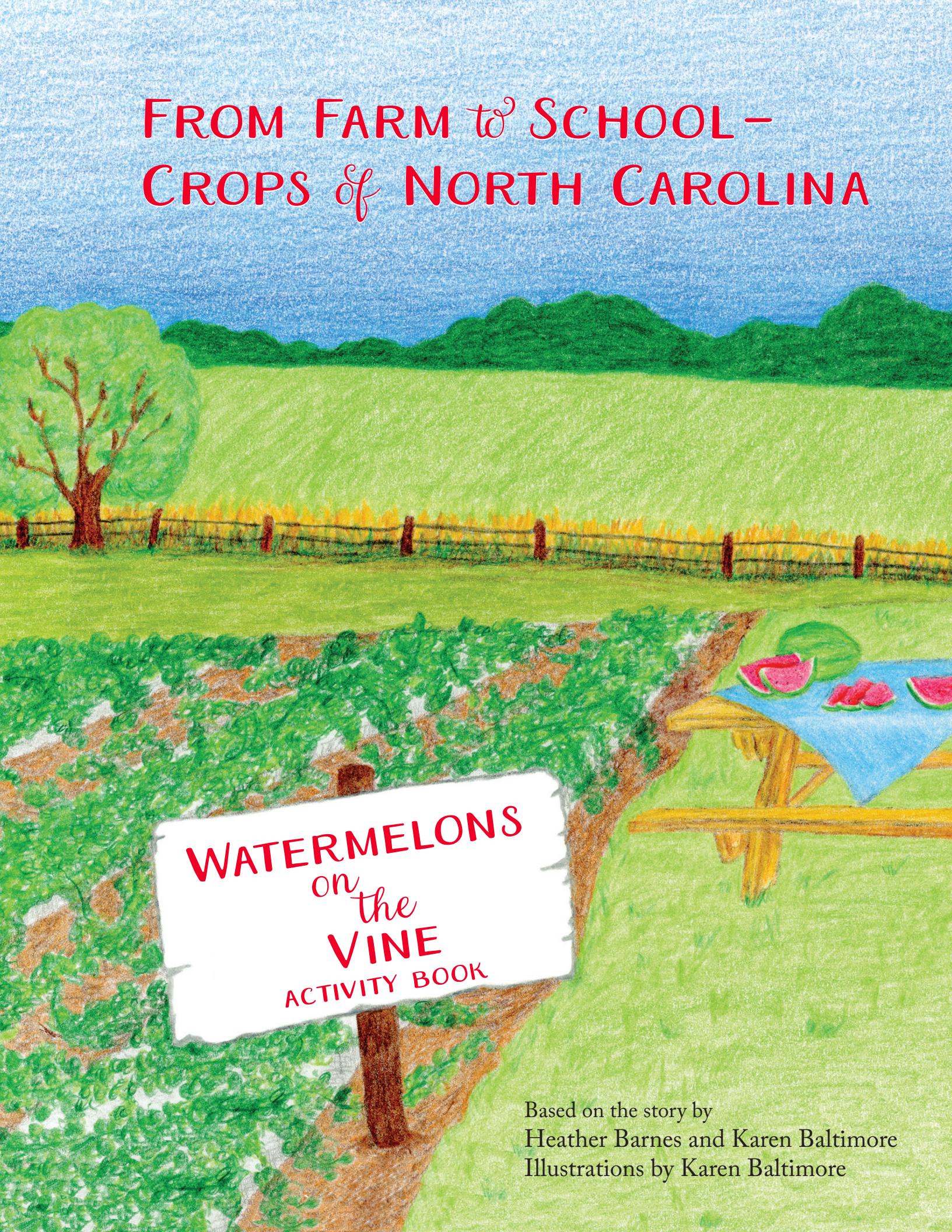


FROM FARM to SCHOOL – CROPS of NORTH CAROLINA



WATERMELONS on the VINE ACTIVITY BOOK

Based on the story by
Heather Barnes and Karen Baltimore
Illustrations by Karen Baltimore

