



Kansas leads the world in the success of each student.

#### **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

Kansas leads the world in the success of each student.

#### **MOTTO**

Kansans Can

#### **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.

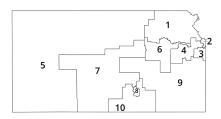
#### **OUTCOMES**

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





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



DISTRICT 1



Danny Zeck dzeck@ksde.org



Melanie Haas Chair mhaas@ksde.org





Michelle Dombrosky mdombrosky@ksde.org

DISTRICT 4

Ann E. Mah Legislative Liaison amah@ksde.org

DISTRICT 9



Cathy Hopkins chopkins@ksde.org

DISTRICT 6



Dr. Deena Horst Legislative Liaison dhorst@ksde.org



Dennis Hershberger dhershberger@ksde.org



Betty Arnold barnold@ksde.org



lim Porter Vice Chair iporter@ksde.org





lim McNiece jmcniece@ksde.org



900 S.W. Jackson Street, Suite 102 Topeka, Kansas 66612-1212 (785) 296-3201

www.ksde.org

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Kansas leads the world in the success of each student.

# HARVEST OF THE MONTH

# October / Apples

# 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 fruit that can be red, yellow, or green. Show where fruits are found on a MyPlate.gov poster.

- This fruit grows on trees and can be sweet or tart.
- They are a healthy snack that is full of vitamin c and fiber.
- They have a peel on the outside of the fruit that you can eat.
- Peel- the outer layer of fruit
- They have 5 seed pockets in their cores.
- · Core- the hard center part of certain fruits
- Some well known varieties of this fruit are called pink lady, golden delicious, red delicious, and granny smith.
- People eat this fruit raw, as juice, in pies, as chips, and cook and mash them up and eat them.

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

**Optional**: You could also place an apple 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.



# HARVEST OF THE MONTH

# **VOCABULARY**

Sense receptors: the faculties by which humans and animals perceive stimuli originating from outside or inside the body collectively

# **GENERAL RESOURCES**

# **ENGAGE**

Display an apple that has been cut into pieces. Ask students the following question: "what are some senses we could use to describe this apple?"

Solicit student ideas. Listen for ideas that will guide students to thinking related to the five senses (sight, touch, smell, taste, and hear).

Ask students: "If we were to gather evidence that would help us better understand that different sense receptors are specialized for particular kinds of information, which may be then processed by our brain, what investigations could we do?"

Allow groups of four students to have five minutes to brainstorm a list of investigations they might like to do. After groups have been provided enough processing time lead a class discussion for brainstorming ideas to be shared. Document these ideas either on the whiteboard or on an anchor chart.

### **EXPLORE**

Say: "You all have come up with some amazing ideas that we can think about investigating to collect evidence that would help us better understand our different sense receptors are specialized for particular kinds of information."

Ask each group of students to pick one investigation they would like to investigate and ask that they create a procedure to conduct the investigation. When you as the teacher feel the group has a complete procedure, provide the group with the materials to conduct the investigation.

Ideas for investigation might be:

- Sight: students want to look at the the different structures of the apple such as the outside, inside, and seeds
- Touch: students feel the different structures of the apple
- Smell: students smell the different structures of the apple
- Taste: students taste the skin and the flesh of the apple
- · Hear: students might listen what the apple sounds like when people are eating

After student groups have conducted their investigation, allow groups to share the evidence that was collected.

#### **EXPLAIN**

If possible, provide groups of three with a copy of the book Apples by Gail Gibbons. One student will read aloud one page while the other two listen. The students will alternate between each of them until they have read aloud the entire book.

As students are reading, ask them to document the evidence from the book that help them better understand the different sense receptors are specialized for particular kinds of information.

# **ELABORATE**

Find a recipe that either the class has brainstormed to make and enjoy.

#### Ideas:

- Easy Cinnamon Apples<sup>1</sup>
- Apple Crisp<sup>2</sup>
- Apple Cake<sup>3</sup>

#### KANSAS SCIENCE STANDARDS ADDRESSED

K-LS1 From Molecules to Organisms: Structures and Processes

Students who demonstrate understanding can:

# 4-LS1-1.

Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Clarification Statement:

Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.

Assessment Boundary: Assessment is limited to macroscopic structures within plant and animal systems.

# 4-LS1-2.

Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

Clarification Statement:

Emphasis is on systems of information transfer.

Assessment Boundary: Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.

The performance expectations above were developed using the following elements from the NRC document A Framework for K-12 Science Education.

<sup>1 &</sup>lt;a href="https://joyfoodsunshine.com/stovetop-cinnamon-apples/">https://joyfoodsunshine.com/stovetop-cinnamon-apples/</a>

<sup>2</sup> https://www.allrecipes.com/recipe/229274/apple-crisp-perfect-and-easy/

<sup>3</sup> https://kirbiecravings.com/4-ingredient-apple-cake/

#### GRADES 3 - 5

# Science and Engineering Practices

#### Developing and Using Models

Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.

• Use a model to test interactions concerning the functioning of a natural system. (4-LS1-2)

# Engaging in Argument from Evidence

Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s).

Construct an argument with evidence, data, and/or a model. (4-LS1-1)

# Disciplinary Core Ideas

#### LS1.A: Structure and Function

• Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1)

# LS1.D: Information Processing

• Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS1-2)

# **Crosscutting Concepts**

#### Systems and System Models

• A system can be described in terms of its components and their interactions. (4-LS1-1), (LS1-2)

For more information, contact:

Eryn Davis

Farm to Plate Project Coordinator Child Nutrition and Wellness

(785) 296-5060 Edavis@ksde.org



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

https://www.ksde.org



