Lunar Language

Summary

Students will use the Lunar Language Graphic Organizer to draw and describe the phases of the moon.

Group Size

Individual

Materials

One Lego design preconstructed for display
One set of Legos (same model as above) for each student
File folder or test cover for each student

- Lesson from the TRB 6:1-Activity 1 *It's Just a Phase*
  Materials from *It's Just A Phase*
- Lunar Language Graphic Organizer (pdf)

Additional Resources

Books

- *Astronomy Adventures*
  (Ranger Rick's Nature Scope, National Wildlife Federation); ISBN 0-07-046509-6
- *Can You Hear a Scout in Space?*
  , by Melvin and Gilda Berger (Scholastic); ISBN 0-439-09583-2
- *The Usborne Complete Book of Astronomy & Space*
  , by Lisa Miles; ISBN 0746031041
- *All About the Moon*
  , by Wes Lipschutz; ISBN 0823937429

Background for Teachers

Compared with the other moons in the solar system, Earth's moon is something of an oddity. Most of the planets in the solar system have much smaller moons, however, Earth's moon is about four times smaller than Earth. The moon is the only natural satellite of Earth and is the second brightest object in the sky. However, its light is only a reflection from the sun.

As a satellite, the moon revolves around Earth. The moon actually takes 27 1/3 days to orbit Earth. This time is known as a *sidereal month*. However, it takes 29 1/2 days for a complete cycle of the moon phases to occur, when measured from new moon to new moon. This period is known as the synodic, or lunar month.

At the *new moon* phase, the moon is between Earth and sun, creating a situation where no light is reflected from the side facing Earth. In other words, the moon is between Earth and the sun.

The half-lit side of the moon, or *first quarter*, is when the moon is highest in the sky at sunset. During the *full moon*, the moon is behind Earth, with Earth being closest to the sun.

Intended Learning Outcomes

2. Manifest Scientific Attitudes and Interests
4. Communicate Effectively Using Science Language and Reasoning
6. Understand the Nature of Science

Instructional Procedures

Invitation to Learn

Create and show the pre-constructed Lego design for two minutes, then put it away.
Give each student the exact color and number of Legos as used in the design shown in step one.
Distribute a folder to cover each student's working area.
Ask each student to recreate the design you just showed, keeping their design covered while they work.
After each student has completed his/her design, ask students to show their designs at the same time.
See which design most closely matches yours and discuss why it is close to yours.
Discuss how it could have been easier for students to recreate teacher's design.
Explain that if students could have taken notes or drawn a picture they could have recreated the teacher's design exactly.
If time permits, allow students to take notes and draw a picture of your design as you show it again for the same amount of time.
Discuss why it was easier this time.
The purpose of today's activity is to recognize the importance of using the tools of observation and recording.

Instructional Procedures

Repeat the lesson from the TRB 6:1 Activity 1- *It's Just a Phase*.
Pause after each of the major phases.
The four major phases of the moon are new moon, first quarter, last quarter, and full moon.
The other phases are optional and not required in the state Core Curriculum. If time permits, these other phases are great extensions.
Use the *Lunar Language Graphic Organizer* to:
Draw what you see in the smaller box labeled 'draw.'
Describe what you see in the box below, labeled 'description.'
Be sure you have had previous lessons on descriptive language and the importance of word choice.
You can give your students hints on how to help describe these phases. Encourage them to use qualitative (five senses) and quantitative (numerical) research.
Repeat this process for the next three major phases from new moon, to first quarter, full moon, and last quarter, until the graphic organizer is complete.
Using the same graphic organizer, model on the overhead how student graphic organizers should look. Be sure to model descriptive language and the names of the phases of the moon.
Ask for feedback and hints from students to add to this list.
Each student can add to his/her graphic organizer as you discuss each box or phase.
Students may keep this organizer, or you may collect them for the next activity.

Extensions

ABC Moon Words

Materials

For each student:

- *All About the Moon*
- *ABC Moon Words* worksheet

Note: This activity can be used before, during, and after reading.
Before reading: Students insert words reflecting prior knowledge on the moon.
During reading: Students record words and phrases they believe are important to the moon.
After reading: Students add new words they consider important to their chart.

Distribute materials to each student.
Have students read *All About the Moon*. As they are reading, have them complete the *ABC Moon Words* worksheet by writing a meaningful Â"moonÂ" word in each box. If at all possible, have students write a word in each box. This activity should only last five to eight minutes. Some students may not have a word in each letter boxÂ--this is okay.
Have the students pair up and share some of their answers for each box. Next, have the entire table share some of their favorite words.
The *ABC Moon Words* worksheet may be used in the following additional ways:
As a video guide.
Final for a book report.
Picture book as you are reading.
Mini book.
Like a mini word wall.
Individual student dictionary card.
Draw imaginary faces of the moon and write a paragraph of the profession of your moon character. See *Kids Discover MagazineÂ--Moon*, page 18 Â"WhoÂ's In the Moon.Â"

Family Connections

Expand student knowledge by writing or researching the origin of the moon.
Create a paper plate mural of moon phases from drawings created in this activity.
Create a papier-mâché model of each of the phases.

Assessment Plan

Assessment for this activity takes place when students use the graphic organizer to write a sequential paragraph.
Students may also create their own moon phases flip book, great examples are in *Astronomy Adventures* (Ranger Rick's Nature Scope) or Discovery Channel School worksheet 1 Lunar Phase Flip Book (see *Additional Resources*).
Create printmaking phases of the moon using Styrofoam plates, showing positive and negative space.
Create a mural using paper plates and models that demonstrate phases of the moon.

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