

Chapter 11

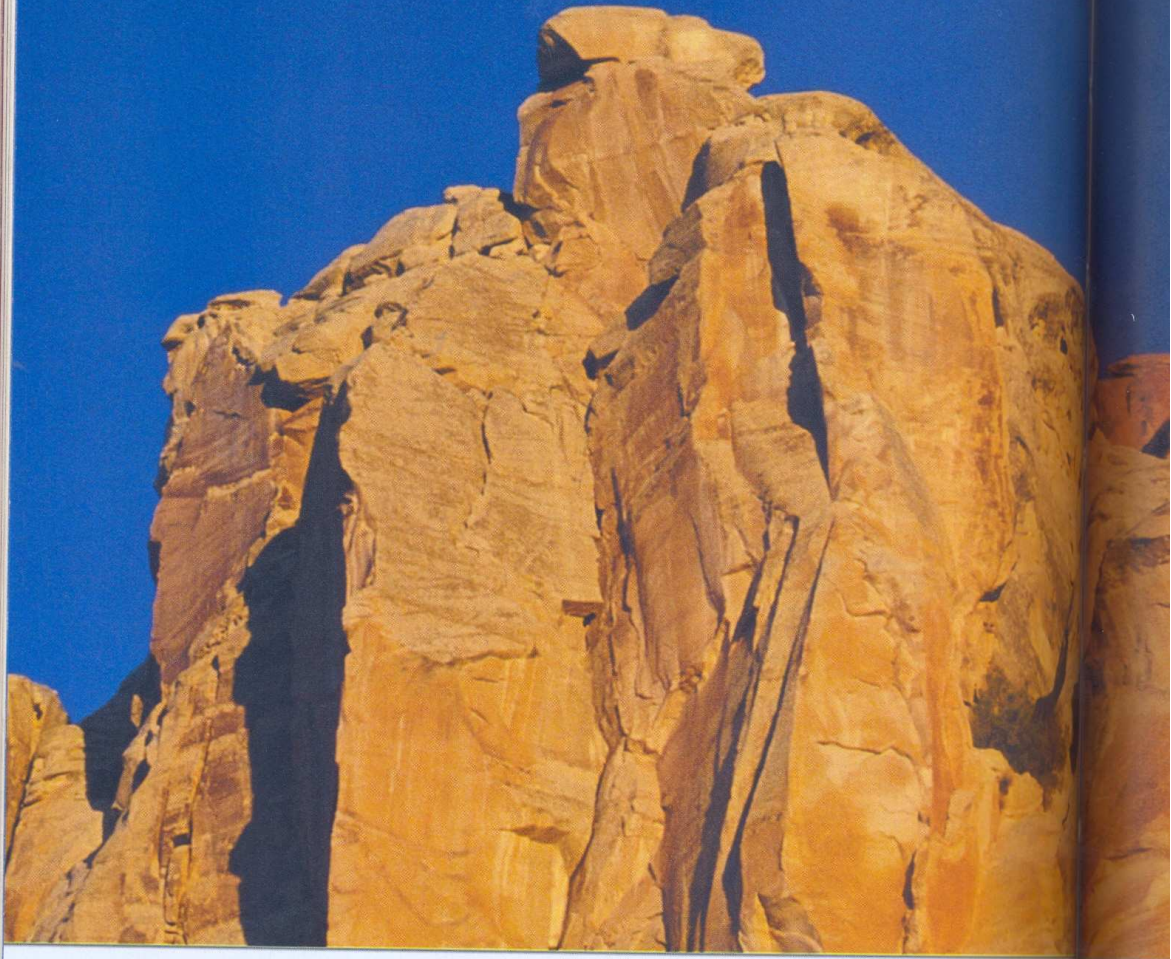
Day and Night Sky

You Will Discover

- what causes day and night.
- why the Moon looks different every night.