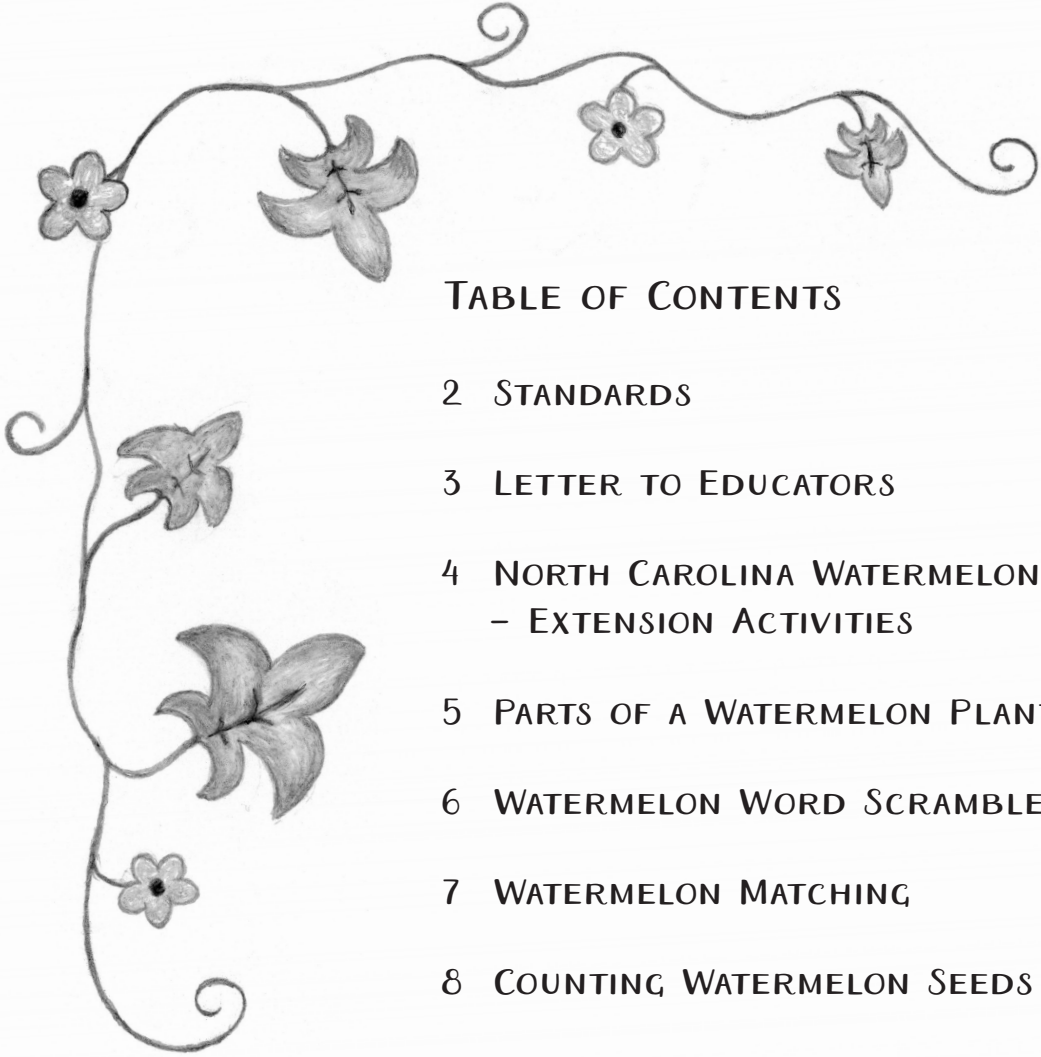


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STANDARDS

From Farm to School – Crops of North Carolina: Watermelons on the Vine Storybook and Activity Book North Carolina Common Core and Essential Standards Quick Reference

The *From Farm to School – Crops of North Carolina: Watermelons on the Vine* 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	Information Technology	Science	Social Studies	Healthful Living
Kindergarten	L.K.1, L.K.2, L.K.4 RF.K.1, RF.K.3, RF.K.4 RI.K.1, RI.K.2, RI.K.3, RI.K.4, RI.K.7 RL.K.1, RL.K.4, RL.K.7 W.K.8	K.CC.1, K.CC.2, K.CC.3, K.CC.4, K.CC.5, K.CC.6 K.G.1, K.G.2, K.G.3, K.G.4 K.MD.1, K.MD.2	K.TT.1.1	K.E.1	K.G.1.2, K.G.2.2 K.H.1.2	K.NPA.1.1, K.NPA.1.2, K.NPA.2
1	L.1.1, L.1.4 RF.1.1, RF.1.3, RF.1.4 RI.1.1, RI.1.2, RI.1.3, RI.1.4, RI.1.5, RI.1.6, RI.1.7, RI.1.10 RL.1.1, RL.1.7 W.1.8	1.MD.4 1.NBT.1, 1.NBT.4, 1.NBT.6	1.TT.1.1	1.E.2.2 1.L.1.1, 1.L.1.2, 1.L.1.3, 1.L.2.1	1.E.1 1.G.1, 1.G.2.2	1.NPA.1.1, 1.NPA.1.2, 1.NPA.2
2	L.2.3, L.2.4, L.2.6 RF.2.3, RF.2.4 RI.2.1, RI.2.2, RI.2.3, RI.2.4, RI.2.5, RI.2.6, RI.2.7, RI.2.10 RL.2.1, RL.2.10 W.2.8	2.MD.1, 2.MD.4, 2.MD.10 2.NBT.2, 2.NBT.3, 2.NBT.7	2.TT.1.1	2.E.1	2.E.1.1, 2.E.1.2 2.G.1, 2.G.2	2.NPA.2
3	L.3.3, L.3.4 RI.3.1, RI.3.2, RI.3.3, RI.3.4, RI.3.5, RI.3.7, RI.3.8, RI.3.10 RF.3.1, RF.3.2 RL.3.1, RL.3.4, RL.3.7, RL.3.10 W.3.7	3.G.2 3.MD.2, 3.MD.3, 3.MD.4, 3.MD.5, 3.MD.6, 3.MD.7 3.NF.3 3.OA.3, 3.OA.7	3.IN.1.1 3.TT.1.1	3.L.2	3.E.1, 3.E.2 3.G.1	3.NPA.1, 3.NPA.2
4	L.4.1, L.4.3, L.4.4 RI.4.1, RI.4.2, RI.4.3, RI.4.4, RI.4.5, RI.4.7, RI.4.10 RF.4.3, RF.4.4 RL.4.1, RL.4.2, RL.4.4, RL.4.7, RL.4.10 W.4.8	4.MD.2 4.NBT.2, 4.NBT.4, 4.NBT.5, 4.NBT.6 4.NF.4, 4.NF.5, 4.NF.6, 4.NF.7 4.OA.2, 4.OA.3	4.TT.1.1	4.L.1, 4.L.2	4.E.1 4.G.1	4.NPA.2
5	RI.5.1, RI.5.2, RI.5.3, RI.5.4, RI.5.7, RI.5.10 RF.5.3, RF.5.4 RL.5.1, RL.5.4, RL.5.7 L.5.3, L.5.4 W.5.8	5.NBT.5, 5.NBT.6, 5.NBT.7 5.NF.2, 5.NF.3, 5.NF.4, 5.NF.5, 5.NF.6, 5.NF.7 5.MD.3, 5.MD.5	5.SI.1.1 5.TT.1.1	5.E.1 5.L.1 5.P.2.1, 5.P.3	5.E.1 5.G.1	5.NPA.2

