

**Outline of Lesson  
Growing with Culture  
Unit 2, Lesson 8  
Grade 4-5**

**Lesson Time: 55 – 60 Minutes**

**Lesson Outline:**

- 1. Introduction to Cultures**
  - Meanings of the word “culture”
- 2. Where in the World Do We Find Tomatoes?**
  - Origins of the tomato
  - Map the cultivation path of the tomato
- 3. A Closer Look at an African Culture: Tomatoes in Somalia**
  - Read a story about use of tomatoes in Somalia
  - Tomatoes as a source of Vitamin C
- 4. Planting**
  - Learning teams plan and plant an indoor garden

**Student Learning Objectives:**

By the end of this lesson students will:

- Locate on a map all the countries that cultivate tomatoes.
- Be able to link food use to culture and geography.
- Understand that tomatoes are a good source of Vitamin C.
- Demonstrate planting techniques that produce healthy plants.

**References:**

- Kite, L. Patricia. Gardening Wizardry for Kids. Reprinted by arrangement with Barron’s Educational Series, Inc., 1999.
- The Visual Food Encyclopedia: The Definitive Practical Guide to Food and Cooking. Macmillan, 1996.
- Duyff, Roberta L. Complete Food and Nutrition Guide. John Wiley & Sons, Inc., 2002.
- [www.nationalgeographic.com/xpeditions](http://www.nationalgeographic.com/xpeditions)

---

This material funded in part by USDA-Food Stamp Program, state and local government agencies. *Basic Food* assistance helps people with low incomes. Cooperative Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local Cooperative Extension office.

## Growing with Culture

### Overview (for Teacher)

#### Pre-Class Preparation

⊗ *Items marked with this symbol may not be purchased using FSNE funding, nor included as part of cost share.*

- ⊗ Collect 6 - ½ gallon plastic jugs (from milk or juice) and cut the tops off for use in transplanting. Poke 8 holes in the bottom with a push-pin.
- Have a pull down world map available to use in class.

#### Teacher Involvement During Class



- Read *C in Somalia* with students.
- Assist in behavior management of students.
- Help students with planting as needed.

#### Post-Class Teacher Responsibilities

Serve Snack: citrus fruit sections (orange, mandarin, or satsuma).

#### Vocabulary

**Culture-** the culture of a group of people is their way of life, ideas, customs, and traditions.

**Cultivate-** the practice of growing crops on land.

**Agriculture-** farming.

**Domesticate-** to grow a plant on purpose, rather than letting it grow wild.

#### Critical Thinking Activity

None

#### Supplementary Activities

- Make Suugo recipe in class with your students
- Have your students bring in recipes from their families to create your own cultural classroom cookbook.
- Student Assessment

#### Web Resources

- Vitamin C snack foods:  
[www.kidshealth.org/kid/nutrition/food/snack\\_attack.html](http://www.kidshealth.org/kid/nutrition/food/snack_attack.html)
- 5-a-Day Teacher Materials:  
[www.nal.usda.gov/fnic/etext/5adayteachers.html](http://www.nal.usda.gov/fnic/etext/5adayteachers.html)
- 5-a-Day Fruits and Vegetables:  
[www.5aday.com/html/educators/insights.php](http://www.5aday.com/html/educators/insights.php)

#### Suggested Books for Reading in the Classroom

Blackburne-Maze, Peter. Fruit: An Illustrated History. Firefly Book, Ltd., 2003.

## Growing with Culture

### EALR & GLE Alignment

EALR	GLE	Lesson Applications
<b>Health and Fitness</b> 1.4 Understand the relationship of nutrition and food nutrients to physical performance and body composition	1.4.1 Identify how bodily function and physical performance are affected by food consumption	<ul style="list-style-type: none"> <li>• Tomatoes in Somalia</li> <li>• Review and Reflection: Healthy Person Contract</li> </ul>
<b>Communication</b> 1.1 Focus attention 1.2 Listen and observe to gain and interpret information	*GLE not available at this time	<ul style="list-style-type: none"> <li>• Introduction to Culture</li> <li>• Where in the World Do We Find Tomatoes?</li> <li>• Tomatoes in Somalia</li> <li>• Planting</li> </ul>
<b>Writing</b> 2.2 Write for different purposes	*GLE not available at this time	<ul style="list-style-type: none"> <li>• Supplemental Activity: Student Assessment</li> </ul>
<b>Reading</b> 1.2 Use vocabulary strategies to comprehend text 2.1 Demonstrate evidence of reading comprehension	1.2.2 Apply vocabulary strategies to grade level text 2.1.3 Apply comprehension strategies before, during, and after reading	<ul style="list-style-type: none"> <li>• Tomatoes in Somalia</li> </ul>
<b>Social Studies</b> 1.2 Recognize spatial patterns on Earth's surface and understand the process that created these patterns	1.2.1.a Locate places, major physical features, and human spatial patterns using maps, globes, and other sources	<ul style="list-style-type: none"> <li>• Where in the World Do We Find Tomatoes?</li> </ul>

