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# Changes in the Earth and Sky: Shadows, Day, and Night [pre-kindergarten]

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## **UNDERSTANDING BY DESIGN**

### Unit Cover Page

Unit Title: Changes in the Earth and Sky: Shadows, Day, and Night

Grade Level: Pre-Kindergarten

Subject/Topic Area: Science

Designed By: Beth Morrow and Anne Peppers

Time Frame: 1 week

School District: East Central Independent School District

School: East Central Development Center

School Address and Phone: 12271 Donop Rd.

San Antonio, TX 78223

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#### **Brief Summary of Unit:**

This unit is based on the Texas Pre-Kindergarten Guideline, "Child identifies, observes, and discusses objects in the sky." At the conclusion of this unit, students will know that natural changes occur in the sky, that changes in the sky affect objects on the ground, and differences between the day and night skies and be able to observe and discuss characteristics of clouds and make representations, ask questions and/or make comments about the sun, stars, and moon, and investigate what happens to things exposed to the sun

Stage 1 – Desired Results					
		Transfer  Students will independently use their learning to  Correctly identify and/or name items seen in the night sky and day sky and liscuss some effects of the sun			
Established Goals (Texas Pre- Kindergarten Guidelines)  VI.C.2. Child identifies, observes,		- Changes in the sky affect our environment and our lives - We can observe and describe changes in the sky  - We can observe and describe changes in the sky  - Changes in the sky  - Natural changes occur in the sky  - Changes in the sky affect objects on the ground  - What changes occur in the sky during the night?  3. What are the effects of change or objects in the sky?  - Skills  Students will be able to  - observe and discuss characteristics of clouds and make representations  - ask questions and/or make	Essential Questions  1. What changes occur in the sky during the day?  2. What changes occur in the sky during the night?  3. What are the effects of changes or objects in the sky?  uisition  Skills  Students will be able to  - observe and discuss characteristics of clouds and make representations  - ask questions and/or make comments about the sun, stars, and moon  - investigate what happens to		
		Stage 2 – Evidence			
CODE (M or T)	Evaluative Criteria (for rubric)				
- correct placement of objects - appropriate day/night addition - labeled correctly		Performance Task(s)  Students will demonstrate meaning-making and transfer by  1. When shown 4 pictures of objects in the sky (sun, stars, moon, cloud), student will tell whether it is seen in the day sky or the night sky. Student will be asked to tell one thing that can happen to an item when it is exposed to the sun. (Pacing Guide assessment)  2. Students will be given a piece of blue construction paper, a piece of black construction paper, and die-cuts of a sun, cloud, star, and moon and be asked to place each object on the colored paper on which it belongs, then add one more object they can see in the day and night sky. Students will then label each sky by copying the words 'day' and 'night' onto the correct color.			
		Stage 3 – Learning Plan			

CODE					
(A, M, T)	Students will be asked to respond to EQs 1 and 2 by creating a day sky and a night sky in their journals.				
	Learning Activities	Progress Monitoring			
M/A	1. Pre-assessment (whole group) – students will respond to EQs 1 and 2 in their journals, teacher will take dictated description. Read <u>Day and Night</u> (Margaret Hall) and introduce science word wall (whole group). Small group:	(e.g., formative data) Journal responses			
M/A	elicit student ideas of what they see during the day and night (T-chart). Assign as homework for the next 4 nights: "What does the moon look like tonight?"  2. Read It Looked Like Spilt Milk (whole group) outside building, introduce cloud observation and painting, have students observe clouds and their movement for a few	Cloud description (dictation)			
M/A	minutes, then give each student a piece of blue construction paper and a dollop of white paint. Instruct and model how to fold the paper to spread the paint into a cloud shape. Students will dictate a description of their cloud to the teacher. After returning to the room, students will complete the "Cool Clouds" worksheet with the teacher, learning more about clouds.  3. Ask EQ #2 and ask students to consider this question while teacher reads I Like Stars (Margaret Wise Brown). While reading, ask students what they see in the night sky illustrations and in real life, then students should journal their answers to EQ #2. In small groups, students will use a thumbtack and a constellation template over black paper to create a constellation. Once	Verbal responses Journal responses			
M/A	they have punched all of the necessary holes, their papers will be taped to the window.  4. Introduce EQ #3. Read Bear Shadow (Frank Asch) and introduce shadow outline activity (Shadow Track). Show "Shadows and Sunlight" video clip and science center tools they can use during centers (ie: flashlight, window, color paddles). During centers, students will accompany teacher outside in small groups to participate in tracking their shadows. Performance task 1: When shown 4 pictures of objects in the sky (sun, stars, moon, cloud), student will tell whether it is seen in the day sky or the	Performance task			
M/A/T	night sky. Student will be asked to tell one thing that can happen to an item when it is exposed to the sun. (Pacing Guide assessment)  5. Read and watch "Happy Birthday Moon" (Frank Asch) (Discovery Education). Discuss "What does the moon look like tonight?" homework. Performance task 2: Students will be given a piece of blue construction paper, a piece of black construction paper, and clipart of a sun, cloud, star, and moon and be asked to place each object on the colored paper on which it belongs, then add one	Homework discussion			

more object they can see in the day and night sky. Students will then label each sky by copying the words 'day' and 'night' onto the correct color.	
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Pacing Guide assessment grading guidelines (performance task 1):

- + 5 correct responses (4 sky objects with correct answers and one result of sun exposure)
- $\sqrt{3-4}$  correct responses
- 0-2 correct responses

	-		+
correct placement of objects	Places 0 objects correctly	Places 1-2 objects correctly	Places 3-4 objects correctly
appropriate day/night addition	Does not add an appropriate day or night object	Adds one appropriate addition to either day or night	Adds correct addition to both day and night
labeled correctly	Does not label or labels both day and night incorrectly	Correctly labels either day or night	Correctly labels both day and night