

Moon Journal

Making direct observations of the Moon's changing shape throughout the month is an important part of understanding the pattern of the Moon phases. This journal can serve as a way for students to record their observations of the Moon over time. The detail in their illustrations are not as important as the fact that they went outside and observed the Moon with their own eyes several times throughout the month.

Materials (per child)

Pen or pencil
Moon Journal

Procedure

Tell students that they are going to find out more about the Moon by observing it every day for a month. Give each student a copy of the Moon Journal. Ask them to look at the Moon each day of the month and draw what it looks like (if it can be seen). It is a good idea to also keep a daily bulletin board of the Moon phases for that month because the Moon rises and sets at various times throughout the month and is sometimes covered with clouds making it difficult to observe its shape. Check www.stardate.org or www.moonconnection.com/moon_phases_calendar.phtml for monthly Moon calendars. Empty circles on the Moon Journal student page are provided so that students can darken the areas of the Moon that are not lighted. This method of recording Moon phases takes into account that the entire Moon is present, even if some of its surface cannot be seen.

Show students the cover of *Next Time You See the Moon*. Tell them that this book will help them learn more about the pattern of the Moon's shapes they observed and the reason for the pattern. Here are some questions to ask students before, during, and after reading *Next Time You See the Moon*.

Before Reading

When students have completed their Moon journal, discuss their observations throughout the month using some of the questions that follow.

- Was the Moon the same shape each time you saw it?
- Was the Moon the same color each time you saw it?
- Did you see the Moon every time you looked for it?
- Did you ever see the Moon during the day, like the picture on the cover?
- Was the Moon in the same place in the sky each time you saw it?
- On a cloudy night, how can you tell if the Moon is still there?
- What did the Moon look like on the first day of your journal?
- What did the Moon look like on the last day of your journal?
- When you look at your journal, do you see any patterns?
- What do you think might be the reason for the different shapes of the Moon during the month?

Next Generation Science Standards

ESS1.A. The Universe and Its Stars

Patterns of the motion of the Sun, Moon, and stars in the sky can be observed, described, and predicted. (1-ESS1-1)

ESS1.B Earth and the Solar System

The orbits of Earth around the Sun and of the Moon around Earth, together with the rotation of Earth about an axis between its north and south poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the Sun, Moon, and stars at different times of the day, month, and year.



During Reading

As you read the book aloud, relate the text and illustration to the students' Moon journals where appropriate:

- As you read about each Moon phase on pages 13-19, have students find that phase on their Moon journals and write down the name.
- After reading page 21, have students compare the Moon phase at the beginning of the month with the Moon phase at the end of the month. They should be nearly the same.
- After reading pages 22-23, have students identify the *waxing* Moon phases on their calendars and the *waning* Moon phases.
- After reading pages 24-25, ask students identify the waxing and waning phases and compare the Moon phases at the beginning and end of each month.

After Reading

Ask students,

- What causes the Moon phases? (They should realize that the Moon's position in its orbit around Earth causes us to see different parts of the lighted side of the Moon.)

To demonstrate the predictability of the Moon phases, have students use the Moon Connections "Moon Calendar" web tool at www.moonconnection.com/moon_phases_calendar.phtml to find out what Moon phase it will be on their next birthday or on their birthday 10 years from now.

ELA Common Core Connections

Reading: Informational Text – Key Ideas and Details

K: RI.K.1. With prompting and support, ask and answer questions about key details in a text.

1: RI.1.1. Ask and answer questions about key details in a text.

2: RI.2.1. Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.

3: RI.3.1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

4: RI.4.1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

5: RI.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

Name: _____

Moon Journal

Dates of Observation _____

Saturday	Circle	Circle	Circle	Circle
Friday	Circle	Circle	Circle	Circle
Thursday	Circle	Circle	Circle	Circle
Wednesday	Circle	Circle	Circle	Circle
Tuesday	Circle	Circle	Circle	Circle
Monday	Circle	Circle	Circle	Circle
Sunday	Circle	Circle	Circle	Circle