English Language Arts	L = Language, RF = Reading: Foundational Skills, RI = Reading: Informational Text, RL = Reading Standards for Literature, W = Writing
Math	CC = Counting and Cardinality, G = Geometry, MD = Measurement and Data, NBT = Number and Operations in Base Ten, NF = Number and Operations: Fractions, OA = Operations and Algebraic Thinking
Science	E = Earth, L = Life Science, P = Physical Science
Information Technology	IN = Informational Text, SI = Sources of Information, TT = Technology as a Tool
Social Studies	E = Economic and Financial Literacy, G = Geography and Environmental Literacy, H = History
Healthful Living	NPA = Nutrition and Physical Activity

LETTER TO EDUCATORS

Dear Teachers,

Agriculture is North Carolina's number one industry. The NC Department of Agriculture and Consumer Services (NCAD&CS) has been providing fresh, NC produce to schools across the state since 1997 through the NC Farm to School Program.

Agriculture 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: Watermelons on the Vine*, also available from NCDA&CS. Printed copies are available on a first-come, first-serve basis and can also be downloaded from our website, www.ncfarmtoschool.com.

For more information on watermelons visit the following:

NC Department of Agriculture and Consumer Services
www.ncagr.gov/markets/kidstuff

NC Farm to School Program
www.ncfarmtoschool.com

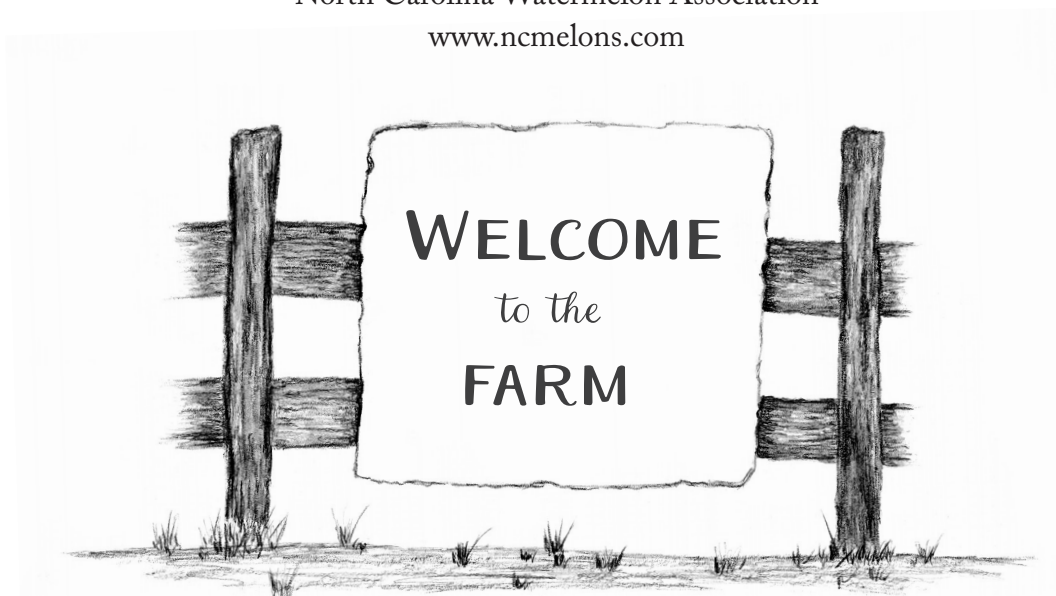
NC Cooperative Extension/4-H, Grow For It
www.growforit.org – See the “Curriculum” Section

NC Farm Bureau, Ag in the Classroom – Curricula, Workshops, Resources and Grants
www.ncaginthe classroom.com

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

National Watermelon Promotion Board
www.watermelon.org

North Carolina Watermelon Association
www.ncmelons.com



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

NORTH CAROLINA WATERMELONS AT A GLANCE – EXTENSION ACTIVITIES

July is National Watermelon Month. Peak season in our state is mid-July. North Carolina farmers grow enough watermelons to rank eighth in the United States.

- Have students use NCDA&CS's Agricultural Statistics, found at www.ncagr.gov/stats, to research what states rank one through seven.
- Find out how many watermelons North Carolina grows. Compare that to the number of watermelons grown by the state which ranks first.

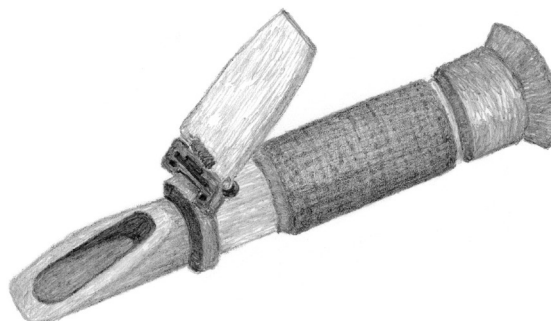
Watermelons in North Carolina are typically grown on farms located east of Interstate-95. Soil type, topography, temperature and average rainfall all combine to create favorable growing conditions.

- Contact your local Natural Resources Conservation Service office and ask for a soil profile for your county. Identify the type of soil at your school and decide if you could grow watermelons there.
- Have students bring in a container of soil from their yard. Conduct experiments to identify what type of soil they have, how well it drains and other activities found in the Soil Solutions curriculum at www.growforit.org/curriculum/detail/soil_solutions.

