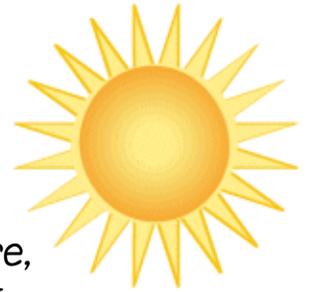


# Section 1

## What makes Day and Night?

### Activity 1: Day Sky, Night Sky

**Goal:** Students become familiar with objects they observe "in the sky." Note: Some objects are in our atmosphere, while others (stars, planets, comets) are outside of it. You may choose to discuss this also.



**Materials:** Magazines  
Scissors  
Glue Sticks  
Poster Board (2) (one blue, one black)  
"In The Sky" mini-book  
"What is in the sky?" worksheet



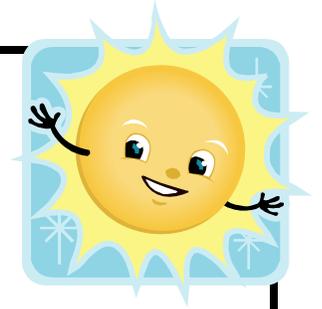
### Description:

1. Ask the students to think about the kinds of things they observe in the sky during the day and at night.
2. Have them work in small groups to cut out pictures of things seen during the day and at night.
3. Come together as a whole group. Have students share their findings and glue them onto the large poster boards labeled "Daytime sky" (blue) and "Nighttime sky" (black).
4. Have students illustrate their findings on the "What is in the sky?" worksheet.
5. Have students put together the "In the Sky" mini-book and then read with a partner.

# What is in the sky?

Draw a picture of objects you see in the daytime sky and in the nighttime sky.

## The Daytime Sky



## The Nighttime Sky



# In The Sky

Name \_\_\_\_\_

What do we see in the sky? We see the sun and clouds in the daytime. But did you know there are many more objects up in the sky that we can see better at night?

- Comets
- Planets
- Stars
- Moon

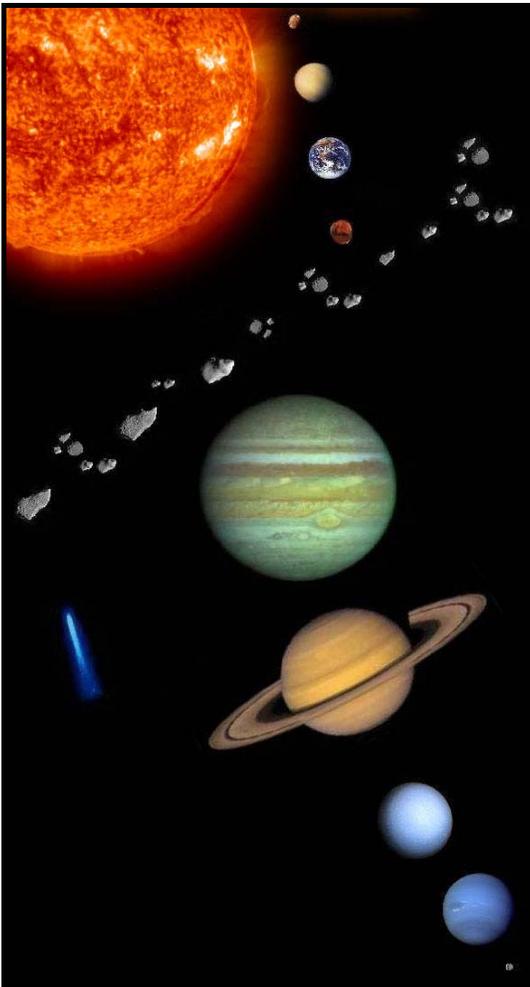


At night we see the moon and the stars. Sometimes we even see other planets.



The stars and the moon are always in our sky. Our sun makes so much light that we cannot see the stars during the day, so they are only visible when the sun goes down.

-3-



The other planets are always in the sky too! It is very hard to see the other planets without a telescope because they are very far away. They are not as far away as the stars, but are much smaller and don't make their own light.

-4-

# Why do we have day and night?

## Activity 2: Why do we have day and night?

**Goal:** Students learn that the rotation of Earth causes the sun to appear to rise in the morning and set in the evening. Students should understand that it is actually the motion of Earth, not the sun, that causes day and night.

