

The Lunar Cycle

Teacher Facilitation Notes

In General . . .

- Project the slide deck in edit mode—do not show it as a slideshow.
- Hide the speaker notes before projecting. (View/Show Speaker Notes)
- Hide the toolbar. (Click on the up arrow at the right end of the tool bar.)
- Call on students to read the various content shown on slides.
- For each investigation, assemble the needed materials for each group and place in a central location for ease of distribution.
- Duplicate copies of the data sheets for each student.

Materials Needed Per Student:

Evaluate:

Square Pyramid Pattern

Glue sticks or dots

Scissors

Metric ruler

String

Paper clip

Unlined, 3 x 5 inch index cards, 5

Other Materials

Student Recording Sheets

Pencils

Science Notebooks

Cardstock

Hole punch, 1 per group

Engage: The Four Moon, Earth's Only Natural Satellite

- Show students the picture of the moon. Call on a volunteer to read the paragraph on the slide.
- Give students time to record things they see when they look at the moon. Have students share what they wrote in their science notebooks.
- Show the slide with the moon's changing appearance. Call on a volunteer to read the paragraph on the slide. Give partners time to talk it over.
- Tell students they will be learning about moon phases and the reasons for the changing appearance of the moon during the remainder of the lesson.
- Call on volunteers to read the fast facts about the moon.

The Lunar Cycle

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Explore: Changing Appearances

- Read and discuss the slides describing the Lunar Cycle and the four major phases of the moon.
- Go to the moon phase calendar online (<https://stardate.org/nightsky/moon>).
- Work with the students to follow the directions and record the data as directed on the slides.
- Discuss as desired.

Explain: Phases of the Moon

- Read and discuss the explanations as desired.

Elaborate: By the Light of the Moon

- Duplicate a copy of the pyramid template for each student. Make sure they have free access to the other materials.
- Read through and have them follow the steps to create a moon phase mobile.
- Display throughout the classroom.
- Discuss as desired.