Our farmers grow many different varieties of watermelons, including mini/personal, seeded and seedless. The flesh can be red, orange or yellow. One cup of diced watermelon has less than 50 calories, little fat and no sodium or cholesterol. It is an excellent source of vitamin C and a good source of vitamin A. Watermelon is also a source of potassium and lycopene.

- Offer students different varieties of watermelons. Have students weigh, measure the circumference and calculate the area of each watermelon. Assist students in cutting each watermelon open. Ask students to record observations such as flesh color and number of seeds. Cut samples of each for students to taste, then vote for their favorite. Tally the votes and graph the results to declare a class winner!

Nutrition Facts	
1/8 medium melon, diced	
Serving Size 2 cups (280g)	
Amount per serving	
Calories	80
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 21g	7%
Dietary Fiber 1g	4%
Total Sugars 20g	
Includes 0g Added Sugars	
Protein 1g	
Vitamin A	30%
Calcium	2%
Iron	4%
Vitamin C	25%



- Using a refractometer, a tool that measures the sugar content, measure the amount of sugar in different fruits, including watermelon. Which has the highest and lowest levels?
- Ask students to bring in two nutrition labels from a food they eat at home. Have them compare those labels with one for watermelon. Create a chart for students to complete and ask them to identify which food is the most nutritious.

PARTS OF A WATERMELON PLANT

Use the words in the box to label the parts of a watermelon plant. Color the picture.

Vine
Flower
Leaf
Fruit
Stem
Roots



Bonus question: How many flowers are there on the watermelon vine? _____

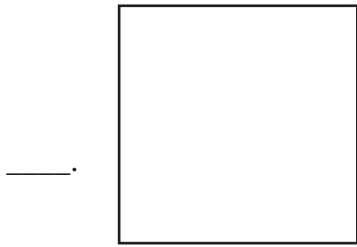
WATERMELON WORD SCRAMBLE

Unscramble the letters below to create watermelon-related words.

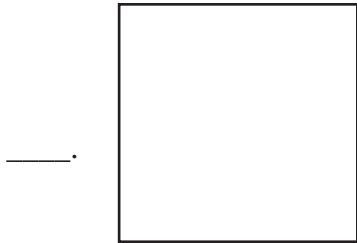
1. **DESE** _ _ _ _
2. **AVTHRSE** _ _ _ _ _
3. **NVEI** _ _ _
4. **MREFRA** _ _ _ _ _
5. **DSEELSE** _ _ _ _ _
6. **LPSITCA** _ _ _ _ _
7. **TRESTE** _ _ _ _ _
8. **LFWEOR** _ _ _ _ _
9. **PRIE** _ _ _
10. **LPTNA** _ _ _ _ _
11. **EDLIF** _ _ _ _ _
12. **NRID** _ _ _
13. **DBERED** _ _ _ _ _
14. **ESBE** _ _ _

WATERMELON MATCHING

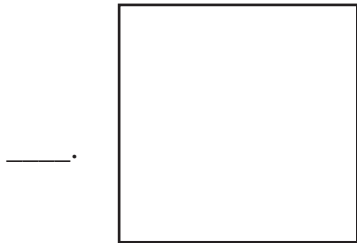
Watermelons grow in phases. Cut out the pictures below and match them with the phrase that describes them. Then number each one so that the phases are in the correct order.



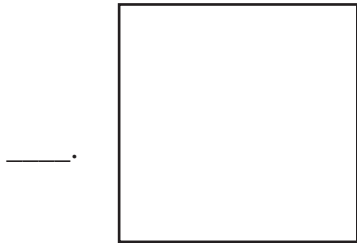
Next, a sprout begins to grow.



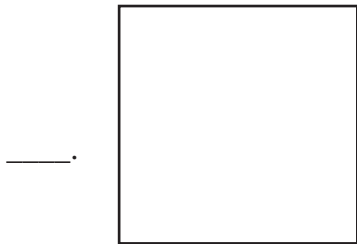
A flower blooms from the vine. A melon forms on the flower.



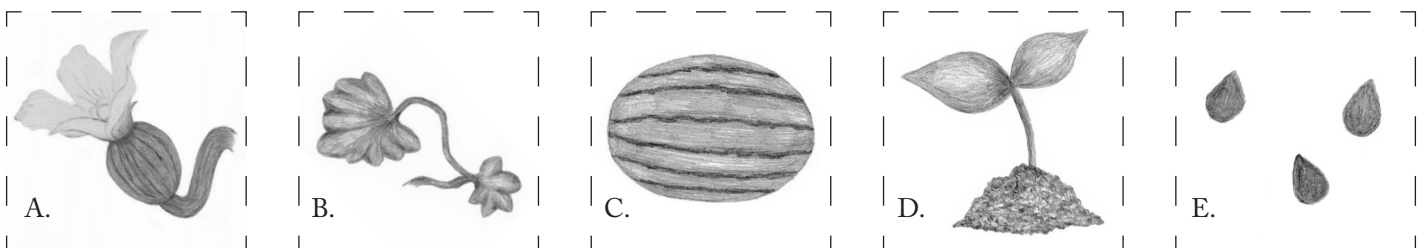
Watermelons begin as a seed.



The transplanted sprout grows into a vine.