**Materials:** Flashlight  
Globe  
Drawing paper  
Crayons



"Why do we have the day and the night?" worksheet

### Description:

1. Ask students to remember and share some things they observe in the sky during the day and at night.
2. Ask if they can think of one object they ONLY see during the day? Help them come to realize that the sun can only be seen during the day. Let them discuss why this might be.
3. Put students in small groups and allow them to draw their ideas about why we only see the sun during daylight hours. You may choose to let them make a myth or story, or try to come up with a scientific explanation.
4. As a class, allow some students to share their ideas. Then introduce the concept that Earth rotates. Show students the globe, slowly rotating it counterclockwise.
5. Once students see this rotation, give one student the flashlight and mention that the globe will model Earth and the flashlight will model the sun. Turn on the flashlights and off the classroom lights.
6. Show that at any time, half of Earth receives light from the sun. That half experiences day. The other half does not receive light. That half experiences night. Ask students to tell which part of the globe is in day/night.
7. Rotate the globe counterclockwise. Ask them several more times which part of the globe is experiencing day/night? When they seem to understand, ask students to turn the globe so that Florida (or their state) is experiencing morning/ noon/ evening/ night. Have students complete "Why do we have day and night?" worksheet.



### Extension Activity

Students can create their own globe by using a Styrofoam ball covered in tissue paper (blue and green) stick a dowel through the bottom and have students show how the Earth rotates and how the sun shines on the Earth.

# Why do we Have Day and Night?

Draw the Earth in each box, and show the sun's effects.

The Earth  
rotates as it  
orbits the sun.



When your part  
of the Earth  
faces the sun  
it is daytime.

As your part of  
the Earth  
rotates away  
from the sun, it  
becomes  
nighttime.





# ART CONNECTION



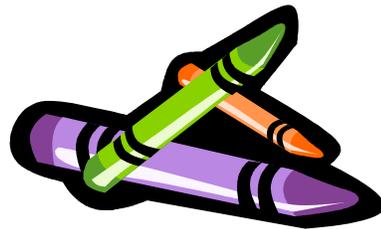
## Daytime, Nighttime Mural

### Activity 3: Daytime/ Nighttime Mural

#### Goal:

This is a fun introduction to "Why can't we see the stars during the day?"

Materials: Butcher paper  
Construction paper  
Crayons  
Glue  
Scissors  
Glow-in-the-dark paint or stickers



#### Description:

1. Place butcher paper on the wall or on the floor where students can draw.
2. Have students draw a daytime scene that might include trees, buildings, and clouds. They can also add daytime images by drawing them on construction paper and then cutting them out and attaching them to the mural. Make sure they leave room for nighttime images.
3. Have students add nighttime images, such as comets, stars and planets, using glow-in-the-dark stickers, paint, or markers.
4. When the mural is done have the students observe the objects during the day (with lights on). Turn the lights off and observe the objects seen in the night sky. Be sure to point out that these objects are around during the day but the sun's light is too bright for them to be seen.

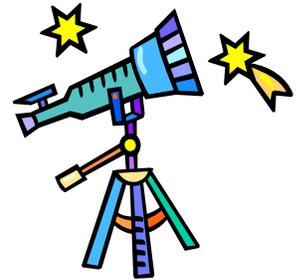
# Why can't we see the stars during the day?

## Activity 4: Why can't we see the stars during the day?

**Goal:** Students should understand that stars shine all the time. They can't be seen during the day because the light from the sun is much brighter (not because the sun is a bigger star, but because it is a closer star).

**Materials:** Flashlights (a few)  
\*This activity requires that you make the classroom dark and (if possible) that you take students outside.

### Description:



1. Ask students to think about the objects they painted on their mural. What objects did they paint as nighttime objects? Are there any "nighttime" objects that they see during the day?

\*Note: Many may not have noticed that the moon is often visible during the day. This is a good time to point it out.

2. Ask students if they see any stars during the day. Students may mention that some stars become visible before it is completely dark. Lead them to realize that our sun is a star.

3. Ask students if any other stars are visible while the sun is visible. Have them discuss why not.

4. Place the students in groups and give each group a flashlight. Explain to students that they will use the flashlights to model stars. They will observe the light from their "stars" under different conditions.

5. Ask the students how they could model nighttime conditions, without sunlight. Take suggestions, then make the classroom as dark as possible. Have students turn on their flashlights and make three observations about the light (e.g. brightness, length of beam, width of beam). You may choose to have them record these observations.

6. Ask students how they would model daytime conditions. If possible take students outside. If not, turn on all lights in the classroom. Have students turn on flashlights and make observations. Bring students back inside and collect flashlights.

7. Have students report their findings. Ask again why stars (other than the sun) are not visible during the day. Lead them to understand that although the stars are always there, the light from the sun is much brighter (because the sun is closer, not because it is a brighter star). We simply can't see the light from other stars during the day.