

HARVEST OF THE MONTH - MAY / MIXED BERRIES

Grades 9-12

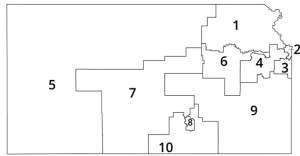


Kansas leads the world in the success of each student.

JULY 17, 2025



900 S.W. Jackson Street, Suite 600
Topeka, Kansas 66612-1212
(785) 296-3203
www.ksde.gov/board



SUCCESS DEFINED

A successful Kansas high school graduate has the

- Academic preparation,
- Cognitive preparation,
- Technical skills,
- Employability skills and
- Civic engagement

to be successful in postsecondary education, in the attainment of an industry recognized certification or in the workforce, without the need for remediation.

OUTCOMES

- Social-emotional growth
- Kindergarten readiness
- Individual Plan of Study
- Civic engagement
- Academically prepared for postsecondary
- High school graduation
- Postsecondary success



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MISSION

To prepare Kansas students for lifelong success through rigorous, quality academic instruction, career training and character development according to each student's gifts and talents.

VISION

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Frank.Harwood@ksde.gov

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July 1, 2025

HARVEST OF THE MONTH

May / Mixed Berries

INTRODUCTION

Over the next few weeks, we will be learning about a kind of food that we grow in Kansas. I'm going to give you some clues to see if you can guess what this food is.

- They are small, edible fruits.
- They are usually juicy, round, and brightly colored.
- They taste sweet or sour,
- They may have many small seeds.
- They are grown on trees, shrubs, bushes and on plants along the ground
- This type of food is usually high in things like vitamin c and antioxidants which help keep us from getting sick.
- You can eat them fresh, in a smoothie, or baked in muffins or even a pie!

What do you think this fruit might be? We will be learning about berries!

Some different types of berries include raspberries, strawberries, blackberries, gooseberries, blueberries, huckleberries, mulberries and currants. Have you ever tried any of these? Which are your favorite? How do like to eat them?



VOCABULARY

DNA Base Pairing

DNA Replication

Gene

Cleaving

CRISPR

GENERAL RESOURCES

HHMI BioInteractive¹

ENGAGE

To engage students in the study of berries, have students list the foods they think are berries, where they buy them, and what time of year they are available. A possible addition to this activity could be defining and identifying foods that are botanically classified as berries, as this may surprise a lot of students. A helpful resources is this quick reference put together by Colorado State². Be sure to emphasize ways that technology has improved the quality and availability of the foods the students came up with. Suggestions include: artificial selection, chemical additives, transportation, and storage. Then lead students to ask what additional technologies are being applied to modern berries.

EXPLORE

In this step, students will complete an interactive click and learn activity titled “CRISPR-Cas 9 Mechanism & Applications” from HHMI BioInteractive³. In this activity, they will explore and learn about the biotechnology tool and hear directly from leading scientists about how they use it.

EXPLAIN

At this point in the lesson, students will connect what they have learned about biotechnology and apply it to a current case study. In this activity, students read about a Pairwise, a food tech company that is creating new varieties of berries using DNA technology⁴

1 <https://www.biointeractive.org/classroom-resources/crispr-cas-9-mechanism-applications>

2 <https://www.lsop.colostate.edu/2020/04/29/everything-you-need-to-know-is-that-a-berry>

3 https://www.biointeractive.org/classroom-resources?f%5B0%5D=resource_type%3A18

4 <https://www.ncbiotech.org/news/berry-bored-pairwise-engineers-fresh-options>

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Have students annotate the article searching for and highlighting big ideas, vocabulary, and any questions they might have about this technology. After annotating, have student groups construct a model to explain the genetic engineering process used to modify the berries and possible consequences of this technology use.

ELABORATE

Since the publication of this article, the company is garnering national attention. Students interested in learning more about this topic can visit a new documentary from CNBC Digital.⁵

KANSAS SCIENCE STANDARDS ADDRESSED

LS31

LS32

A sample of Kansas ELA Standards addressed in this unit are listed below. For details and specific grade level standard alignment, see: Kansas 2023 English Language Arts Standards

Reading Foundations: Standard 3; using grade level phonics and word reading skills

Reading Literature: Standard 1; asking and answering questions about a text

Reading Literature: Standard 4; word meaning/ word choice

Reading Information: Standard 3; Describe relationship between historical events, scientific ideas or concepts

Reading Information: Standard 12; word meaning/ nuances

Writing: Standard 3; writing effective narratives to share experiences/ information with effective word choice and relevant details

Speaking and Listening: Standard 4; effectively presenting ideas and detailed/ sequenced descriptions with others

Research to Build and Present Knowledge: Standard 7,8,9

5 <https://www.cnbc.com/video/2020/03/06/how-scientists-create-new-fruits-and-vegetables.html>

For more information, contact:

Eryn Davis

Farm to Plate Project Coordinator
Child Nutrition and Wellness

(785) 296-5060

Eryn.Davis@ksde.gov



Kansas State Department of Education
900 S.W. Jackson Street, Suite 102
Topeka, Kansas 66612-1212

<https://www.ksde.gov>



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