



Marietta City Schools
District Unit Planner

Kindergarten Science

Theme	Unit 5 Time Patterns and Organisms	Unit duration	9 Weeks
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Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?*

GaDoE Standards/3D Science Elements

SKL1. Obtain, evaluate, and communicate observations about time patterns (day to night and night to day) and objects (sun, moon, stars) in the day and night sky.

- Ask questions to classify objects according to those seen in the day sky, the night sky, and both.
- Develop a model to communicate the changes that occur in the sky during the day, as day turns into night, during the night, and as night turns into day using pictures and words.
(Clarification statement: Students are not expected to understand the tilt of the Earth, rotation, or revolution.)

SKL2. Obtain, evaluate, and communicate information to compare the similarities and differences in groups of organisms.

- Construct an argument supported by evidence for how animals can be grouped according to their features.
- Construct an argument supported by evidence for how plants can be grouped according to their features.
- Ask questions and make observations to identify the similarities and differences of offspring to their parents and to other members of the same species.

Unit Objectives:

Students will inquire about items seen in the sky at different times.
Students will classify objects based on whether they are seen during the day, during the night or both.
Students will use pictures and words to make a model to represent changes in the sky.
Students will group animals and plants according to their features.
Students will compare and contrast parents to their offspring as well as organisms in the same species.

Unit Phenomena:

[Day and Night Time Lapse](#) – Show this video clip. Ask students what they notice and wonder. Record their thinking on a T-chart. Refer back to the chart throughout the unit.

[Mother and offspring Photo](#) – Show this image of a mother and baby elephant. Ask students what they notice and wonder. Record their thinking on a T-chart. Refer back to the chart throughout the unit.

Page Keeley Probes: These probes can be used as phenomena. They are intended to elicit student understanding about science concepts. Starting a unit or lesson with a probe will help you uncover misconceptions and see what students already know about a topic. Using a probe at the beginning of a lesson and then at the end of the lesson serves the purposes of pretesting and then formatively evaluating student thinking.

Below is a list of probes from Page Keeley's book Uncovering Student Ideas in Primary Science, that are appropriate for this unit. This book has been purchased for your grade level by the Office of Academic Achievement and can be found in your media center.

- **Is It Living?**
- **Is It an Animal?**
- **Is It a Plant?**
- **Big and Small Seeds**

Science & Engineering Practices: <ul style="list-style-type: none"> • Asking questions and defining problems • Developing and Using Models • Planning and carrying out investigations • Constructing explanations • Engaging in argument from evidence • Obtaining, evaluating, and communicating information 	Disciplinary Core Ideas: <ul style="list-style-type: none"> • Patterns of the motion of the Sun, moon, and stars in the sky can be observed, described, and predicted. • Some events on Earth occur in cycles, like day & night. • Animals and plants have different parts. • Plants and animals have predictable characteristics at different stages of development. • Plants and animals grow and change. • Adult plants and animals can have young. 	Crosscutting Concepts: <ul style="list-style-type: none"> • Patterns • Energy and Matter • System and System Models • Structure and Function
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Misconceptions:

The sun and moon are the same, There are many stars in our solar system, The moon and the sun change, It is safe to look directly at the sun, Insects are not animals, Humans are not animals, Animals are four footed, or furry, Animals are large, Animals live on land, Bushes are baby trees, Trees are only considered plants when they are small, Trees, grass, vegetables, weeds are not plants.

Proper Conceptions:

- The sun is a star, and the moon is a moon.
- Students can see many stars in the night sky, but they are not in our solar system.
- The moon and sun appear to change.
- It is not safe to look directly into the sun.
- Insects are part of the animal kingdom.
- Humans are part of the animal kingdom.
- Some animals are four footed and furry; others may have no legs, scales, etc. There is a wide variety of animals in the animal kingdom.
- Animals can be small like ants, ladybugs, etc.
- Not all animals live on land. Some live in the oceans, rivers, and lakes.
- A shrub or bush is distinguished from a tree by its multiple stems and lower height, usually less than 6 m tall.

- A tree is a large plant. The term generally applies to plants at least 6 m (20 ft) high at maturity and having secondary branches supported on a main stem or stems.
- Trees and grasses are plants. A vegetable is the edible part of a plant. A weed in a general sense is a plant. More specifically, the term is often used to describe plants that grow and reproduce aggressively.

