Agriculture in the Fertile Crescent

Overview:

Students will learn about one of the places where agriculture first began: the Fertile Crescent, and why it happened there.

Objectives:

At the end of the lesson students will be able to:

- **Identify** where the Fertile Crescent is located.
- **Identify** the kinds of tools used when agriculture first began.
- **Describe** the conditions needed for successful planting and harvesting.
- **Demonstrate** how to plant a seed.

Vocabulary:

- agriculture
- surplus
- scythe
- pitchfork
- garden hoe
- plow
- traits
- artificial selection
- stable food supply
- crop domestication

Preparation:

- Prepare garden beds prior to lesson.
- If wheat berries are not available, locate images for presentation.

Learning Activities:

1. Review the location of the Fertile Crescent on the world map. (5 min.)
   A. Ask students to recall why it is called the Fertile Crescent (very fertile farmland

Materials:

- Map of the world
- Map of Mesopotamia with the Tigris and Euphrates rivers
- Photo of sculpture of woman grinding wheat berries in Mesopotamia
- Stalks of wheat
- Jar of wheat flour
- Wheat berries (with seeds inside)
- Gardening tools (pitchfork, garden hoe, scythe, gloves, watering cans, garden rakes, plant trays)
- Garden beds with healthy soil ready for planting

On the Board:

- Vocabulary
- Student Reflection Questions

Suggested Snack:

- Fresh baked, whole wheat bread: http://minimalistbaker.com/the-easiest-whole-grain-seeded-bread/
- Or, easy, flatbread crackers: http://www.epicurious.com/recipes/food/views/crisp-rosemary-flatbread-242841

that is situated between two rivers that make a crescent shape).

B. Ask students to explain why the Fertile Crescent was a good place to grow plants:
- It had native plants growing, therefore, seeds from those plants were readily available.
- It had access to healthy soil from the two rivers and lots of water.

2. Presentation: The Importance of Wheat Historically and Today (15 min.)

A. See if the students can remember some of the crops that used to grow in Mesopotamia, like wheat, barley, chickpeas, lentils, dates, onions, leeks, garlic, lettuce, and mustard.

B. Tell students that wheat was a major crop in Mesopotamia and we also eat it today. Show students the photo of the statue of the woman grinding wheat berries into flour in Mesopotamia.
- Tell students that wheat was one of the first domesticated crops. Ask if they can guess what *crop domestication* means: the process of planting and eating formerly wild plants.
- These early farmers began saving seeds from plants with particularly favorable traits and planting those seeds in the next growing season. Through this process of *artificial selection*, they created a variety of crops with characteristics particularly suited for agriculture. For example, over many generations, farmers modified the traits of wild wheat so that seeds remained on the plant when harvested and could easily be separated from their hulls (coverings). Over the next few millennia, people around the world used similar processes to transform many other wild plants and animals into *domesticated crops* and animals we rely on today.

C. Pass around a wheat stalk, wheat berries (with seeds inside) and wheat flour so students can see where flour comes from.
- Ask students to brainstorm things they eat that contain wheat.
- Discuss what it means to have a *stable food supply* or a *surplus.* A stable food supply means there is enough food for all the people in a community/ society. If there was a surplus (extra) they stored it for future use.
- Ask: Why is it important for a society to maintain a stable food supply? (It can help keep a people alive in times of drought or famine. Also, it allows for the *specialization of labor*, since not everyone needs to work as a farmer when one person can grow enough to feed many.)
- Ask: Why might wheat be a good crop to help maintain the food supply? (When it is made into flour it can last a long time without being refrigerated. Also, it is a very versatile crop that is used to make many different kinds of foods.)

3. Garden Activity: Planting Wheat (20 min.)

A. Ask students to recall the 5 things needed to grow a plant: seeds, water, soil, sun, and air/wind.
B. In the garden, show students how to prepare the soil for planting wheat seeds, using a metal rake.
C. Next, have students scatter some seeds and then rake the soil over the seeds (they need very little soil over them).
D. Put plastic mesh plant trays over the bed so birds don't eat the seeds; put sticks through the mesh into the soil so the trays cannot be moved by birds or other animals.
E. Ask students to imagine how this process might work when a farmer needs to plant a whole field of wheat. Tell students that a large digging stick can be replaced by a *plow*: a large farming implement with one or more blades attached to a wooden frame, drawn by a tractor or by animals and used for cutting furrows in the soil, especially to prepare for the planting of seeds.
F. Show students a scythe and explain how farmers use this tool to harvest wheat.