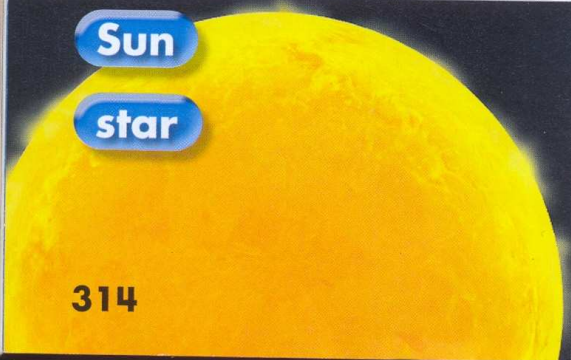


What is in the sky?



Sun

star



314

rotation





Moon

**Chapter 11
Vocabulary**

Sun page 319

star page 319

rotation page 322

planet page 324

telescope page 324

Moon page 326



planet



telescope



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Explore Why does the Sun look small?

Materials

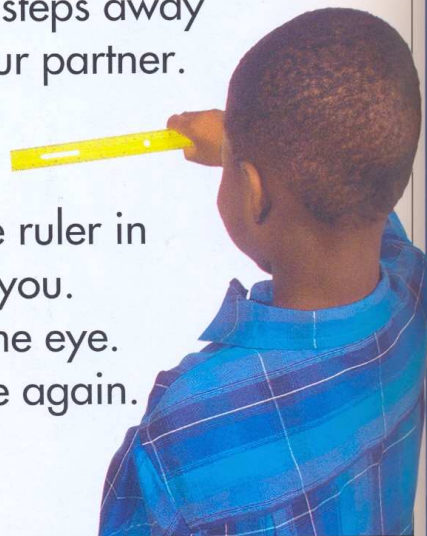
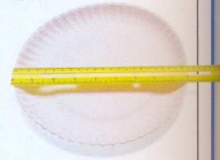
ruler



paper plate

**What to Do**

- 1 Measure across a plate. Label the plate **Sun**.
- 2 Have your partner hold the plate.
- 3 Move 5 steps away from your partner.
- 4 Hold the ruler in front of you. Close one eye. Measure again.

**Process Skills**

You can **communicate** how the size of the plate seems to change.

Explain Your Results

Communicate What seems to happen to the size of the plate when you move away?

How to Read Science

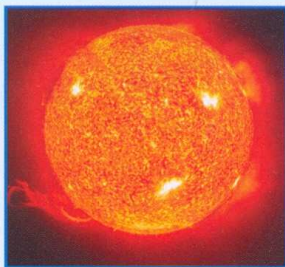
Reading Skills



Important Details

Important details are pictures and words that tell you something.

Science Story

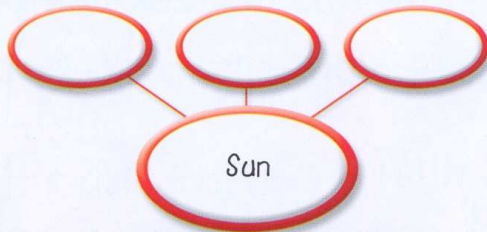


The Sun

Look at the picture of the Sun.
We get light from the Sun.
The Sun is very far from Earth.
You can see the Sun in the day sky.

Apply It!

Communicate List three important details you saw and read about the Sun.