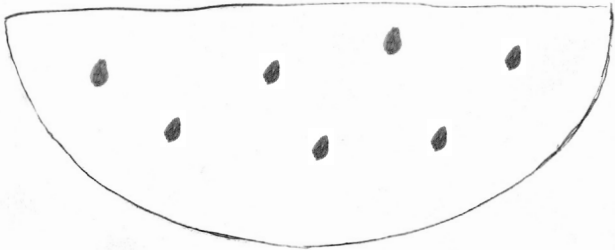
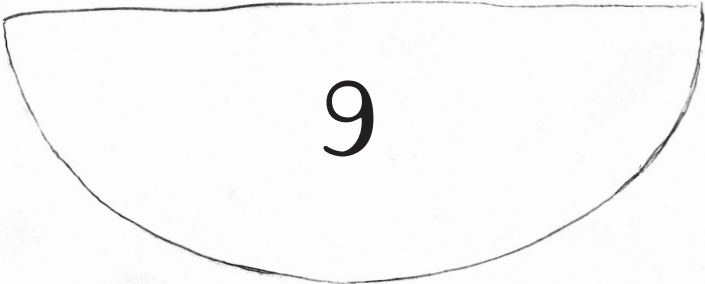
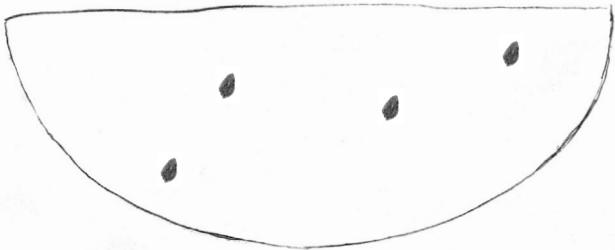
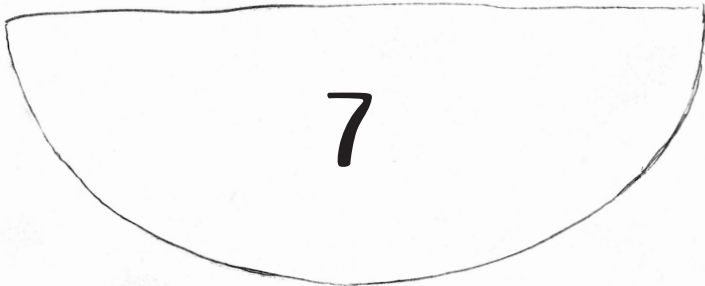
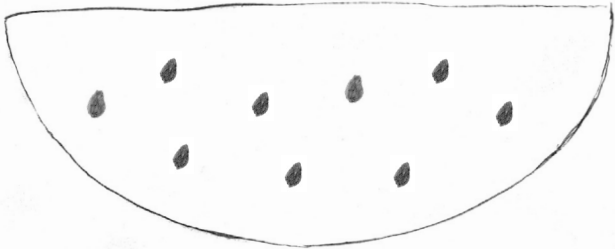
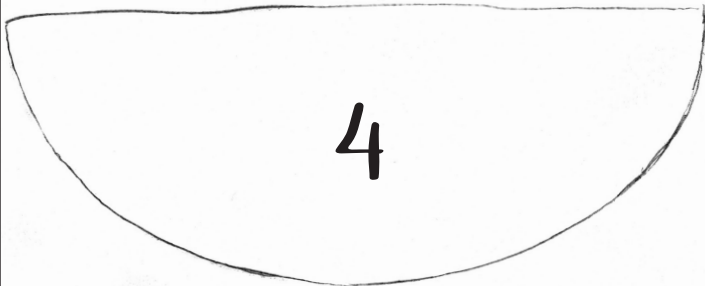


The watermelon grows and ripens until it is big and juicy.

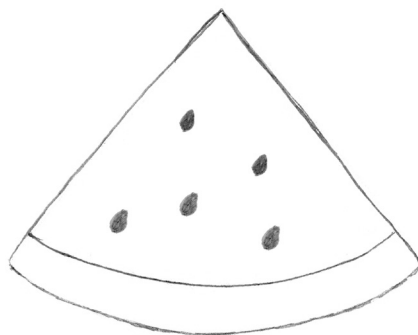
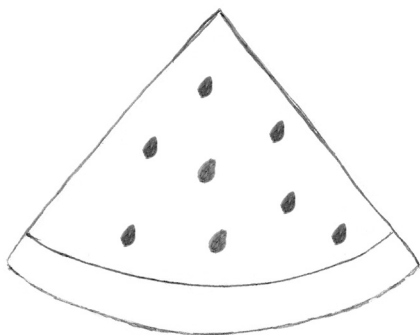
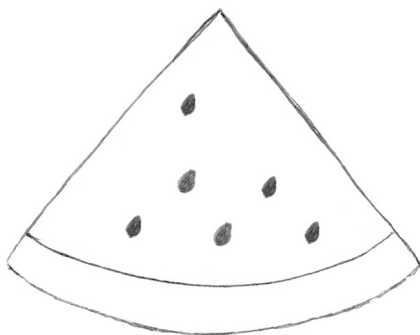


COUNTING WATERMELON SEEDS

Watermelon flesh is the juicy part you eat and where seeds can be. Flesh can be red, orange or yellow. The rind is the hard, green outer shell. Color the flesh and rind pieces below. Cut out the flesh and count the seeds in each piece. Paste it to the rind that has the matching number.

FLESH	RIND
	
	
	

Count the seeds in each watermelon slice and circle the number below that matches. Color each slice.

