

HARVEST OF THE MONTH - AUGUST / MELONS

Grades 9-12

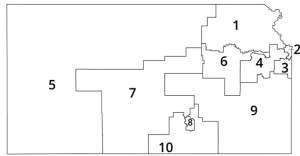


Kansas leads the world in the success of each student.

JULY 17, 2025



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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

Kansans leads the world in the success of each student.

MOTTO

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July 1, 2025

HARVEST OF THE MONTH

August / Melons

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.

- These are a large, round, sweet fruit with a thick rind that have a fragrant, juicy inside that is usually eaten fresh.
- A thick peel on the outside of fruit that protects it.
- They feel quite heavy for their size and can weigh anywhere from 1 to 50 pounds.
- They are a good source of Vitamin A which helps keep your eyes and skin healthy and Vitamin C which helps fight off germs.
- They grow on a vine.
- They contain lots of water.
- The most common types in Kansas are cantaloupe, honeydew, and watermelon.
- Show picture.

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



VOCABULARY

Abiotic Factor - Non-living parts of an ecosystem, like sunlight, temperature, water, and soil, that affect living organisms

Biotic Factor - Living parts of an ecosystem, such as plants, animals, and microorganisms, that interact with each other and their environment

Disease - A condition that affects the normal functioning of an organism's body. It can be caused by bacteria, viruses, or other factors and often leads to symptoms like pain, fever, or fatigue

Infection - When harmful organisms, such as bacteria or viruses, enter the body and start to multiply, causing damage and illness

Production - The process of making goods or energy. In biology, it often refers to how plants make their own food through photosynthesis or how organisms produce offspring

GENERAL RESOURCES

Key Factors Affecting Watermelon Yield Loss¹

Boyce Thompson Institute for Plant Research²

ENGAGE

Watermelon is one of the most economically important global food crops and comes in two varieties: seeded and seedless. In this lesson, students will explore factors that can affect watermelon production. To get students interested in this topic, ask students to volunteer their experience with growing, harvesting, or eating watermelon. It would be helpful to discuss the nutritional and cultural benefits to eating fruits and vegetables. Then show students where watermelons are produced in the US using USDA information³.

Have students analyze the graph to find patterns in the distribution of watermelon species and production. A possible prompt would be: What are the similarities and differences between the highest-producing states? Then have students pose questions about what factors they think could affect watermelon distribution and production.

1 <https://www.sciencedirect.com/science/article/abs/pii/S0304423817301152>

2 <https://btiscience.org/visiting-bti/>

3 <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=104374#:~:text=Commercially%2C%20U.S.%20watermelons%20are%20mostly%20watermelon%20produced%20domestically%20in%202021>

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EXPLORE

During this stage of the lesson, it is suggested to use a strategy called “Jigsaw” to build foundational knowledge about the topic. In this strategy, students collaboratively “chunk” out the large amount of information, become experts on their topic, and then share out to small groups for further discussion. For more information on how to set up and conduct a class Jigsaw, visit the Adlit site⁴. It is strongly suggested that groups use graphic organizers to document their learning and their conversations about factors affecting watermelon production.

- Watermelon’s Past, Present, and Future⁵
- Large Scale Watermelon Study Bears Fruit ⁶
- Cool Spring Temperatures Slow Watermelon Crop⁷
- Diseases in Watermelon Transplant Production⁸

EXPLAIN

At this point in the lesson, students will be able to make a claim that explain what factors affect watermelon production. It is suggested to use the CER method (Claim, Evidence, Reasoning) so that students can explain their thinking using evidence collected from the discussion circles. For more information on how to use this strategy, visit the Teaching Channel resource.⁹

ELABORATE

Ask students to look at the Sustainable Development Goals and discuss which goals are being addressed in the research they read about. Have students create an infographic or short video to share with the class.

Learn more about the Sustainable Development Goals¹⁰ (SDG’s).

4 <https://www.adlit.org/in-the-classroom/strategies/jigsaw>

5 <https://btiscience.org/explore-bti/news/post/watermelons-past-present-future/>

6 <https://ag.purdue.edu/news/2021/09/Large-scale-watermelon-study-bears-fruit.html>

7 <https://news.clemson.edu/cool-spring-temperatures-slow-watermelon-crop-and-increase-fusarium/>

8 https://drive.google.com/file/d/1Jq7df9SkIEEO0zRFwhXuFtsbPRLqWlbc/view?usp=drive_link

9 <https://www.teachingchannel.com/k12-hub/video-blog/the-cer-strategy-claims-evidence-reasoning/>

10 <https://www.undp.org/sustainable-development-goals>

KANSAS SCIENCE STANDARDS ADDRESSED
HS-LS1-4 From Molecules to Organisms: Structures and Processes Students who demonstrate understanding can: HS-LS1-4 Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms Assessment Boundary: Assessment does not include specific gene control mechanisms or rote memorization of the steps of mitosis. <i>The performance expectations above were developed using the following elements from the NRC document A Framework for K-12 Science Education.</i>
Science and Engineering Practices Developing and Using Models Modeling in 9–12 builds on K–8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed worlds. • Use a model based on evidence to illustrate the relationships between systems or between components of a system.
Disciplinary Core Ideas LS1.B: Growth and Development of Organisms • In multicellular organisms individual cells grow and then divide via a process called mitosis, thereby allowing the organism to grow. The organism begins as a single cell (fertilized egg) that divides successively to produce many cells, with each parent cell passing identical genetic material (two variants of each chromosome pair) to both daughter cells. Cellular division and differentiation produce and maintain a complex organism, composed of systems of tissues and organs that work together to meet the needs of the whole organism.
Crosscutting Concepts Systems and System Models • Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales.

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](#)¹¹

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 the 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

11 [https://www.ksde.gov/Portals/0/CSAS/Content%20Area%20\(A-E\)/English_Language_Arts/Kansas%20Standards%20for%20English%20Language%20Arts.pdf](https://www.ksde.gov/Portals/0/CSAS/Content%20Area%20(A-E)/English_Language_Arts/Kansas%20Standards%20for%20English%20Language%20Arts.pdf)

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