## Growing with Culture

### Preparation Outline

#### Activity Supplies

⊗ *Items marked with this symbol may not be purchased using FSNE funding, nor included as part of cost share.*

#### Where in the World...?

- Crayons/coloring pencils
- 1 map per student

#### Indoor Garden

- ⊗ Potting soil
- ⊗ Variety of seeds (lettuces, chard, kale, radish, bok choy, spinach, etc)
- ⊗ Small paper cups labeled with seed name (it is easier for small fingers to pull seeds out of paper cups instead of seed packets)
- ⊗ 6-1 gallon milk jugs with tops cut off (1 per learning team)
- ⊗ 2 open flats to put under jugs to catch water (recycle from past plantings)
- ⊗ 1 trowel (use hands if not available)
- ⊗ Watering can

#### Snack

- Citrus fruit sections (oranges, satsumas, mandarin, etc)

#### Review

- Classroom Tasting Challenge checklist
- Healthy Person Contract
- Vitamin C pictures for Healthy Person Contract

<b>Overheads</b>	<ul style="list-style-type: none"><li>• World Map</li><li>• C in Somalia</li></ul>
<b>Student Handouts</b>	<ul style="list-style-type: none"><li>• World map (1 per student)</li><li>• Note taking template</li><li>• Suugo Recipe for family</li></ul>
<b>Teacher Handouts</b>	Student Assessment and Answer Key
<b>Changes for K and ELL Classes</b>	Assign each student a specific job when planting
<b>Rainy Day Activity Supplies</b>	None

## Growing with Culture

### Outline

### Content


#### Introduction to Cultures (5 Min)

- We are going to learn something new about the word **culture** today. Does anybody know what that word means? (Take suggestions and write on the board)
- The first meaning of the word has to do with where and how people are raised. There are different cultures all over the world. Sometimes people of different cultures speak different languages, sometimes they look or dress differently, and often people eat different foods, celebrate holidays, do dances, based on the culture they come from.
- The second meaning of the word culture is a bit different. It has to do with where and how we raise plants. Gardeners and botanists (plant scientists) also use related words like cultivate (to grow, to prepare land for growing) and agriculture (the science, art, or practice of cultivating the soil, producing crops, and raising livestock)
- Today we will learn about the culture of tomatoes (how tomatoes are grown) and two cultures (as in groups of people) that have been greatly affected by them.

#### Where in the World Do We Find Tomatoes? (15 Min)

- **Learn about cultures that love tomatoes**
- **The Traveling Tomato**
- **Peru**
- **Mexico**

- Pull down the classroom map of the world and ask students to look at their world map hand out. Students will use crayons or colored pencils to color countries and trace the travels of the tomato on their maps. When we are done we can follow the line on the map to see where tomatoes were first grown in South America, to half way around the globe in Africa where people now grow and enjoy them today.
- The first country on your map that you will color will be Peru, in South America. Find Peru (number 1), write "Peru" on the line provided and color the country **RED**. Peru is a country in South America where tomatoes first grew wild. Eight species of tomato still grow wild in the Andes Mountains of Peru.
- Botanists believe that wild tomato plants traveled up through Central America and Mexico. Find Mexico (number 2), write "Mexico" on the line provided, and color the country **GREEN**. Then draw a line on their maps from Peru thru Central America and up to Mexico. Mexico is where the people of the Aztec culture domesticated tomatoes, and started to put them into their gardens. (To domesticate means to grow a

