potatoes are grown from _____.
4. Part of the sweet potato plant that we eat

DOWN

1. Month sweet potato harvest begins
2. A _____ board is a tool used to train workers in the field on how to grade the size of sweet potatoes.
3. The most serious pest of sweet potatoes
4. Machine workers ride on to plant sprouts in the field



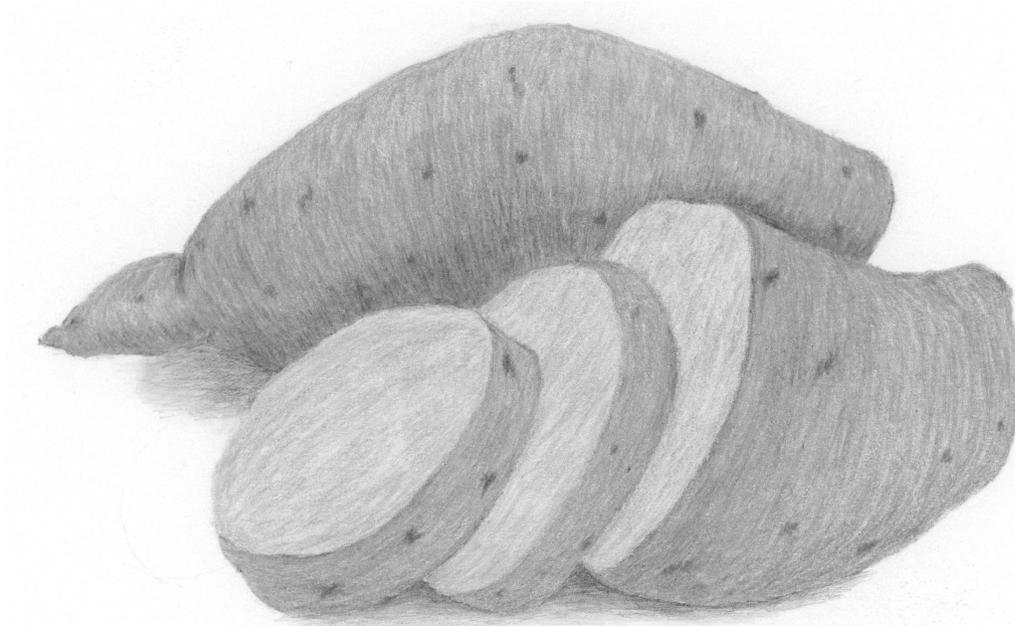
SWEET POTATO SPELLING SHEET

How many words can you make out of the letters from the words "Sweet Potato?" Fill in the blanks with as many words as you can make. An example is shown below.

SWEET POTATO

at

| | | |
|-------|-------|-------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |



COUNTING SWEET POTATOES

Color the drawing and answer the questions below.



1. How many sweet potato vines are there? _____

2. How many hills are there? _____

3. How many sweet potatoes can you find? _____

Bonus: Circle the hill of each vine.

INTRODUCTION TO ROOT VEGETABLES

Sweet potatoes are a root vegetable, meaning they are an edible root that grows underground. They aren't the only vegetable that grows underground. There are lots more! Do you recognize any of the root vegetables shown below? Have you eaten any of them? Color the vegetables and circle any that you have eaten.