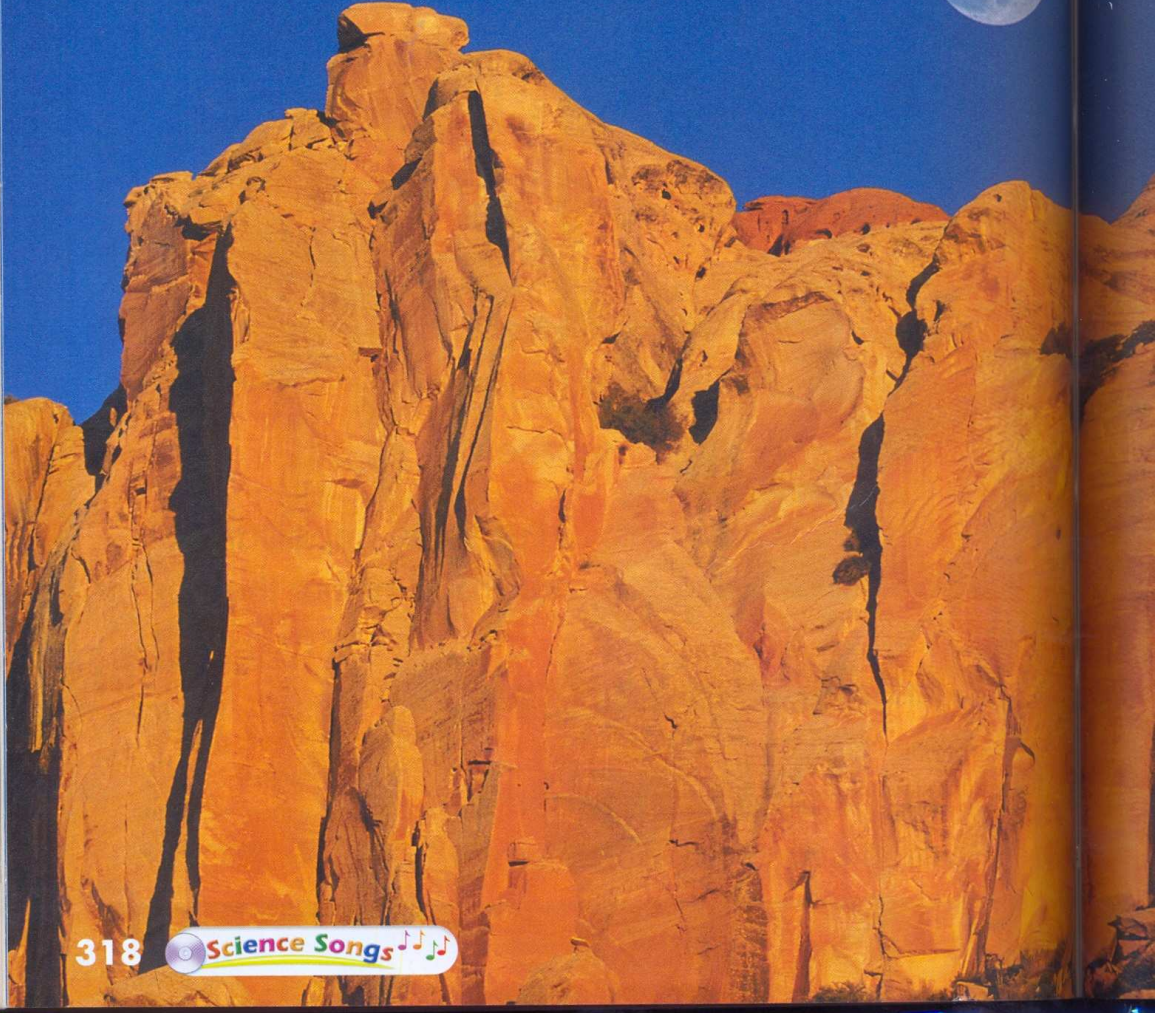
You Are There

Look Up High!

Sung to the tune of "This Old Man"

Lyrics by Gerri Brioso & Richard Freitas/The Dovetail Group, Inc.

The daytime sky, the daytime sky.
What do you see in the daytime sky?
Please look up and tell me
everything you see,
In the sky above you and me.

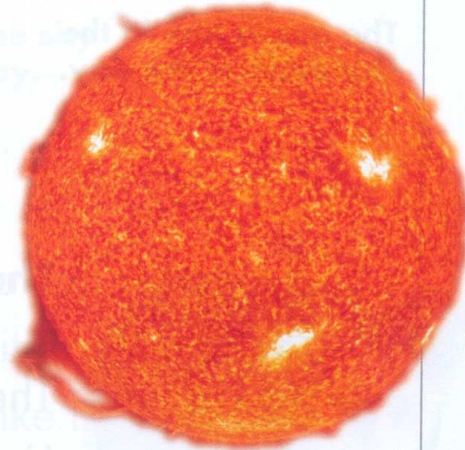




Lesson 1

What is in the day sky?

