

HARVEST OF THE MONTH - SEPTEMBER / TOMATOES

Grades 6 - 8

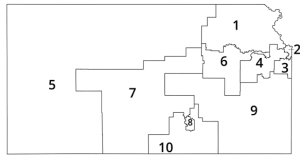


Kansas leads the world in the success of each student.

MAY 29, 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



Kansas State Board of Education

BOARD MEMBERS

DISTRICT 1



Danny Zeck
Vice Chair
Danny.Zeck@ksde.gov

DISTRICT 2



Melanie Haas
Melanie.Haas@ksde.gov

DISTRICT 3



Michelle Dombrosky
Michelle.Dombrosky@ksde.gov

DISTRICT 4



Connie O'Brien
Connie.O'Brien@ksde.gov

DISTRICT 5



Cathy Hopkins
Chair
Cathy.Hopkins@ksde.gov

DISTRICT 6



Dr. Beryl A. New
Beryl.New@ksde.gov

DISTRICT 7



Dennis Hershberger
Dennis.Hershberger@ksde.gov

DISTRICT 8



Betty Arnold
Betty.Arnold@ksde.gov

DISTRICT 9



Jim Porter
Jim.Porter@ksde.gov

DISTRICT 10



Debby Potter
Debby.Potter@ksde.gov

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

Kansans Can

COMMISSIONER OF EDUCATION



Dr. Randy Watson
Randy.Watson@ksde.gov

DEPUTY COMMISSIONER Division of Fiscal and Administrative Services



Dr. Frank Harwood
Frank.Harwood@ksde.gov

DEPUTY COMMISSIONER Division of Learning Services



Dr. Renee Nugent
Renee.Nugent@ksde.gov

The Kansas State Department of Education does not discriminate on the basis of race, color, religion, national origin, sex, disability or age in its programs and activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: KSDE General Counsel, Office of General Counsel, KSDE, Landon State Office Building, 900 S.W. Jackson, Suite 102, Topeka, KS 66612, (785) 296-3201.

Kansas leads the world in the success of each student.

July 1, 2025

HARVEST OF THE MONTH

September / Tomatoes

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.

- This is a round or oval fruit that is often mistaken for a vegetable. Show where fruits and vegetables are found on a MyPlate.gov poster¹. They come in many colors include red, yellow, orange, green and even purple and pink!
- They grow on a vine.
- They are good for your heart's health.
- They can be eaten fresh and are used as an ingredient in things like juice, soup, sauces, salsa, or ketchup
Ingredient - an ingredient is one part of a mixture.
- Show picture.

Can you guess what food I'm talking about? We will be learning about tomatoes!

Optional: You could also place a tomato in a brown paper bag and let the children reach in and feel it without peeking to see if they can guess what it might be as you give the clues



¹ <https://www.myplate.gov/sites/default/files/2020-12/Coloring%20Sheet.pdf>

VOCABULARY

Germination: The process when a seed starts to grow into a plant. It usually begins when the seed gets water, warmth, and the right conditions.

Seedling: A young plant that has just started to grow from a seed. It's small and usually has only a few leaves.

GENERAL RESOURCES

ENGAGE

In table groups, have the following pictures printed out for students to analyze².



1. Germination

The journey of a tomato plant begins with germination, which occurs when tomato seeds are planted and start to sprout.

This stage typically lasts about 5-10 days and requires warmth, moisture, and oxygen to activate the seeds.



2. Seedling Stage

After germination, the seedling stage takes place where the first true leaves develop. This occurs usually within 2-3 weeks after planting.

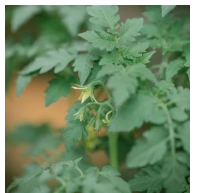
The initial leaves, called cotyledons, provide nutrients as the true leaves begin to form and take over the role of photosynthesis.



3. Vegetative Growth

During the vegetative growth stage, the tomato plant focuses on producing more leaves and stems, which support the development of flowers and fruits later.