Carrot



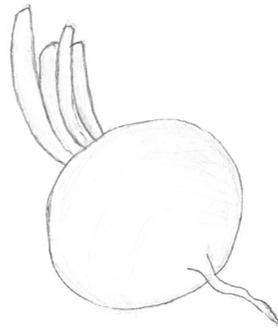
Garlic



Beet



Yellow Onion



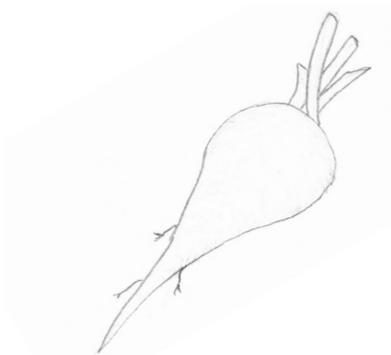
Turnip



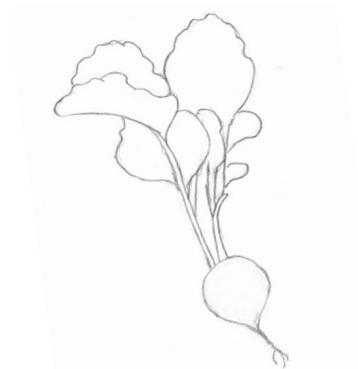
Shallot



Ginger



Parsnip



Radish

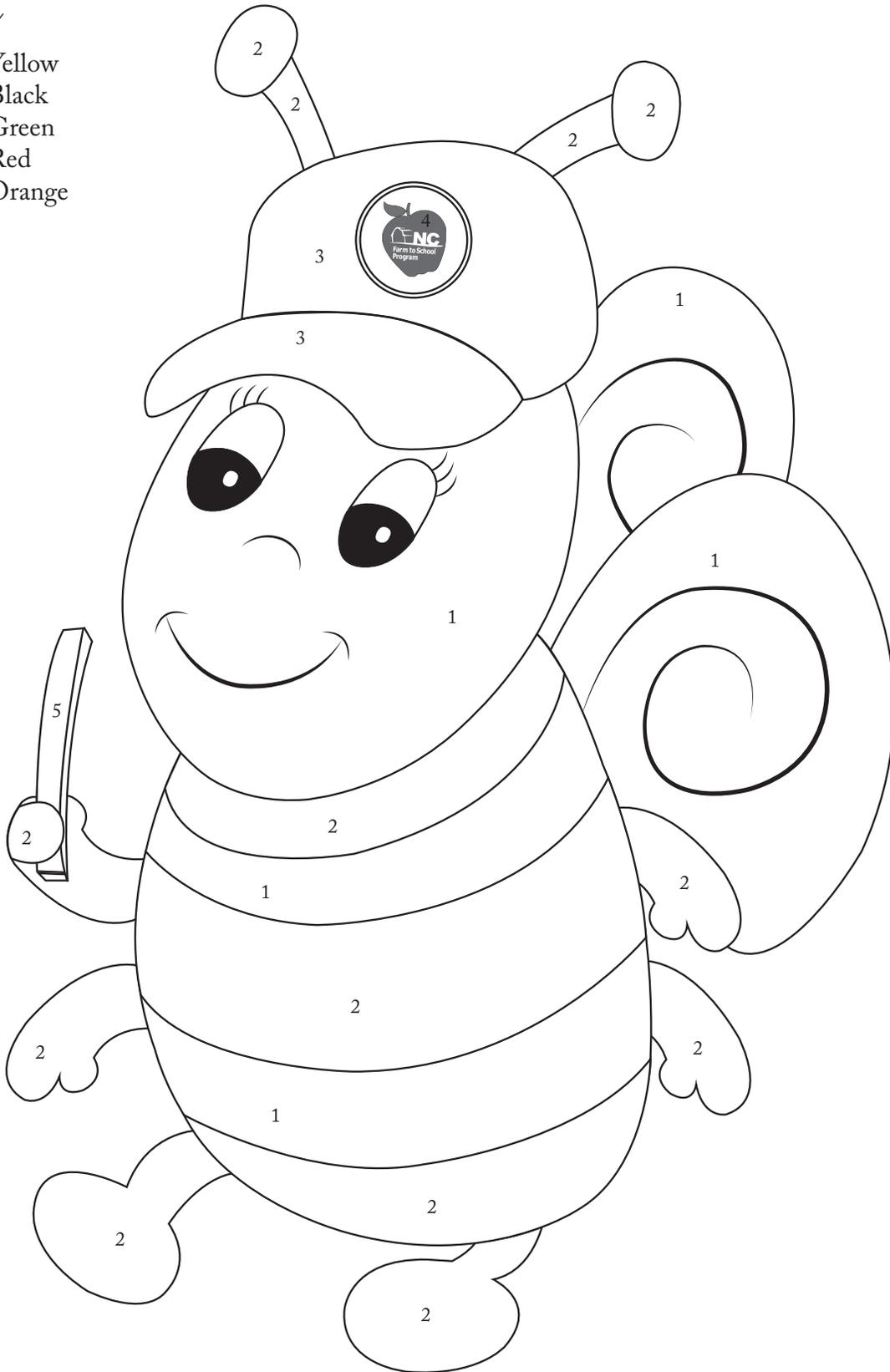
Bonus question: Count the root vegetables above. How many are there? _____