4. Snack: Serve freshly baked whole-wheat bread or homemade crackers. (5 min.)

5. Have students answer the Reflection Questions in their garden journals. (5 min.)

Student Reflection Questions:

1. What do you eat that contains wheat?
2. List the steps for planting wheat seeds.

Assessment Questions:

1. What does *crop domestication* mean?
   - **When humans started growing their own crops using the seeds of wild plants.**
2. Why was wheat useful in Mesopotamia?
   - **It grew very well in the climate of the Fertile Crescent, and when made into flour it can last a long time. Also, it is a very versatile crop that is used to make many different kinds of foods.**
3. How do farmers domesticate plants?
   - **Farmers save seeds from plants with particularly favorable traits and plant those seeds in the next growing season. Through this process of *artificial selection* they create a variety of crops with characteristics particularly well suited for agriculture.**

Standards:

Common Core State Standards

- CCSS.ELA-LITERACY.SL.6.1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own

- CCSS.ELA-LITERACY.RH.6-8.4

Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.www.nytimes.com/2016/10/18/science/ancient-farmers-archeology-dna.html?r=0

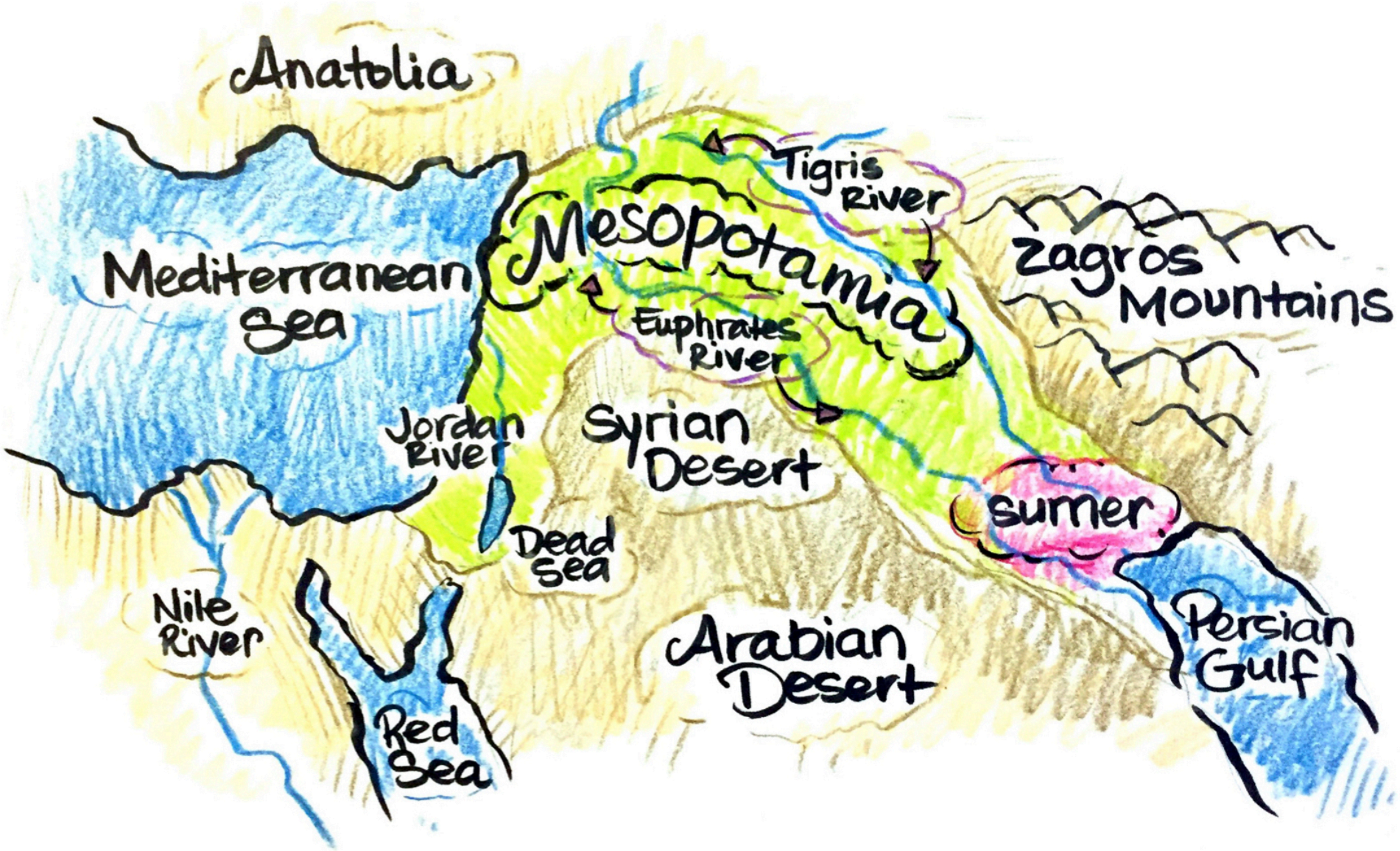
Photo Credits:

Grinding Grain Photo from: “Serving statuette of a woman grinding grain.” Museum of Fine Arts: Boston. http://www.mfa.org/collections/object/serving-statuette-of-a-woman-grinding-grain-144023

Supplemental Information:

https://www.nytimes.com/2016/10/18/science/ancient-farmers-archaeology-dna.html

www.tehachapigrainproject.org


Anatolia
Tigris River
Mesopotamia
Zagros Mountains
Mediterranean Sea
Euphrates River
Jordan River
Syrian Desert
sumer
Dead Sea
Nile River
Arabian Desert
Persian Gulf
Red Sea