Math/ELA Connections/STEM Connections

ELAGSEKRL1 With prompting and support, ask and answer questions about key details in a text.

ELAGSEKRL10 Actively engage in group reading activities with purpose and understanding.

ELAGSEKRI10 Actively engage in group reading of informational text with purpose and understanding.

ELAGSEKSL2 Confirm understanding of written texts read aloud or information presented orally or through media by asking and answering questions about key details and requesting clarification if something is not understood.

ELAGSEKSL3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

MGSEK.G.1 Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

MGSEK.MD.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

MGSEK.MD.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.

STEM:

[A Place in the Shade Engineering Challenge](#)

Discovery Education Science Techbook (log into DE using your MCS Google credentials before accessing these links)

You will find station rotation activities on the Explore page of each Techbook unit.

[Discovery Education Techbook Lesson: Objects in the Sky](#)

[Discovery Education Techbook Lesson: How do living things change?](#)

[Discovery Education Techbook Lesson: Physical Characteristics](#)

[Up in the Sky Song](#)

Hands-On Discovery Education Activities

[Star Patterns](#)

[Making Shadows](#)

[Day and Night](#)

[Animal Groups](#)

[Individual Differences](#)

Essential Questions

Factual—

What are some characteristics of animals?
What are some objects in the day sky?
What are some objects in the night sky?

Inferential—

Why does day look different from night?
Is day time longer than night time? Why or why not?

Critical Thinking-

Can you compare and describe objects in the sky?

Tier II Words- High Frequency Multiple Meaning

heat, light, day, night, change, time, patterns

Tier III Words- Subject/ Content Related Words

characteristics, moon, stars, clouds, sun, position, alignment, rotate, revolve, observations

Assessments

Read a story about day and night.

Ask: What is it called when the Earth is facing the Sun? Daytime What is it called when the Earth is not facing the Sun? Nighttime How many times does the day-and-night pattern repeat in a 24-hour period? It happens only one time in a 24-hour period. Daytime and then nighttime. The number of hours of light and dark will vary during the year.

Physical Characteristics Constructed Response
Objects in the Sky Constructed Response

Teachers may access assessment documents in the OAA Course in the grade level folder.

Resources

The following Knowledge-Based Unit contains instructional read alouds designed to build knowledge around concepts associated with this planner. Highlighted lessons provide direct text-based support for the expectations of the associated SS or Sci standards and could be used to deepen student understanding/application of those standards. The remaining lessons build similar knowledge but do not directly relate to the content standards.

[15-Day Plan: Down on the Farm](#)

[GaDOE Inspire Science Kindergarten: Unit 5: Time Patterns & Organisms](#)

Objective or Content	Learning Experiences	Differentiation Consideration
CLE 1: SKE1. Obtain, evaluate, and communicate observations about time patterns (day to night and night to day) and objects (sun, moon, stars) in the day and night sky.	MCS Time Patterns & Organisms Model Lesson Students will simulate objects in the sky and the movement of objects to conceptualize understanding.	Student Choice Performance Tasks Reflection and Goal Setting Learning Stations Choice Boards Formative Probes Science Journaling
CLE 2: SKE1. Obtain, evaluate, and communicate observations about time patterns (day to night and night to day) and objects (sun, moon, stars) in the day and night sky. SKL2. Obtain, evaluate, and communicate information to compare the similarities and differences in groups of organisms.	GaDOE Instructional Segment In this 5E lesson, students will realize time patterns in the day and night sky. Students will also compare and contrast groups of organisms. Students will apply knowledge to identify similarities and differences in diurnal and nocturnal animals.	Multi-sensory activities Assistive Technology Flexible Grouping Multiple Means of Representation
Recommended High Quality Complex Text By Lexile Band		
Next Time You See the Moon by Emily Morgan Papa, Please Get the Moon for Me by Eric Carle Kitten's First Moon by Kevin Henkes The Moon Book by Gail Gibbons The Moon Seems to Change by Franklyn M. Branley Do You Know Which Ones Will Grow? by Susan A. Shea		

What's Alive? by Kathleen Weidner Zoehfeld
My First Book of Animals by Miranda Smith