SWEET POTATO COLOR BY NUMBER

Farmer Bee loves sweet potato sticks for a healthy snack! Do you? Use the key below to color Farmer Bee.

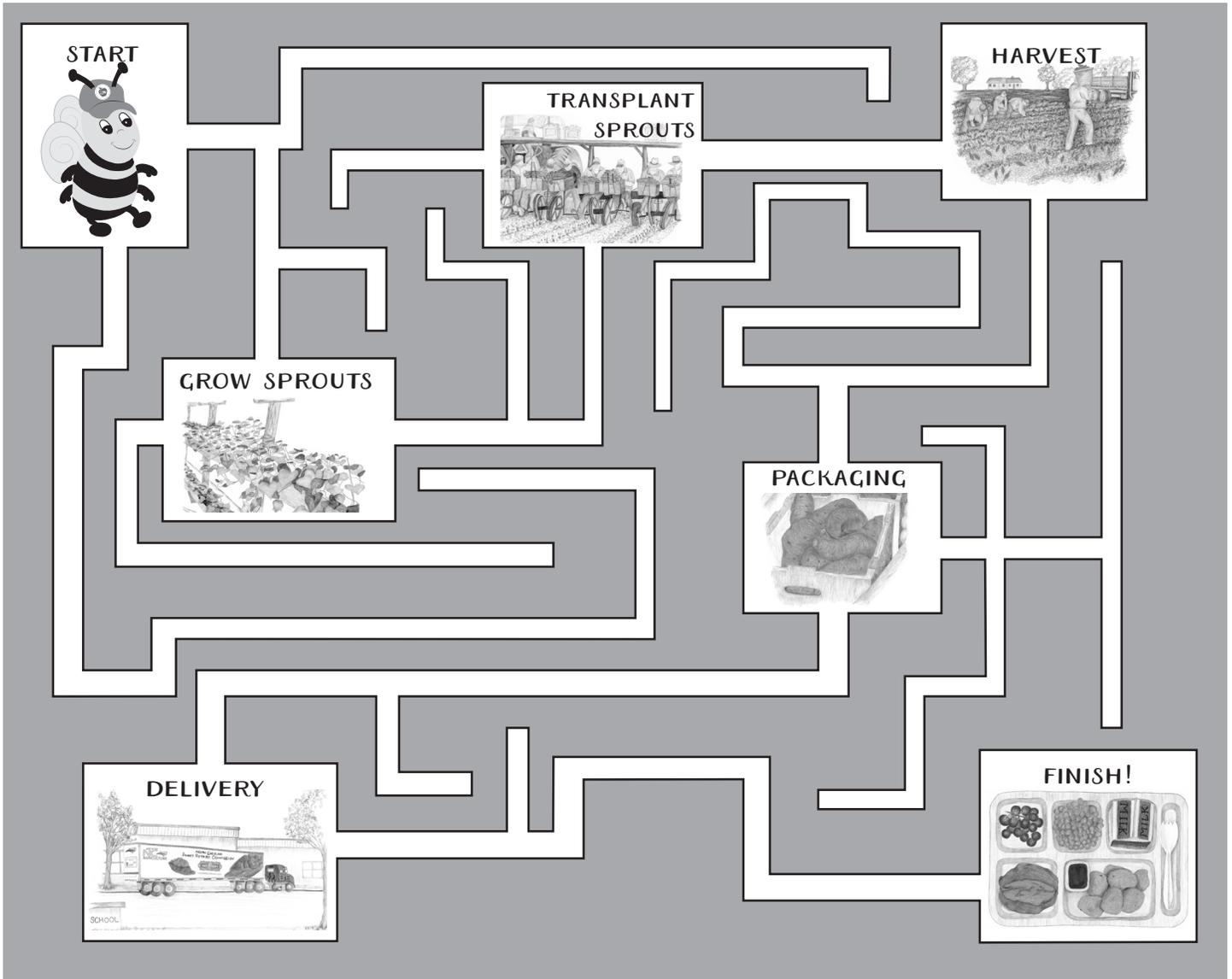
KEY

1. Yellow
2. Black
3. Green
4. Red
5. Orange



SWEET POTATO MAZE

Help Farmer Bee visit each step in order to follow the sweet potato from farm to school.



Have you eaten sweet potatoes at your school?



STORYBOOK WORKSHEET

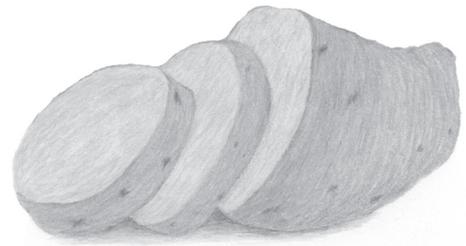
Circle the best answer to the following questions based on the story.

- In what month is peak harvest for sweet potatoes?
 - June
 - March
 - October
 - August
- Which variety of sweet potato has purple flesh?
 - Bellevue
 - Stokes
 - Bonita
 - Covington
- The cluster of sweet potatoes that grows from a vine is known as the _____.
 - Hill
 - Clump
 - Root
 - Flower
- Instead of using sweet potato seeds to grow sweet potatoes, farmers plant _____ that have been grown in a field or greenhouse.
 - Roots
 - Sprouts
 - Flowers
 - Stems
- Sprouts are grown in a field by bedding whole _____.
 - White potatoes
 - Flowers
 - Stems
 - Seed sweet potatoes
- Farmers lay _____ over the rows to hold in water and heat and also protect the plants from frost.
 - Burlap