<ul style="list-style-type: none"> <li>• <b>Spain</b></li>   <li>• <b>Southern Europe</b></li>   <li>• <b>North Africa and Somalia</b></li>   <li>• <b>Tomatoes love hot weather</b></li> </ul>	<p>plant on purpose, rather than to let it grow wild, like trees, wildflowers, or weeds.) They were also used often in cooking by the Aztecs who called them “Tomatl” (write this on the board).</p> <ul style="list-style-type: none"> <li>• Spanish people invaded Mexico almost 500 years ago (1519+) and took lots of things back with them to Spain, including what they called a “tomate” (Spanish for tomato). Have students find Spain on their map (number 3), write “Spain” on the line provided, and color the country <b>YELLOW</b>. Then draw a line from Mexico to Spain.</li> <li>• Once tomatoes made it to Europe they spread all across the warmer countries that surround the Mediterranean Sea. Have students find the Southern European countries France, Italy, and Greece on their maps (number 4), write “Southern Europe” on the line provided, and color the countries <b>PURPLE</b>. Then draw a line to Southern Europe.</li> <li>• Tomatoes also traveled down through north and east Africa and then to Somalia. Have students find North Africa (number 5), write “North Africa” on the line provided, and color the countries <b>ORANGE</b>. Then draw a line from Southern Europe down to North Africa. Then have students find Somalia on their maps (number 6), write “Somalia” on the line provided, and color the country <b>BROWN</b>. Then draw a line from North Africa to Somalia.</li> <li>• Somalia is a country on the east side of Africa where tomatoes are now a big part of traditional food culture. One example is Suugo, a special Somali sauce.</li> <li>• The tomato grows in all of these places because tomatoes love hot weather and there are long periods of hot weather in these places. Here in the Pacific Northwest, some tomato plants do not grow well without the help of a greenhouse to help them stay warm.</li> </ul>
<p><b>Tomatoes in Somalia (10 Min)</b></p> 	<ul style="list-style-type: none"> <li>• <i>C in Somalia</i> is a Nutrition Story with a focus on tomatoes as a source of Vitamin C. Somali people use tomatoes in their diets to help them stay healthy.</li> <li>• Classroom teacher will read this story with the students while educator prepares plants and materials for planting.</li> </ul>
<p><b>Planting (25 Min)</b></p>	<ul style="list-style-type: none"> <li>• <b>Review Garden Behaviors</b> <ul style="list-style-type: none"> <li>• <b>Belly Button Rule:</b> Tools should never be raised above the height of your belly button. This rule helps protect you and your classmates from accidentally being hurt.</li> </ul> </li> </ul>

- **Review Garden Behaviors**

- **Planning and Planting Indoor Gardens**



- **Never point tools at another student:** You will not work with garden tools the next time we are in the garden.

### Planting Indoors

- **Planning:** From a selection of various vegetable seed packets (radish and greens) each learning team designs a garden to be planted in a gallon jug container. Students will choose 2-4 different kinds of seeds to plant.
- **Explain Planting procedures:** Each student will plant 6 seeds, 2 seeds in each furrow. Demonstrate each job in front of the class, but let each learning team decide how they will split up the jobs.

### Planting Jobs:

- **Fill the jug with soil:** Have a student come up to the soil bucket and scoop potting soil into the jug, tapping its base on the desk in order to settle the soil. Return to the team.
- **Make furrows in the soil:** Have a student gently smooth the top of the surface of the soil with one hand. With the edge of your hand, push, or indent the surface of the soil approximately ¼". This is as tall as a pinky finger laying sideways in the soil. The student makes 3 furrows, one for each type of seed. The furrows should not be too deep or the seeds will get buried too deeply and not be able to sprout.
- **Pass out seeds:** one student puts two seeds into their own palm, and with thumb and forefinger, gives 2 seeds to each student. Repeat for all three types of seeds. Each student should have 6 seeds in their hand.
- **Each student plants seeds:** Each student plants 6 seeds, 2 in each row.
- **Cover up seeds with soil**
- **Label each row:** One student makes labels on popsicle sticks of vegetable names and place stick in appropriate row.
- Place plants under classroom grow lights and remind students about proper watering techniques. Have students water plants.

- **Wash Hands**

### Hand Washing

Remind students that they need to wash their hands after gardening. Each student should wash his or her hands with warm water and soap for 20-25 seconds.

## Healthy Snack

CHANGE educator leaves a healthy snack of citrus fruit sections (or another food high in vitamin C) for teacher to share with students after class. Tell the class you are leaving them this snack because it is high in Vitamin C. Tell students to remind their teacher to serve them the snack. Students should wash their hands before eating the snack.

## Review and Reflection

- **Culture and tomatoes**
- **Classroom Tasting Challenge**
- **Healthy Person Contract: Vitamin C**

- Ask students to share with you a couple of concepts they learned about cultures and about tomatoes.
- **Classroom Tasting Challenge:** After tasting the citrus fruit sections, ask students to raise their hands to show you how many tasted, liked or did not like the snack. Record the number of students who raise their hands in the appropriate column on your Classroom Tasting Challenge checklist, out of the total number of students in class that day. If possible, write the number of adults who made the recipe with your students on the checklist next to the row for that recipe.
- **Healthy Person Contract: Vitamin C.** Hang Healthy Person Contract and review that many fruits are high in Vitamin C. Ask class what fruit they ate today that is high in Vitamin C? How does Vitamin C help our body? It heals \_\_\_\_\_ (cuts). Draw a picture of a cut on a finger of the Healthy Person Contract. Select a person to tape a picture of a tomato and draw a line from the tomato to the picture of the cut to represent that many fruits are high in Vitamin C, and that Vitamin C helps heal cuts.