The Sun makes the day sky bright. The **Sun** is a star. A **star** is a big ball of hot gas.



Light from the Sun warms Earth.

What else do you see in the day sky? You may see clouds. You may see birds.

Sometimes you can even see the Moon in the day sky.

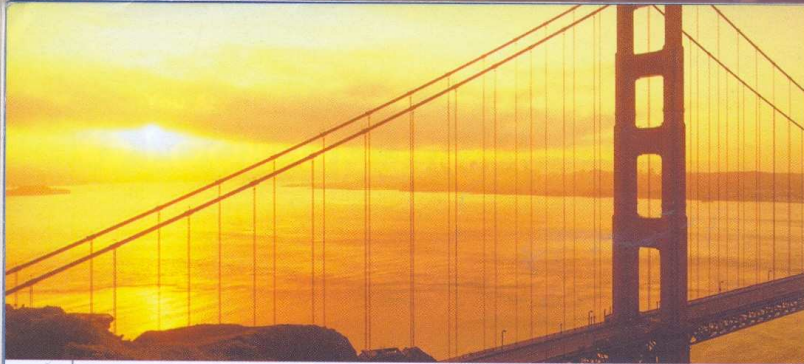


SciLinks

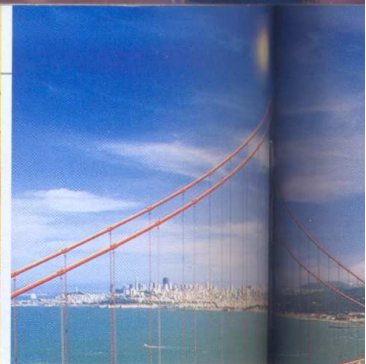
Take It to the Net
sfsuccessnet.com

keyword: sun
code: glp3119

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The Sun is low in the sky early in the day.



The Sun is above you at noon.



The Sun warms the baby lion.

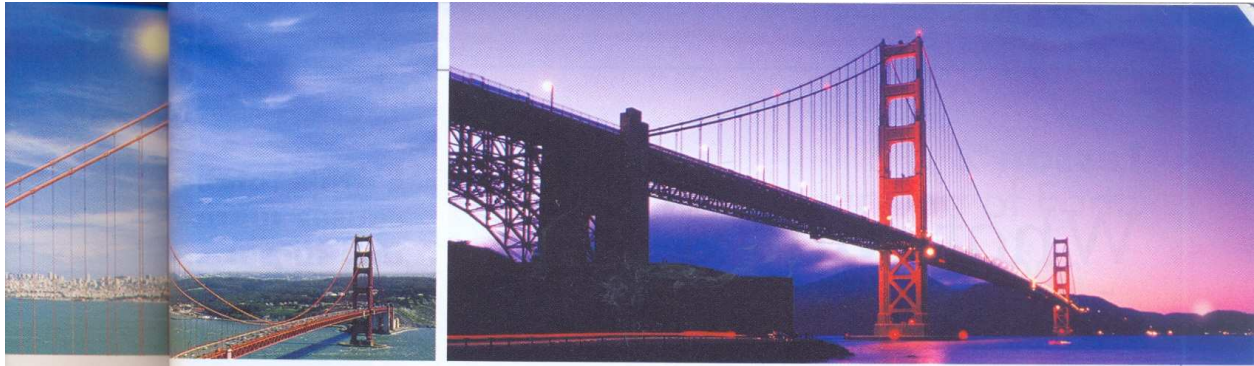
The Bright Sun

The Sun lights Earth.
Living things need light from the Sun to live and grow.



Plants need sunlight to grow.

The Sun is bigger than Earth.
The Sun looks small because it is far away.



above
on.

The Sun is low in the sky
again late in the day.

We say that the Sun rises and
sets, but really it does not.
The Sun looks like it is moving
because Earth is moving.