 - Dirt
 - Plastic
 - Blankets
- As the plants grow, the farmer will tear larger holes in the plastic so more _____ can reach the vine.
 - Oxygen
 - Water
 - Sunshine
 - Fertilizer



8. Workers ride on a machine called a _____ to transplant the sprouts in the field.
- Bedder
 - Setter
 - Tiller
 - Cultivator

9. After planting, rows are _____ to help control weeds.
- Seeded
 - Watered
 - Covered
 - Plowed



10. Honeybees help farmers by visiting each sweet potato vine, carrying _____ from flower to flower.
- Sugar
 - Pollen
 - Nectar
 - Seeds

11. Farmers put green traps in the sweet potato fields to trap the sweet potato _____, the most serious pest of sweet potatoes.
- Mosquito
 - Aphid
 - Hornet
 - Weevil

12. Sweet potatoes are stored in large boxes for curing. Most boxes hold ___ bushels.
- 40
 - 125
 - 350
 - 15

13. Cured sweet potatoes can be stored for up to _____.
- Six weeks
 - Five months
 - One year
 - Seven years

14. Sweet potatoes are washed _____ curing.
- Before
 - After

15. A _____ is a training tool used in the field to grade the sweet potatoes to the right size.
- Scale
 - Ruler
 - Sorting board
 - Measuring tape



MORE FUN WITH SWEET POTATOES

By any other name...