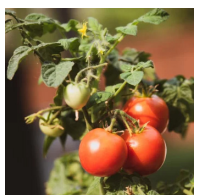
This stage is marked by rapid growth and requires ample sunlight (at least 6-8 hours daily), water, and nutrients, particularly nitrogen.



4. Flowering

The flowering stage signals the beginning of reproductive growth. Tomato plants start to develop flowers, which are crucial for fruit production.

The flowers typically appear first at the lower parts of the plant and then gradually work upwards.



5. Fruiting and Ripening

After pollination, the flowers develop into fruits. This stage sees the tomato fruits grow and eventually ripen, changing color from green to red, yellow, or other varieties' specific colors.

The ripening stage is crucial for developing the tomato's flavor and texture.

² <https://www.rasnetwork.org/plant-diseases-care/tomato-plant-growth-timeline-pictures/>

Allow students three minutes to look at the pictures, with the intent that they are trying to figure out how these pictures connect to one another.

Provide another three minutes to document what they notice on how these pictures connect to each other. Then lead a class discussion for groups to share these observations. Listen for ideas that would show potential understanding of the role of photosynthesis in the growth of the tomato plant.

EXPLORE

1. Divide the students into groups of three to four.
2. Provide each group with a potted tomato plant, a sheet of aluminum foil, scissors and several paper clips.
3. Students cut pieces of aluminum foil large enough to cover several leaves on their plant.
4. Students attach the pieces of foil to leaves on their plant using the paperclips.
5. Students label their plants and place them in windows where they will receive plenty of light.
6. After a week, students remove the pieces of aluminum foil and compare the appearance of the two groups of leaves.
7. Propose an explanation for the changes they have observed.
8. Discuss the significance of the presence or absence of green pigmentation in the plant leaves.

EXPLAIN

Use the expert grouping cooperative learning structure to read this article about planting tomatoes.³

Show the following video about photosynthesis.⁴

Read aloud the poems from the book : When Green Becomes Tomatoes by Julie Fogliano⁵

ELABORATE

Find a place on the school grounds for students to plant their tomato plants. Allow students to follow the progress of their tomato plants. When tomatoes are ready to harvest, allow students to taste test the tomatoes.

3 https://bookstore.ksre.ksu.edu/pubs/tomatoes_MF312.pdf

4 <https://www.youtube.com/watch?v=CMiPYHNNg28&t=33s>

5 <https://threebooksanight.com/2016/06/06/when-green-becomes-tomatoes/>

KANSAS SCIENCE STANDARDS ADDRESSED
MS-LS1-6 From Molecules to Organisms: Structures and Processes Students who demonstrate understanding can: MS-LS1-6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. Clarification Statement: Emphasis is on tracing movement of matter and flow of energy Assessment Boundary Assessment does not include the biochemical mechanisms of photosynthesis <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 Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories. - Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students’ own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. Connections to Nature of Science Scientific Knowledge is Based on Empirical Evidence - Science knowledge is based upon logical connections between evidence and explanations
Disciplinary Core Ideas LS1.C: Organization for Matter and Energy Flow in Organisms - Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. PS3.D: Energy in Chemical Processes and Everyday Life - The chemical reaction by which plants produce complex food molecules (sugars) requires an energy input (i.e., from sunlight) to occur. In this reaction, carbon dioxide and water combine to form carbon-based organic molecules and release oxygen. (secondary)

Crosscutting Concepts

Patterns

- Within a natural system, the transfer of energy drives the motion and/or cycling of matter.

Companion Texts for this study:⁶

When Green Becomes Tomatoes by Julie Fogliano⁷

6 https://bookstore.ksre.ksu.edu/pubs/tomatoes_MF312.pdf

7 <https://threebooksanight.com/2016/06/06/when-green-becomes-tomatoes/>

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>



Kansas leads the world in the success of each student.