✓ **Lesson Checkpoint**

1. Why does the Sun look small?
2. **Writing in Science** Write in your **science journal**. Tell about the Sun.

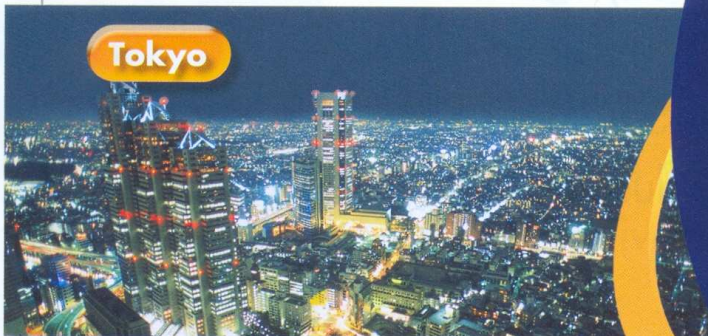


Lesson 2

What causes day and night?

Earth's rotation causes sunrise and sunset.

Earth is always moving.
Earth turns around and around.
This is called **rotation**.



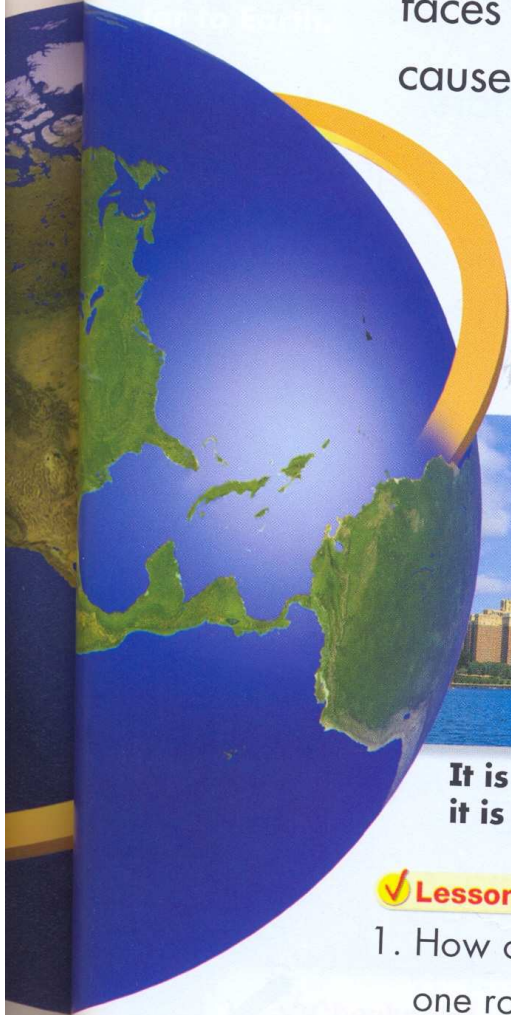
Tokyo

It is night in Tokyo when it is day in Chicago.

Earth makes one rotation every day.
It is night when your part of the world faces away from the Sun.

on
e

It is day when your part of Earth faces the Sun. Earth's rotation causes day and night.



It is day in Chicago when it is night in Tokyo.

✓ Lesson Checkpoint

1. How often does Earth make one rotation?
2. **Math in Science** What comes next in the pattern below?
day, night, day, night, day, _____

Lesson 3

What is in the night sky?

The sky is filled with many stars.

Most stars can be seen only at night.

Stars give off light.

Stars seem to move across the night sky.

Earth is a **planet.**

Planets do not give off light.


Planets move around the Sun.

You might use a telescope
to see things in the sky.


A **telescope** makes things
that are far away look closer.

**A telescope
makes things
look bigger
or brighter.**







Stars look tiny because they are far away. The Sun is the closest star to Earth.



Saturn, Mars, and Venus are planets. Sometimes you can see these planets in the night sky.

1.  **Checkpoint** How does a telescope help us look at things in the sky?
2.  **Important Details** Name planets you might see in the night sky.



The Moon at Night

The **Moon** moves around Earth. The Moon looks small because it is far away.



The Moon is round.