Did you know sweet potatoes were grown in Peru as early as 750 BC? That's a long time ago! Sweet potatoes are eaten in many countries around the world. Here is a list of names that other countries have for sweet potatoes:

China: fan shu

Fiji: kumala

India: shakar-kandi

Indonesia: ubi-jalar

Japan: Satsuma imo

Malaysia: keledek

Philippines: kamote

Sri Lanka: bath-ala

Thailand: man-thet

Grow your own sweet potato vine!

Sweet potato vines can make cool house plants. Ask an adult to help you grow your very own sweet potato vine.

What you will need:

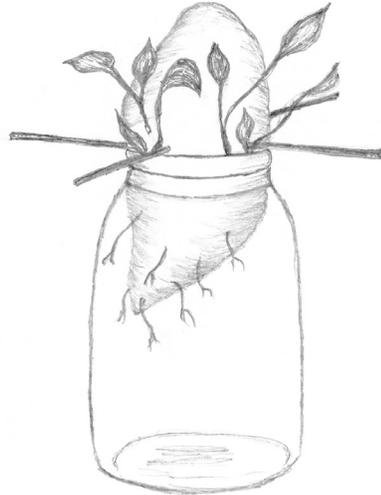
1 sweet potato

4 toothpicks or skewers

1 glass jar

Water

Choose a firm sweet potato. Using four toothpicks, suspend the vegetable on the rim of a glass jar. Make sure the bottom half (the pointed end) is under water. Place in a sunny spot, change or add water as needed. In a few days, roots will form below the water. Three weeks later, leaves and stems will sprout from the top. Continue to grow the plant in water. After a month or two, you can pot the sweet potato in a houseplant potting mix. Keep the soil moist and feed once a month with a fertilizer.



Want to learn more about North Carolina?

The sweet potato is the state vegetable of North Carolina, but there are lots more symbols to learn about. To find out more, go to www.secretary.state.nc.us/kidspg/symbols.htm.

Use your senses...

Get a raw and a cooked (cooled) sweet potato and investigate them with your senses.

- Touch the outside of the sweet potato. Is it rough or smooth? Hard or soft?
- Ask an adult to help you cut the sweet potato into pieces. What color is the inside of the potato? How does it feel?
- Now take a bite. What is the texture of the sweet potato? What does it taste like? Do you like the raw or the cooked better?

Make a smoothie!

Ingredients:

1 medium baked sweet potato, cooled and peeled

1 medium navel orange, peeled

1 medium apple, cored

1 banana, peeled

1 tablespoon maple syrup

Optional:

1/2 teaspoon grated fresh ginger

1/4 teaspoon ground cinnamon

Instructions

Mix all ingredients in a blender until smooth. If desired, add a little water. Makes 2 smoothies

GLOSSARY

Agriculture – the science, art or practice of cultivating the soil, producing crops and raising livestock. Also includes the preparation and marketing of the resulting products.

Bedder – piece of equipment used to form soil into raised beds

Curing – process that causes some starches in the sweet potato to convert to sugar, making the crop taste sweeter. This improves flavor and storage life of sweet potatoes. Curing is achieved by keeping sweet potatoes in a warm, humid room for 4-7 days.

Farm – land used for growing crops or raising animals

Farmer – A person who cultivates land or crops or raises animals, such as livestock or fish

Frost – thin layer of ice that forms on surfaces when temperatures are cold

Greenhouse - a structure with glass or plastic walls and roof used for growing plants

Harvest – to gather a crop when it has reached maturity

Raised Bed – soil that is mounded above soil level for the purpose of planting

Root – a part of the plant that grows underground, absorbing water and nutrients

Root Vegetable – an edible root that grows under the ground

Setter – machine used to transplant sweet potato sprouts

Soil – the upper layer of earth that may be dug or plowed and in which plants grow

