### Georgia Performance Standards Framework – Kindergarten

**Unit Organizer: Day and Night Sky**
(4 weeks)

### OVERVIEW:
In this unit, Kindergarten students have a natural interest in the world around them. In the unit, Day and Night Sky, students examine the characteristics of day and night sky and how one changes into the other in a 24 hour cycle. In this unit, students will focus on the simple changes from night to day and day to night, as well as the main objects in the sky – the sun and moon. Further study of objects in the sky will take place in 2nd grade.

### STANDARDS ADDRESSED IN THIS UNIT

**Focus Standards:**

**SKE1.** Students will describe time patterns (such as day to night and night to day) and objects (such as sun, moon and stars) in the day and night sky.

- a. Describe changes that occur in the sky during the day, as day turning into night, during the night, and as night turns to day.
- b. Classify objects according to those seen in the day and night sky and those seen in the night sky.

**Recognize that the Sun supplies heat to the Earth**

**Supporting Standards:**

**SKCS1:** a. Raise questions about the world around you and be willing to seek answers to some of the questions by making careful observations (5 senses) and trying things out.

**SKCS3:** b. Make something that can actually be used to perform a task, using paper, cardboard, wood, plastic, metal, or existing objects.
## ENDURING UNDERSTANDINGS

Students will understand that:
Changes occur in the sky throughout the day and night.
The sun provides a source of heat and can only be seen during the daytime.

## ESSENTIAL QUESTIONS:

- Can you name the objects in the daytime sky?
- Can you name the objects in the nighttime sky?
- What are the differences and similarities in day and night sky?
- What happens to the sky in a 24 hour cycle?

## MISCONCEPTIONS

- The sun and moon are the same.
- Students can see many stars in the night sky, but they are not in our solar system.
- The moon and the sun do not change.
- It is safe to look directly at the sun.

## PROPER CONCEPTIONS

- The sun is a star that makes its own light, but the moon orbits our planet and reflects light from the sun.
- There is only 1 star in our solar system, the Sun.
- The moon looks different each night; the sun looks the same each day.
- It is not safe to look directly at the sun. It can cause eye damage.
<table>
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<tr>
<th>CONCEPTS</th>
<th>KNOW AND DO</th>
<th>LANGUAGE</th>
<th>EVIDENCE</th>
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</table>
| Observe, Describe and Role Play the cycle of a 24 hour day | Name objects in the day and night sky  
|                                             | Describe time patterns  
|                                             | Understands that the sun provides heat        | Night, day, change, sky, sun, moon, stars, clouds, heat and light | Graphic Organizers: T CHART, Venn Diagrams, Illustrations, Accurate representation |

**EVIDENCE OF LEARNING:**

By the conclusion of this unit, students should be able to demonstrate the following competencies:

Describe and role-play the cycle of a 24 hour day.
Name objects in the day and night sky as well as time patterns.
Show understanding that the sun provides heat to the earth.

**GRASPS**

*Culminating Activity:* GRASPS activity

**GRASPS**

*Goal:* Apply knowledge and understanding of times and patterns, and describe the 24 hour cycle along with objects that appear in that cycle. Students will also be able to describe how the sun provides heat and light.

*Role:* The student will take on the role of TV news person.

*Audience:* People at home.
Scenario: One student will act as a TV news person and will describe the day/night cycle for a given 24 hour day. They will also come up with their own experiment on how to show the sun provides heat and light. They may “dress up” for their segment of the news show and it may be video taped for broadcast play over the school closed circuit system. This may be done with calendar time in order to incorporate phrases: yesterday, last night, today, tonight, and tomorrow, etc.

Product: Each student will create a labeled drawing of what was seen in their given 24 hour cycle. Each TV newsperson (student) will also conduct an experiment in order to show how the sun gives heat and light. They may participate in one as a whole group, or design their own.

TASKS

The following collection of tasks represents the level of depth, rigor and complexity expected of all students to demonstrate evidence of learning.

Lesson 1: Introduction to Day and Night Sky 3-4 Days

Description:

A. Introduce Standards. Continue using vocabulary from the standards during the unit. Using a T chart, begin to list things found in the daytime sky and the nighttime sky. Have students brainstorm, why certain things are in one but not the other.

B. Give student one (1) piece of white paper and one (1) piece of black paper, have them draw a daytime scene and a nighttime scene respectively. *Colored chalk works great with this activity. When complete, staple the two (2) sheets together so they can flip back and forth.

C. Hook and Attention Getter – Find pictures of foods, toothbrushes, etc (things you use / or do in the morning), foods, playtime, etc (things you do at lunch/noon), and foods, homework, and bedtime (things that you do in the nighttime) Have a bulletin board fixed and split into three (3) sections. Allow students to place pictures in the appropriate places on the board. Reference back to the board throughout the unit.