The Moon is not like Earth.
The Moon has no air.
The Moon has no animals.
The Moon has no plants.



This is what the Moon looks like at different times.

The Sun's light shines on the Moon. You only see the part of the Moon lit by the Sun.

The part of the moon lit by the Sun changes each night. The Moon looks a little different each night. The Moon looks the same again about every 29 days.

✓ Lesson Checkpoint

1. How long does it take for the Moon to look the same again?
2. 🎯 What is one **important detail** you saw or read about the Moon?

Guided Inquiry

Investigate Why can you see things in the night sky?



Materials



shoe box viewer



star and ball



flashlight

What to Do

1 Make a model of the night sky.

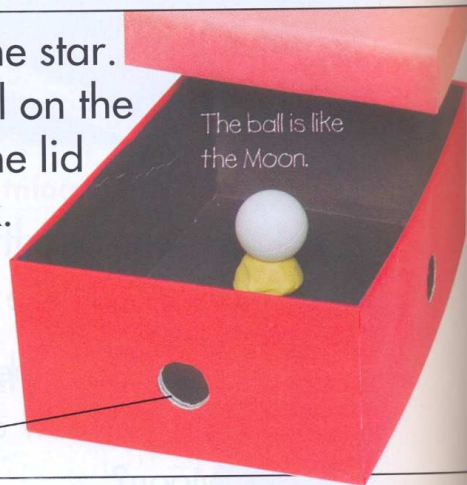
2 Put the star in the clay. Put the lid on the box. Observe.

Look through this hole.



3 Take out the star. Put the ball on the clay. Put the lid on the box.

Look through this hole.



Process Skills

Investigate to learn why you can see things in the night sky.

- 4 Shine the flashlight through the side hole. Observe.



The flashlight is like the Sun.

Look through this hole.

Did you need a flashlight to see it? yes or no	
Ball	
Star	

Explain Your Results

1. Why can you see the star in the dark?
2. **Infer** Why can you see the Moon in the night sky?

Go Further

How could you show that the Moon can sometimes be seen in the day sky? **Investigate** to find out.