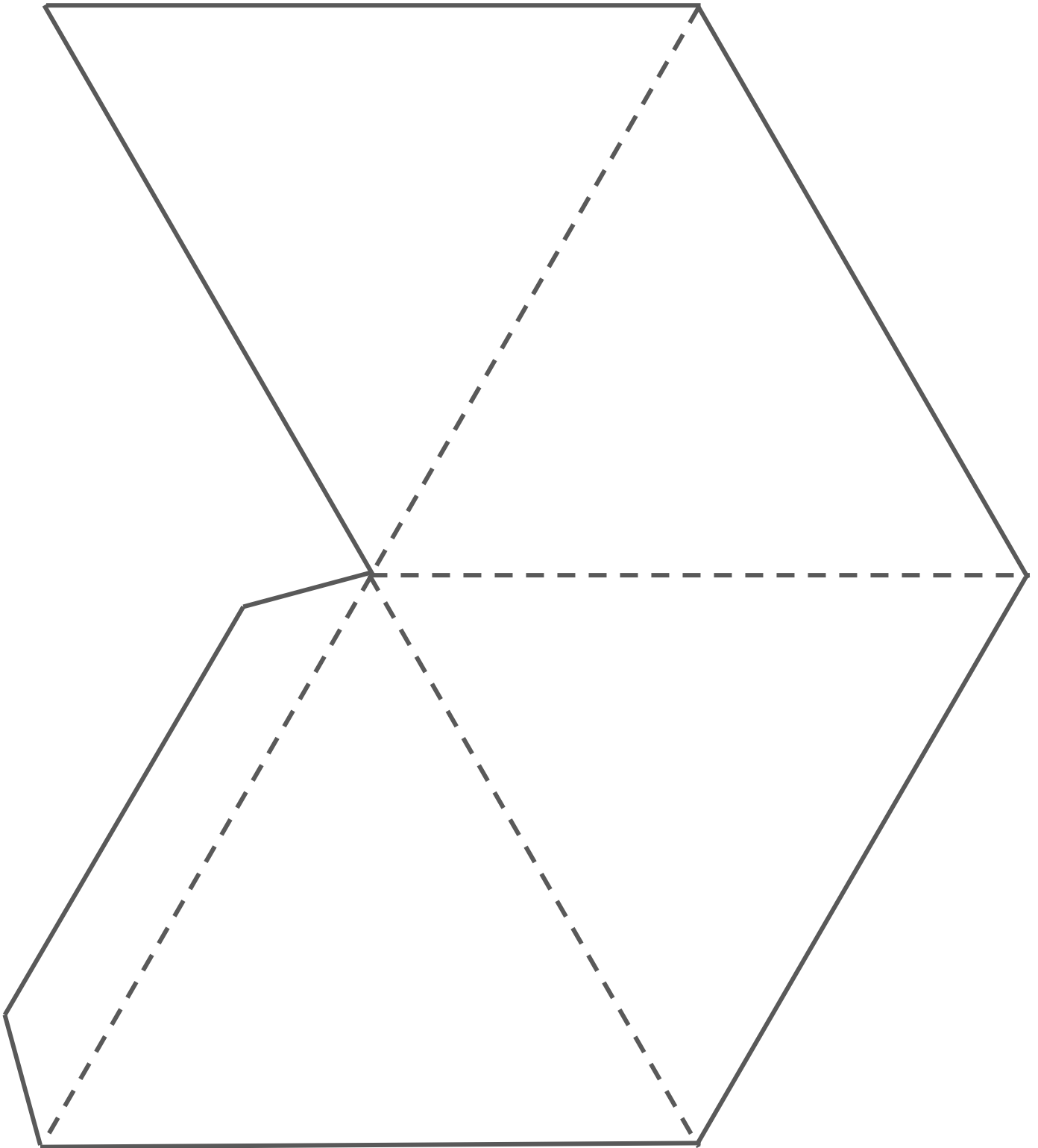
Evaluation

- Let students complete the quiz independently.
- Discuss evaluation activities as desired.

The Lunar Cycle

Name: _____

Evaluate: By the Light of the Moon Pyramid Template



The Lunar Cycle

Name: _____

Elaborate: Predicting the Past and the Future

1. If today is January 7th and we observe a full moon, on what date will we observe a third quarter moon? January 28
2. If today is January 28th and we observe a third quarter moon, on what date did we last observe the new moon? January 7
3. If today is January 7th and we observe a full moon, on what date will the next major moon phase occur? What phase will it be?
January 14-Third Quarter Moon
4. If a new moon occurs on January 14th, about how many days will it be before another new moon appears? About 29 days
5. If today is January 9th and we see a full moon, what phase did we see about a week ago? First Quarter Moon
6. If today is January 30th and we observe a new moon, what phase of the moon did we observe on January 16th? A Full Moon
7. If today is January 18th and we observe a third quarter moon, what phase of the moon will we see on January 25th?
A Full Moon
8. What causes the phases of the moon?
The phases of the moon are caused by the changing
amounts of sunlight reflected by the moon as it orbits
the Earth.

The Lunar Cycle

Name: **KEY**

Evaluation, page 1

1. It is difficult to see a new moon because—

- A** the lit side of the moon is facing away from the Earth
- B** the moon has absorbed all the sunlight in the sky
- C** Earth's axis is tilted away from the sun and the moon
- D** the light from the sun is not reaching the moon's surface

2. The pictures show how the moon looks on four different nights of the moon. What would be the correct order for the pictures from new moon to full moon?



F Q, R, S, T

G R, T, S, Q

H Q, S, T, R

J R, S, T, Q

3. The picture shows a 1st quarter moon. Which moon phase will occur about seven days after a new moon?



The Lunar Cycle

Name: KEY

Evaluation, page 1

4. What phase occurs about 14 days before a full moon?

- F First Quarter Moon
- G New Moon
- H Third Quarter Moon
- J Eclipsed Moon

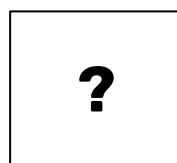
5. In which phase is the moon most likely in when the Earth is between the sun and the moon?

- A Third Quarter Moon
- B First Quarter Moon
- C New Moon
- D Full Moon

6. Approximately how many days does it take the moon to go through a complete lunar cycle?

- F 29
- G 7
- H 14
- J 365

7. The picture shows two moon phases that can occur in a month. What phase would come between the two phases?



- A First Quarter
- B Full Moon
- C Third Quarter
- D New Moon

The Lunar Cycle

Name: _____

Explore: Changing Appearances

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

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The Lunar Cycle

Name: _____

Explore: Changing Appearances

1. On what date does the new moon appear in your first calendar?

2. What phase happens about 7 days after the new moon? _____

3. What phase comes about 2 weeks after the new moon? _____

4. How many days come between the 2 full moons on your calendars? _____
5. How does the appearance of the moon change as it goes from a 1st quarter to a full moon? _____

6. How does the appearance of the moon change as it goes from a full moon to a third quarter moon? _____

7. What is the last major phase shown on your second calendar?
What phase will happen about a week later? Two weeks later?

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Explain: Predicting the Past and the Future

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- F** Q, R, S, T
- G** R, T, S, Q
- H** Q, S, T, R
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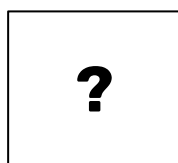


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Name: _____

Evaluation, page 1

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