# **Lesson Materials**

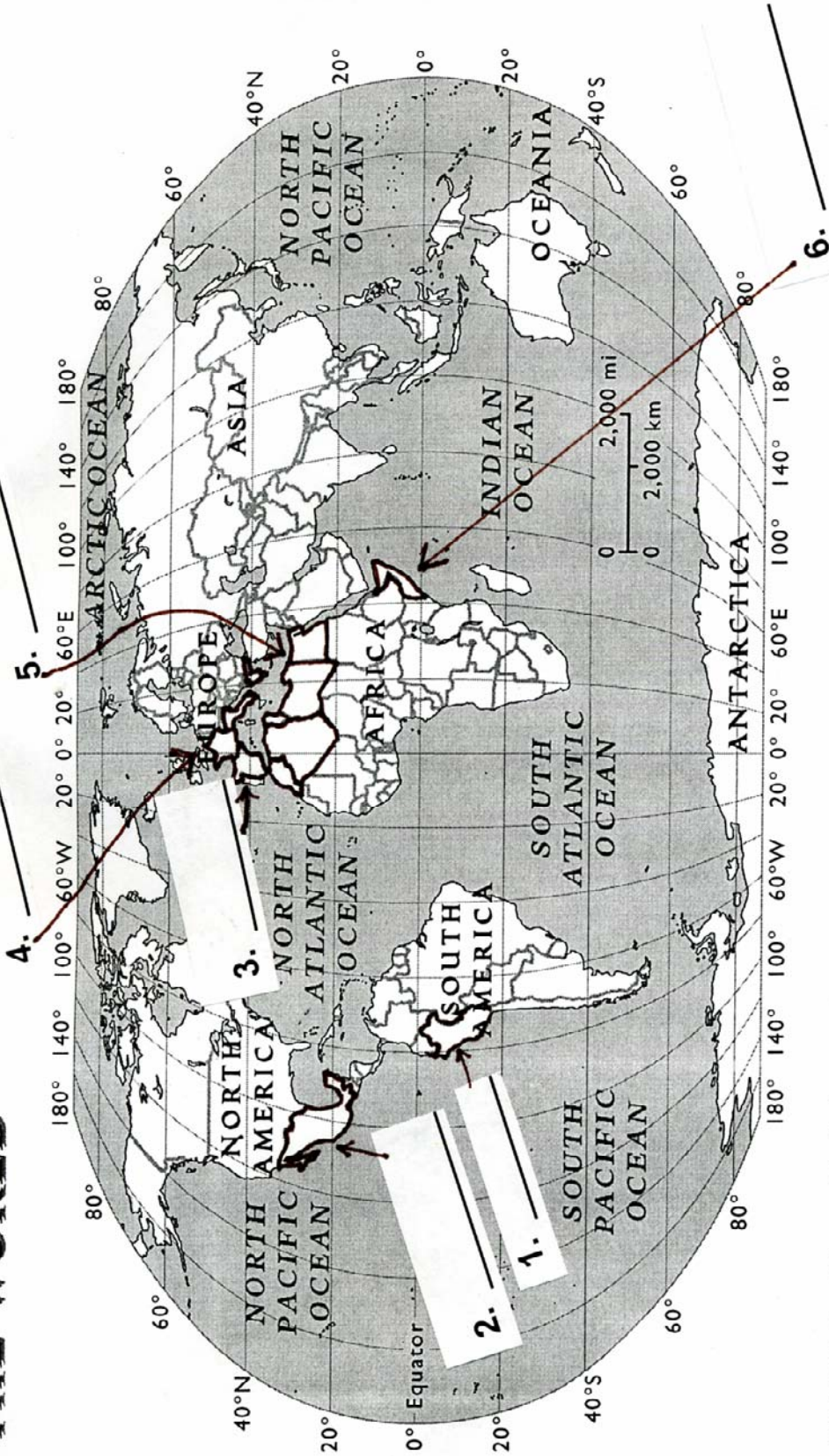
## **Growing with Culture**

- **World Map**
- **Note Taking Template**
- **C in Somalia**
- **Suugo Recipe**
- **Pictures for Healthy Person Contract**