								
4	7	5	8	3	6	5	6	4

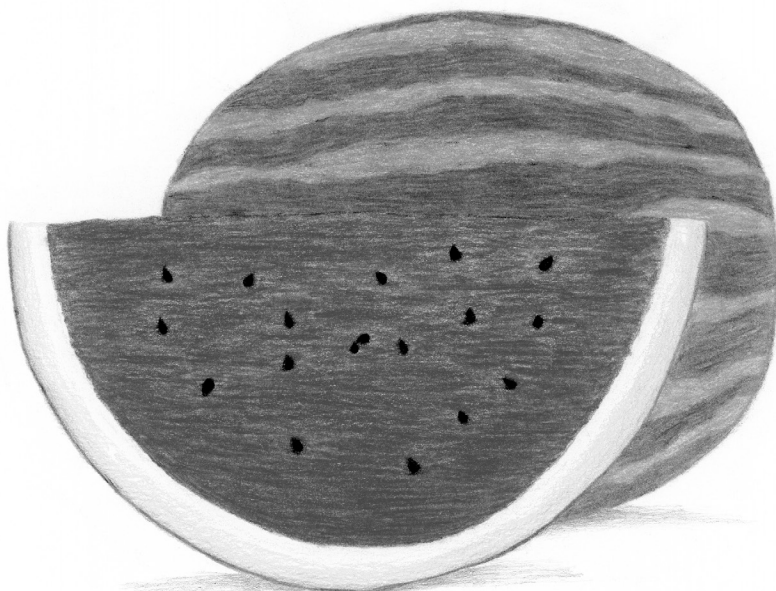
ALL ABOUT WATERMELONS

Read the passage below and use the information to answer the questions.

Watermelons begin as seeds. Seeds are planted in a Styrofoam tray in a greenhouse. With water, sunshine, and nutrients, the seeds will sprout and grow into young plants. Once the plants have grown big enough, they will be transplanted to a field. The plants will grow into vines that spread and cover the bare ground. Flowers will soon bloom. Bees will visit the flowers and pollinate them. The watermelon will grow from the flower. The melon will grow and ripen until it is picked. Peak harvest for watermelons is in the summer.

There are over 1200 varieties of watermelon! They can be different sizes and have different markings on the rind, flesh color, number of seeds and sweetness. Watermelons are approximately 92 percent water, higher than any other fruit. Watermelon is an excellent source of vitamin C and a good source of vitamin A. It also has potassium and lycopene. Every part of the watermelon is edible, including the rind and seeds.

1. Where are watermelon seeds planted?
 - A. the ground
 - B. a pot
 - C. a greenhouse
 - D. a flower bed
2. What part of the watermelon plant does the watermelon grow from?
 - A. the vine
 - B. the flower
 - C. the stem
 - D. the leaf
3. How many varieties of watermelons are there?
 - A. 700
 - B. over 400
 - C. about 200
 - D. over 1200
4. How much of a watermelon is water?
 - A. approximately 92 percent
 - B. approximately 66 percent
 - C. approximately 72 percent
 - D. approximately 88 percent
5. What part of the watermelon is edible?
 - A. the flesh
 - B. the rind
 - C. the seeds
 - D. all of the above

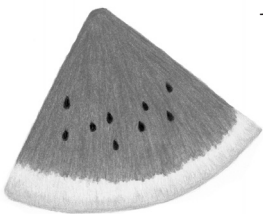


WATERMELON MATH



Solve the problems below.

1. Mike and Sally went to the grocery store and counted 52 watermelons. They went to another store and counted 43. How many total watermelons did Mike and Sally count?
2. Tommy slices a watermelon into 18 slices. There are 3 plates on the table. How many slices will Tommy need to put on each plate so that each plate has the same number of slices?
3. Missy counted 9 seeds in her slice of watermelon, John counted 13 seeds in his slice and Brad counted 7 seeds in his slice. How many total seeds did they count?
4. It is time for the farmer to plant watermelon plants in his fields. He has 4 fields. If he needs 355 plants for each field, how many total plants will he need?
5. Kara needs 683 seeds to make her watermelon seed collage. She has 457 seeds. How many more seeds does Kara need?
6. Brian eats 2 slices of watermelon with his lunch every day. How many slices of watermelon does he need for 13 days?



BONUS: There are 774 watermelons in the field. Every day, 86 watermelons are harvested. How many days will it take to harvest all of the watermelons?

COLORING PAGE

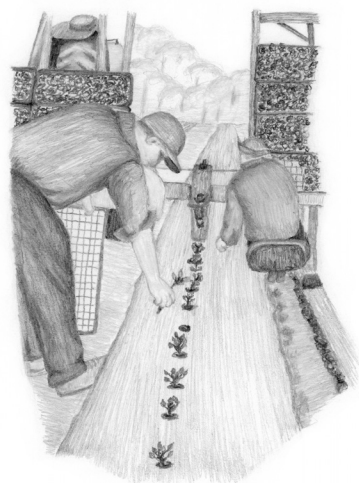
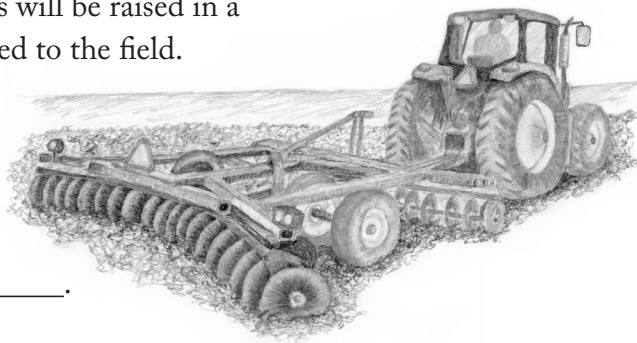
Farmer Bee loves North Carolina watermelon for a healthy, delicious snack. What about you? Color Farmer Bee.