Assessment: Selected Response, Informal Assessment

Suggestions/Resources: • Record and Post answers on T chart on butcher paper, poster board, etc. Bulletin board with things added in the appropriate “time of day” section.
<table>
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<tr>
<th>Lesson 2:</th>
<th>All about the SKY - 1-day</th>
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<tbody>
<tr>
<td>Description:</td>
<td><a href="http://www.unitedstreaming.com">www.unitedstreaming.com</a> keyword search: earth, moon, sky, sun (kindergarten level) approximate length: 20 min. Short and informative, there are exceptional videos and video segment that explores most all of the key concepts that students will explore in unit activities.</td>
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<td>Assessment:</td>
<td>Teacher observation and Oral Questioning after film – Refer to T chart from first lesson.</td>
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<td>Suggestions/Resources:</td>
<td>Check with your media specialist for DVD’s or videos owned by the school.</td>
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<tr>
<th>Lesson 3:</th>
<th>The Sun and Moon –WHAT’S HOT and WHAT’S NOT 3-5 days – Build Knowledge</th>
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<td>Description:</td>
<td>A. Gather students and begin to pose the following questions: Why can we see the sun? Why can’t we see the other stars when it’s daytime? Why is the sun so important to us? What is the sun made of? Check for understanding and thought process skills. Show pictures of sun, clouds, possibly birds, airplanes etc. Anything that might be in the sky if we went outside right now. *Optional activity is to actually go outside and allow students to draw and label a picture of what they see.</td>
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<td>B. As students explore concepts pose more questions that will give detailed information about the moon. What else can we see in the sky? Good you are right, the moon, stars, sometimes airplanes and clouds at night. *Show pictures. Ask: what job does the moon have? [It gives us light at night and it travels around Earth.] Ask: what is the moon made of? *Mostly rock **Detailed steaming video of moon can be show here. Ask: Does the moon light up like the sun? Does it make the light it gives off? *NO—it reflects light from the sun. Ask: what does reflect mean?</td>
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<td>C. From class discussion, have students dress up as certain objects in the day and night sky. Allow someone to be the actor and do things that kids would normally do during that time of the day(wake up, brush teeth, play, eat dinner, sleep, etc) Have students acting out sun, moon, star parts to move with the group and go through the process. *Extension activity--Many students have difficulties visualizing how the moon orbits the Earth and how the Earth orbits the Sun. Have small groups create models of the moon, Earth, and Sun out of balls, clay, foil, or paper. Then have the groups model the Moon’s orbit around Earth and the Earth’s orbit around the Sun. If possible, have the groups film their models using video cameras. Students can also use digital cameras to do stop-motion animations or print pictures to make flipbooks.</td>
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| Assessment:                  | Performance Assessment  
A. Clear models and understanding of placement of items on chart/bulletin board.  
B. Teacher Observation and Oral Questioning can also take place.  

| Suggestions/Resources:      | Have students perform their dramatizations of the earth/moon/sun model for parents, visitors or other students.  

| Lesson 4: Fun in the Sun – 3-5 days | 
| Description:                | These activities are used to help illustrate how the earth gets both heat and light from the sun.  
Materials: Baggies, ice, solar powered lights/lamps (solar landscape lighting),  

| Directions and Discussion:  | 1. To discuss and explore how and why the sun gives us heat, have students melt ICE in bags in the shade and sun (pieces of bubble gum work well also). Discuss what a sunburn is if anyone has had one. What gave you the burn? Discuss heat coming from sun.  
2. If resources are available an extension activity can be to use solar lighting lamps to show how the sun gives off heat and energy to be used. The same type of lamp can be “stored” in the moonlight also to see if it gives off energy/heat enough to power the lamp.  
3. If plant unit has been completed, you may reinforce the ideas/connections of how sunlight gives plants the ability to grow (energy), if not, this is an excellent opportunity to give a “preview” of what is to come in the plant unit.  

| Assessment:                 | Constructed Response: Drawing of what the sun will do to the ice/gum. Students can make a drawing or diagram of one of the above experiments.  

| Suggestions/Resources:      | Allow students to suggest objects to put in the sun, or to design experiments for this standard.  

**LITERATURE**  
What Makes Day and Night (Let's-Read-and-Find-Out Science 2) by Franklyn M. Branley and Arthur Dorros  
Day Light, Night Light: Where Light Comes From (Let's-Read-and-Find-Out Science 2) by Franklyn M. Branley and Stacey Schuett  
Goodnight Moon (Board Book) by Margaret Wise Brown and Clement Hurd  
Night/Day: A Book of Eye-Catching Opposites by M. Tingley and Herve Tullet  
Papa, Please Get the Moon for Me, by Eric Carlse
<table>
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<th>QUALITY WEBSITE RESOURCES</th>
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<td><strong><a href="http://www.nasa.gov">www.nasa.gov</a></strong> Choose “kids”, “students”, or “educators for a variety of resources and activities related to the moon, sun, and other aspects of space.**</td>
</tr>
<tr>
<td><strong><a href="http://www.unitedstreaming.com">www.unitedstreaming.com</a></strong> A variety of video clips is available on this topic.</td>
</tr>
<tr>
<td><strong><a href="http://www.kidskonnect.com">www.kidskonnect.com</a></strong> Kids Konnect has a variety of pages related to science including one on the sun and moon</td>
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[http://www.kidskonnect.com/content/view/103/27/](http://www.kidskonnect.com/content/view/103/27/)