Colorado Reader

Educator's Guide - 2022-2023 School Year
SPUD-Tacular Colorado Potatoes

Purpose:

Colorado ranks 5th in the United State for potato production and potatoes are Colorado's leading specialty crop. In this issue, students will explore the spud-tacular potato learning about the history and geography of potato production, how farmers grow more with less, the different types of potatoes and cooking styles, and the nutrition value. Activities connect to reading comprehension, map-reading, and math.

Cross Curricular Connections and Colorado Academic Standards:

4th & 5th Grade Reading, Writing, and Communicating:

- Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. (CCSS: RL.5.4)
- Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (CCSS: RL.4.1)
- By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range. (CCSS: RI.4.10)

4th Grade Social Studies: Geography

- Analyze primary and secondary sources from multiple points of view to develop an understanding of the history of Colorado. (GLE 1.1)
- The historical eras, individuals, groups, ideas, and themes in Colorado history and their relationship to key events in the United States within the same historical period. (GLE 1.2)
- Use geographic tools to research and answer questions about Colorado geography. (GLE 2.1)
- Connections are developed within and across human and physical systems. (GLE 2.2)

5th Grade Social Studies: History & Geography

- Analyze primary and secondary sources from multiple points of view to develop an understanding of early United States history. (GLE 1.1)
- The historical eras, individuals, groups, ideas, and themes in North America from European colonization through the establishment of the United States government. (GLE 1.2)
- Use geographic tools to research and answer questions about United State geography. (GLE 2.1)
- Causes and consequences of movement. (GLE 2.1)

4th Grade Comprehensive Health: Physical and Personal Wellness

- Demonstrate the ability to set a goal in order to enhance personal nutrition. (GLE 2.1)
- Describe the connection between food intake and physical health. (GLE 2.2)
- Explain how the dimensions of wellness are interrelated and impact personal health. (GLE 2.3)

5th Grade Comprehensive Health: Physical and Personal Wellness

- Demonstrate the ability to make good decisions about healthy eating behaviors. (GLE 2.1)

4th & 5th Grade Mathematics

- Several GLEs can be reinforced by having students complete the "Potato Math" on the Student Activity Worksheet.

How to use:

Pass out one copy of the *Colorado Reader* and one copy of the Student Activity Worksheet to each student (you will need to make your own copies of the worksheet). Another option is to send these items home with your students (or include in homework/enrichment packets) to complete at home on virtual learning days. Or use during substitute days. Ask students to read the *Colorado Reader*, completing the activities within the *Reader* as they go. Students should complete the Student Activity Worksheet after doing the *Reader*. Answers to the activities in the *Reader* are included, should you desire to collect and score responses. To further enhance learning, incorporate any of the additional lessons from the Curriculum Matrix that are identified on the back or utilize any of the Additional Resources.

Vocabulary

acre: a unit of area equal to 43,560 square feet (about the size of a football field)

cover crop: a crop grown for the protection and enrichment of the soil

crop rotation: the successive planting of different crops in the same field over a period of years to maintain or improve soil quality and reduce pest problems

Global Positioning Systems (GPS): a space-based satellite navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth

irrigation: artificial application of water to the land or soil to assist plant growth

potato: an erect South American plant widely cultivated for its thick, starchy, edible underground tubers

staple food: a food that is eaten regularly and is a dominant part of the diet, supplying a major proportion of energy and nutrient needs

seed potato: a potato tuber grown for its buds which are used to start new plants

sustainable: meeting the economic, social, and environmental needs of the present without compromising the needs of the future

sustainable agriculture: an approach to agriculture that focuses on producing food while improving the economic viability of farms, protecting natural resources, and enhancing quality of life for farmers and society as a whole

tuber: a thickened underground portion of a stem or rhizome which bears buds

Lesson Plans to go with this *Reader*

The Agricultural Literacy Curriculum Matrix is an online, searchable, and standards-based database for K-12 teachers. The Matrix contextualizes national education standards in science, social studies, and nutritional education with relevant instructional resources linked to Common Core Standards. Below are a few lesson plans that could be used in conjunction with this *Colorado Reader*. Go to www.GrowingYourFuture.com and click on Curriculum Matrix (on the Home Page or under the Educator's Tab), search each title within the Curriculum Matrix to find these lesson plans.

Powerful Potato (3-5): Students observe a potato grow with and without soil, chart potato geography on a world map, and hold a potato dress up contest. https://agclassroom.org/matrix/lesson/524/

Where Does It Come From? (3-5): Students explore the connection between geography, climate, and the type of agriculture in an area by reading background information and census data about the agricultural commodities beef, potatoes, apples, wheat, corn, and milk. https://agclassroom.org/matrix/lesson/385/

The Life of a Potato (Book): This charming and informative picture book follows a boy and his family through the process of growing and harvesting potatoes. In The Life of a Potato, the young reader is taken step-by-step through a plant's growth cycle. The beautiful drawings show readers where their food comes from. This book is a great companion to lessons on the life cycle of plants, farming, harvesting, and use of machines. https://agclassroom.org/matrix/resource/1091/

Use the search word "potatoes" at www.AgClassroom.org/Matrix for additional free lessons and classroom activities (or scan the QR code).

Additional Resources

Potato K-12 Lesson Plans: The Colorado Potato Administrative Committee developed a series of lesson plans on potatoes for K-12 education. The lessons, created in 2018, are separated into the four grade bands and can be downloaded as a PDF from the ColoradoPotato.org website or by using this direct link: https://www.coloradopotato.org/wp-content/uploads/2018/05/Lesson-Plans-CPAC-Master-Final.pdf

Video Playlist: Videos on growing, harvesting, storing, and cooking potatoes have been added to a YouTube playlist on the Colorado Foundation for Agriculture channel: https://bit.ly/3weXVWO

Answers:

Page 1 - Intro

1. A farm; 2. Vegetable; 3. Below; 4. Yes

Students will have various answers for the different ways to eat potatoes.