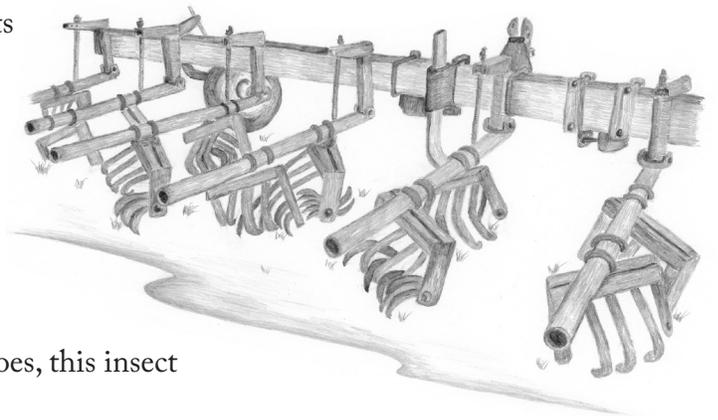
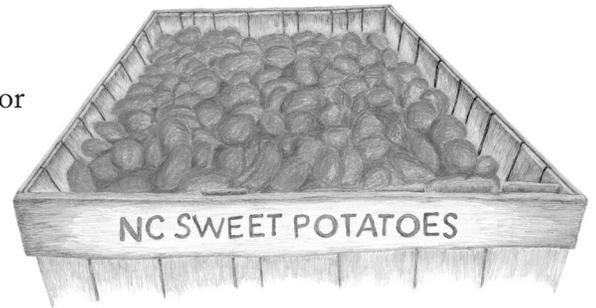
Sprout – new growth

Storage Root – enlarged root that stores large amounts of starch and carbohydrates

Sweet Potato Weevil – most serious pest of sweet potatoes, this insect feeds on leaves, stems and the sweet potato itself

Tractor – a piece of equipment that has many jobs on the farm, including pulling other equipment like a bedder, setter or plow

Transplant – to move a plant from one place to another



ANSWER KEY

Page 5

1. Flower
 2. Leaf
 3. Stem
 4. Fibrous roots
 5. Hill
 6. Storage root
- Bonus: 4

Page 6

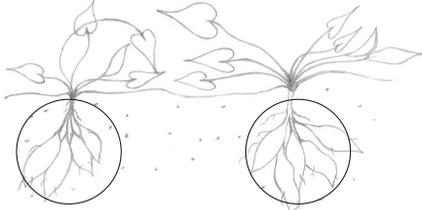
ACROSS

1. Hill
2. Curing
3. Sprouts
4. Root

DOWN

1. August
2. Sorting
3. Weevil
4. Setter

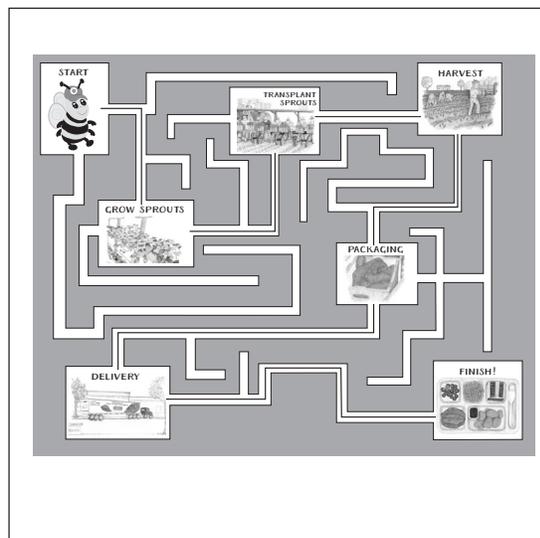
Page 8

1. 2
 2. 2
 3. 9
- BONUS**
- 

Page 9

There are a total of 9 root vegetables.

Page 11



Page 12 – 13

- | | |
|------|-------|
| 1. c | 9. d |
| 2. b | 10. b |
| 3. a | 11. d |
| 4. b | 12. a |
| 5. d | 13. c |
| 6. c | 14. b |
| 7. a | 15. c |
| 8. b | |



The North Carolina Farm to School program has been supplying school cafeterias with fresh, NC grown produce since 1997. The program is coordinated by the North Carolina Department of Agriculture and Consumer Services. For more information, please visit ncfarmtoschool.com.



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