### **Supplementary Activities**

- **Student Assessment**
- **Assessment Answer Key**

# THE WORLD



© 2003 National Geographic Society



Growing with Culture  
Note Taking Template

Name: \_\_\_\_\_

Define the following vocabulary terms:

Culture:

---

---

Cultivate:

---

---

Domesticate:

---

---

Where are tomatoes originally from? \_\_\_\_\_

Other words for tomato include:

---

Name two countries the tomato traveled through:

\_\_\_\_\_ and \_\_\_\_\_

Fruit or vegetable	Nutrient	Why do you need it

# ***C in Somalia***

My name is Xamdi Cali (pronounced like Hamdi Ali) and I am from the beautiful country of Somalia in East Africa. I go to school during the day to learn about lots of things like Science and Math and we even study other languages like Arabic and English. When I get home from school I help my mother prepare dinner for the family. I have 3 brothers and 2 sisters so it is important that we make good decisions about what we eat so we all stay healthy.

Fruits and vegetables can cost a lot when you have a big family like mine but my mother knows that we all need to get plenty of vitamins and minerals to keep our bodies healthy. My grandmother taught my mother and me about Vitamin C. She said it helps heal cuts and scrapes on our skin.

My mother told me that you can get lots of Vitamin C from fresh fruits like citrus, melons and mangos and many green leafy vegetables. But, if you cook these foods most of the healthy Vitamin C goes away. But there is one special fruit that has tons of Vitamin C and you can cook it and store it for a long time and the Vitamin C stays - Tomatoes! We make many dishes with tomatoes in my country; usually we use it for spicy sauces. My favorite tomato recipe is called suugo. Take it home and make it with your family to stay happy and healthy like my family.

# Suugo: Somali Tomato Sauce

## Ingredients

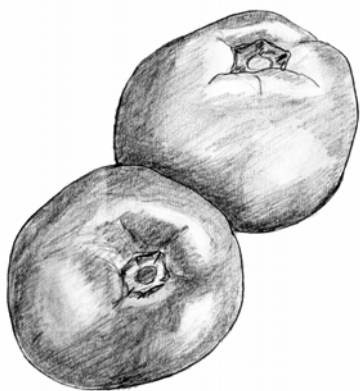
2 tablespoons olive oil  
½ of a large onion, chopped into small pieces  
3 garlic cloves, minced  
3 to 4 tomatoes, chopped  
2 tablespoons tomato paste  
3 tablespoons fresh jalapeño, minced (optional)  
2 tablespoons of cilantro, chopped  
1 teaspoon of salt  
2 tablespoons of lime juice

## Directions

Sauté (fry in a pan) olive oil, onion and garlic on high heat for 2 minutes. Add the tomatoes and let cook until the tomato softens. Turn the heat down to medium and use a potato masher or spoon to mash the tomatoes into a chunky sauce. Add the tomato paste, jalapeño, cilantro and salt, cook for 2 minutes. Remove from heat and add the lime juice.

In Somalia suugo is served with special flat bread called *anjera*. You can serve it with any bread, such as pita, regular bread or a toasted English muffin.

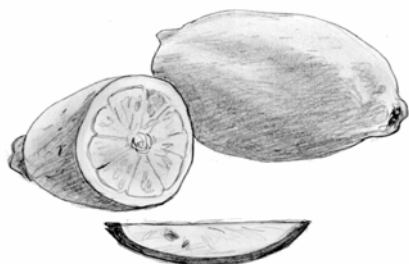
# Pictures for Healthy Person Contract



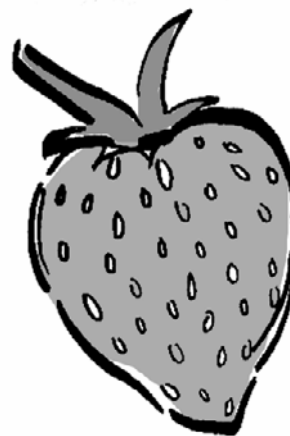
**Tomatoes**  
**Vitamin C**



**Oranges**  
**Vitamin C**



**Lemons**  
**Vitamin C**



**Strawberries**  
**Vitamin C**



## Growing with Culture

1. Where were did tomatoes originally come from? Describe the journey/path the tomato traveled.

Peru

Peru – Mexico – Spain – Southern Europe – Northern Africa - Somalia

2. Why might some tomato plants not grow well in the Pacific Northwest?

Tomatoes like hot weather

3. What are the two different meanings of the word “culture”.

The culture of people is the way people are raised and their way of life, ideas, customs and traditions.  
The culture of plants is the way and place in which plants are grown.