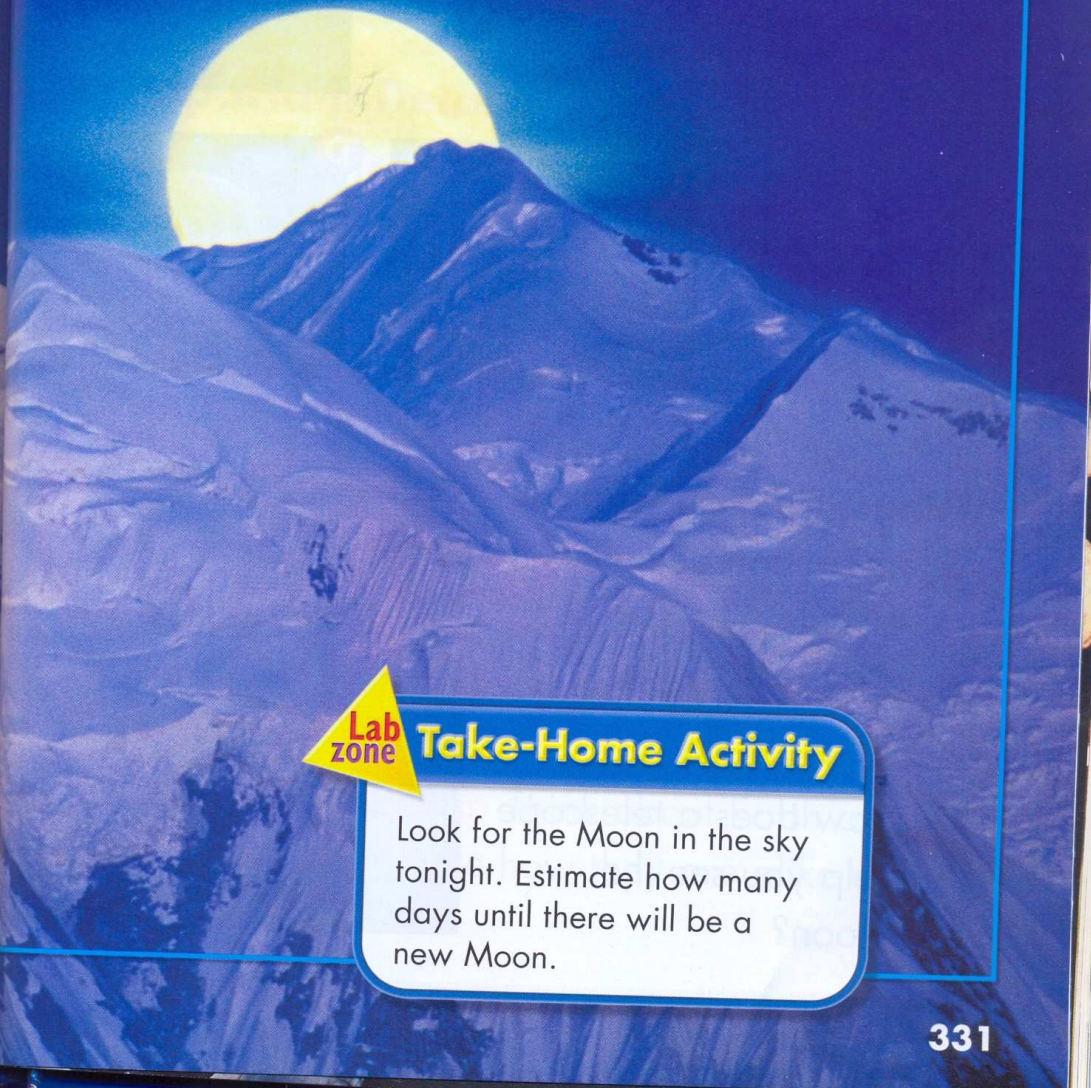
Reading a Calendar

Look at the calendar.
The calendar shows how the Moon looks
in the sky at different times of the month.

May

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				New Moon 1	2	3
4	5	6	7	First quarter 8	9	10
11	12	13	14	Full Moon 15	16	17
18	19	20	21	22	Third Quarter 23	24
25	26	27	28	29	New Moon 30	31

- Use the calendar to answer the questions.
1. How many days are there from the new Moon to the first quarter Moon?
 2. How many days are there from the new Moon to the full Moon?



Lab zone **Take-Home Activity**

Look for the Moon in the sky tonight. Estimate how many days until there will be a new Moon.

Chapter 11 Review and Test Prep

Vocabulary

Which picture goes with each word?

1. Moon
2. Sun
3. telescope
4. planet

A



B



C

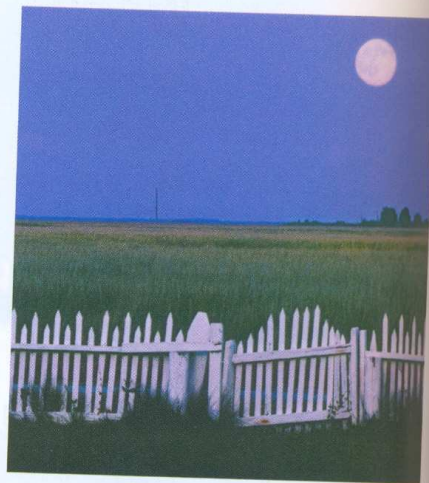


D



What did you learn?

5. What causes night and day?
6. What can you see in the night sky?
7. How does a telescope help you see the Moon?





Process Skills

8. **Infer** Why does it feel cooler on Earth when there are many clouds in the sky?

The Moon



Look at the picture of the Moon. The Moon is in the night sky. Part of the Moon is lit by the Sun's light.

Important Details

9. List two **important details** you saw or read about the Moon.



Test Prep

Fill in the circle next to the correct answer.

10. Which of these gives off light?

- (A) the Moon
- (B) Earth
- (C) a planet
- (D) a star

11. **Writing in Science** Think about Earth and the Moon. Write how they are alike and different.