STORYBOOK WORKSHEET

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

1. North Carolina is the _____ largest grower of watermelons in the United States.
 - A. 3rd
 - B. 5th
 - C. 8th
 - D. 9th
2. Watermelon harvest in North Carolina peaks in the _____.
 - A. fall
 - B. summer
 - C. winter
 - D. spring
3. In March, farmers plant seeds in _____. The plants will be raised in a greenhouse until they are large enough to be transplanted to the field.
 - A. buckets
 - B. beds
 - C. pots
 - D. trays
4. Farmers begin preparing fields for transplants in _____.
 - A. mid-June
 - B. mid-April
 - C. mid-August
 - D. mid-February
5. Farmers use a _____ to form rows of raised beds.
 - A. setter
 - B. plow
 - C. bedder
 - D. disc
6. The plants will be watered through _____ that is placed under the plastic.
 - A. drip tape
 - B. funnel
 - C. sprinkler
 - D. hose
7. Young plants are transplanted to the field in _____.
 - A. September
 - B. June
 - C. August
 - D. May



8. If planting seedless variety watermelons, a seeded variety plant will be planted every _____ plants.
- A. seven or eight
 - B. four or five
 - C. two or three
 - D. five or six

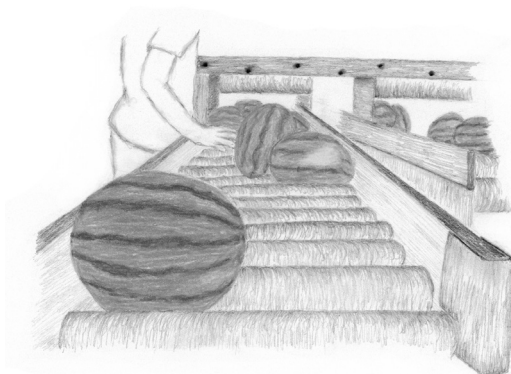
9. A honey bee must visit each flower on the vine _____ times for it to be fully pollinated.
- A. seven
 - B. five
 - C. eight
 - D. three



10. Watermelons begin as a flower. A _____ will grow from the flower.
- A. leaf
 - B. vine
 - C. melon
 - D. root

11. Vines will produce the first watermelons within _____ days of transplanting.
- A. 9
 - B. 40
 - C. 25
 - D. 18

12. An average seedless watermelon weighs _____ pounds.
- A. 15
 - B. 7
 - C. 3
 - D. 11



13. Watermelons are ready for harvest _____ days after transplanting.
- A. 60 to 70
 - B. 20 to 30
 - C. 10 to 15
 - D. 80 to 90
14. Workers walk through each field up to four times from _____ to _____ because watermelons ripen at different times.
- A. June to July
 - B. July to September
 - C. April to June
 - D. January to March
15. Seedless watermelons can be packed in a cardboard bin that hold _____ melons.
- A. 22, 40 or 56
 - B. 34, 50 or 65
 - C. 36, 45 or 60
 - D. 18, 36 or 54

MORE FUN WITH WATERMELONS

More Facts About Watermelon

Watermelon is thought to have originated in the Kalahari Desert of Africa. The first recorded watermelon harvest occurred nearly 5,000 years ago in Egypt and is depicted in Egyptian hieroglyphics on walls of their ancient buildings. Watermelons were often placed in the burial tombs of kings to nourish them in the afterlife.

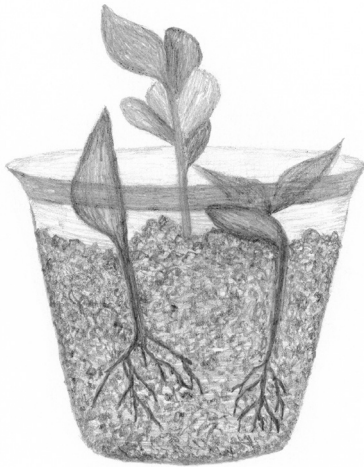
From there, watermelons spread throughout countries along the Mediterranean Sea by way of merchant ships. By the 10th century, watermelon found its way to China, which is now the world's number one producer of watermelons.

By weight, watermelon is the most-consumed melon in the United States, followed by cantaloupe and honeydew.

The first cookbook published in the United States in 1796, *American Cookery* by Amelia Simmons, contains a recipe for watermelon rind pickles. (www.watermelon.org)

Paint a Watermelon Pot

Decorate a planting pot and paint it to look like a watermelon! You'll need a plain terra cotta pot, paint and brushes. Paint the bottom of the pot red and use black to paint the seed shapes. Paint the top of the pot in dark and light green stripes like the rind of a watermelon. Use your new pot to grow watermelon sprouts!



Plant Your Own Watermelon

All you need are watermelon seeds, potting soil, clear cups, spoons and water. Use spoons to fill the cups 3/4 full with soil. Push 2 or 3 seeds into the soil. Water immediately after planting. Water the soil once a week. You should begin to see sprouts in about ten days.

Fun Summer Recipes

Watermelon Salad

Have an adult help you cube 3 cups seedless watermelon and 2 cups cucumber. Gently toss with 1/2 tsp salt and 1/3 cup balsamic vinegar in a bowl. Refrigerate for 15 minutes. Toss once more before serving.

Watermelon Ice Cubes

Make watermelon ice cubes to add to a glass of water or your favorite 100% fruit juice! Have an adult help you puree some seedless watermelon. Pour into ice cube trays and freeze. Drop the cubes into your favorite drink and enjoy!

Watermelon Cutouts

All you need are your favorite cookie cutters and one watermelon. Get an adult to cut 1" thick watermelon slices for you. Use your favorite cookie cutters to cut out cool shapes like stars, letters or hearts. Mix with berries or your other favorite fruit for a delicious, healthy snack!

Watermelon Activities

Learning math is fun with watermelon squish bags! Find out how to make squish bags, watermelon sculptures and more at www.fantasticfunandlearning.com/watermelon-activities.html.