Page 3 - Potatoes Around the World

1. South America
2. Students should draw an arrow on the map.
3. Students should draw an arrow on the map.
4. Europe
5. China, India, Russia, Ukraine, U.S. (in that order)
6. Students should label Colorado on the map.

Page 6-7 - Potato Types and Preparation Styles

Russet Potatoes: Baked, Pan Fried, Mashed, Fried
Red Potatoes: Baked, Salad, Soups & Stews, Grilled, Steamed
White Potatoes: Pan Fried, Salad, Soups & Stews, Fried, Steamed
Yellow Potatoes: Baked, Mashed, Salads, Soups & Stews, Grilled
Blue/Purple Potatoes: Baked, Grilled, Salads, Microwaved
Fingerling Potatoes: Baked, Pan Fried, Steamed, Microwaved
Petite Potatoes: Baked, Pan Fried, Steamed, Microwaved

Student Activity Worksheet: Potato Math

1A. False; 1B. False; 1C. True; 1D. True

2. There are 4 layers of potatoes.
3. 1 row of 30 potatoes, 2 rows of 15, 3 rows of 10, or 5 rows of 6
4. 1x1x40, 1x2x20, 1x4x10, 1x5x8, 2x2x10, 2x4x5
5. $0.50 each ($20.00/40 = 0.5)
6. $0.25 each ($20.00/80 = 0.25)
7. $27.00 (0.27x100 = 27)
8. 5 cartons need to be purchased
9. Yes, they will have 400-324 = 76 potatoes left over
10. They will pay $85 for 5 cartons (17x5).

Colorado Reader

Name:_____

Student Activity Worksheet: Colorado Reader on SPUD-Tacular Colorado Potatoes

Potato Math

The food service industry is a place where one can find potatoes of all sizes and made into a variety of dishes. To accommodate the different needs of the food service industry, potato suppliers sort and sell potatoes by size in 50 pound cartons (boxes). The largest potatoes are great for baked potatoes and for making french fries. The medium sized potatoes are used for baked, side dishes, lunch entrees, and skins while the smallest potatoes are used for elementary school sides and institutional potato bars.

Explore the Potato Carton Sizes Chart and then answer the math questions below.

Potato Carton Sizes Chart

Potatoes are sized according to weight and the approximate number of potatoes that can fit in a standard 50 pound (lb.) carton.

Carton Size	Approximate # of Potatoes per 50 lb. Carton	Average Weight of Each Uncooked Potato	Approximate # of Cups (including skin) per Cooked Potato	How potato size is used in food service
40 Size	38-42	20.0 ounces	6.9 cups	Extra Large Entree Baked Potatoes or Fries
50 Size	49-52	16.0 ounces	5.6 cups	Large Entree Baked Potatoes or Fries
60 Size	58-60	13.0 ounces	4.5 cups	Large Entree Baked Potatoes or Fries
70 Size	68-72	11.5 ounces	4.0 cups	Entree Baked Potatoes or Fries
80 Size	78-82	10.0 ounces	3.5 cups	Baked, Side Dishes, Lunch Entree or Fries
90 Size	90-95	9.0 ounces	3.1 cups	Baked, Side Dishes, Skins or Fries
100 Size	100-105	8.0 ounces	2.7 cups	Baked or Side Dishes
110 Size	108-115	7.3 ounces	2.5 cups	Institutional Potato Bars
120 Size	118-130	6.5 ounces	2.3 cups	Elementary School Sides

Source: ColoradoPotato.org Food Service Ordering Tips in San Luis Valley, CO

True or False? Circle the "T" if the statement is true or "F" if the statement is false.

1. The cartons all weigh about 50 pounds, though the sizes of the potatoes determine how many potatoes fit into each carton. They range from 40 potatoes to 120 potatoes per carton. Determine if the following statements are true or false.

A. The cartons that have 120 potatoes in them are the extra large potatoes. **T or F**

B. A carton with the largest potatoes weighs more than a carton with the smallest potatoes. **T or F**

C. The individual large potatoes weigh more than the individual small potatoes. **T or F**

D. The cartons that have 40 potatoes in them are the extra large potatoes. **T or F**

Answer the following math questions. Show your work in the space provided.

2. If an 80 count carton of medium sized potatoes has 4 rows of 5 potatoes each on the bottom layer, how many layers of potatoes are there?

3. If a 120 count carton of small sized potatoes has 4 layers, what are the possible arrangements of potatoes in each layer?

4. What are the possible potato arrangements for a carton containing 40 potatoes (remember: length x width x height = # of potatoes)?

5. If it cost you $20.00 to purchase a carton of extra large, 40 count potatoes, how much does each potato cost?

6. If it cost you $20.00 to purchase a carton of medium, 80 count potatoes, how much does each potato cost?

7. Each 100 count potato cost $0.27. How much did the whole carton cost?

8. Your school cafeteria wants to serve all of the kids in the school a baked potato for a special luncheon. They decide on a medium size 80 count potato as the ideal size. How many cartons do they need to purchase in order to feed all 324 students?

9. Will the school cafeteria have any potatoes left over? How many?

10. If the cartons cost $17 each, how much does it cost the school cafeteria to purchase enough potatoes to feed all of the students?