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

Drip tape – a thin tube with small holes used to water fruit and vegetable plants grown in the field

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

Greenhouse – a structure with glass or plastic walls and roof that is used for growing plants

Harvest – to gather a crop when it has reached maturity

Plow – A piece of equipment pulled behind a tractor that is used to dig soil before it is planted

Pollinate – transfer pollen from one watermelon to a different watermelon so a seed will be produced

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

Rind – outer skin of a watermelon

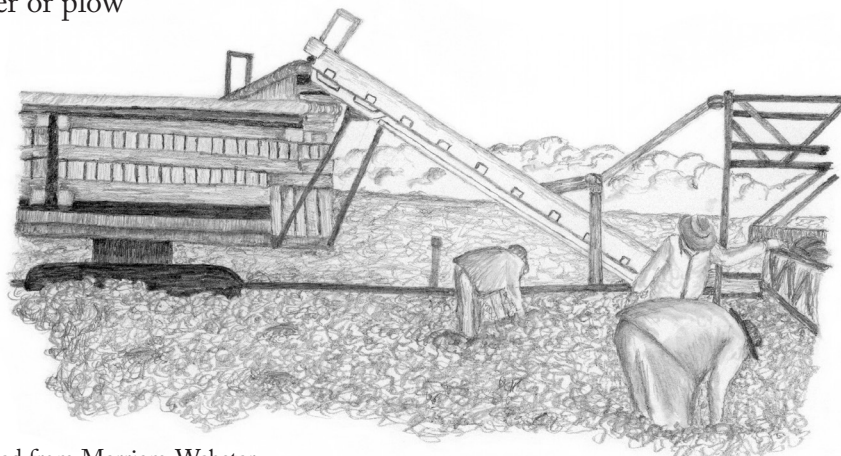
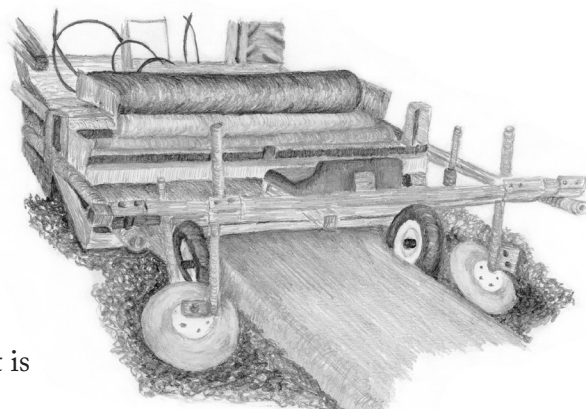
Root – plant part that grows underground, absorbing water and nutrients

Setter – machine used to transplant watermelon plants in the field

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

Sprout – new growth

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



*Most definitions adapted from Merriam-Webster

ANSWER KEY

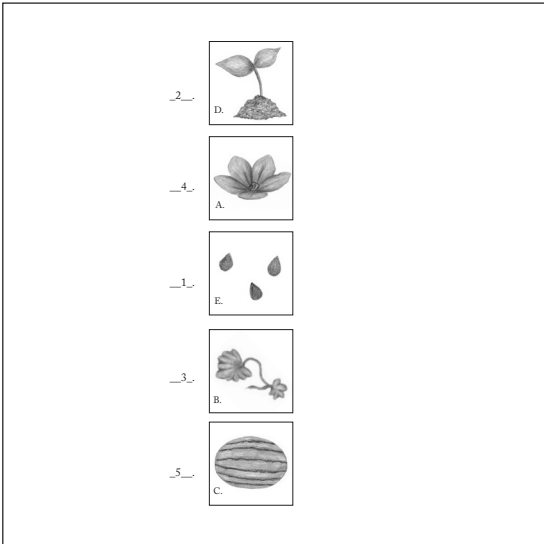
Page 5

- 1. Leaf
- 2. Flower
- 3. Vine
- 4. Fruit
- 5. Roots
- 6. Stem
- Bonus: 5

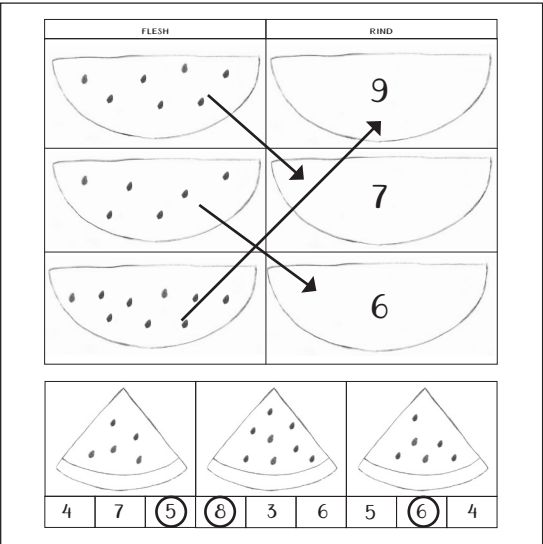
Page 6

- 1. seed
- 2. harvest
- 3. vine
- 4. farmer
- 5. seedless
- 6. plastic
- 7. setter
- 8. flower
- 9. ripe
- 10. plant
- 11. field
- 12. rind
- 13. bedder
- 14. bees

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Page 9

- 1. C
- 2. B
- 3. D
- 4. A
- 5. D

Page 10

- 1. 95 watermelons
- 2. 6 slices
- 3. 29 seeds
- 4. 1,420 plants
- 5. 226 seeds
- 6. 26 slices
- BONUS: 9 days

Page 12 – 13

- 1. C
- 2. B
- 3. D
- 4. B
- 5. C
- 6. A
- 7. D
- 8. B
- 9. A
- 10. C
- 11. B
- 12. A
- 13. D
- 14. B
- 15. C



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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