TRB 3:1 - Investigation 1 - Comparing the Earth & Moon

Summary

The activities in this lesson have students compare the Earth and the Moon.

Main Core Tie

Science - 3rd Grade

Standard 1 Objective 1

Group Size

Small Groups

Materials

Activity 1

- Riddle
  My Moon Book
  Poster of the Earth and moon
- *What the Moon is Like*
  by Franklyn M. Branley

Activity 2

Watercolors
Art paper
Books: *Earth Dance*, by Cynthia Pratt Nicolson and *Goodnight Moon*, by Margaret Wise Brown.
My Moon Book

Addtional Resources

Books:

- *Earth Dance*
  by Cynthia Pratt Nicolson
- *Goodnight Moon*
  by Margaret Wise Brown
- *Full Moon*
  , by Michael Ligh
- *Moon Game*
  , by Frank Asch
- *All About the Moon*
  , by Wes Lipschultz
- *When You Look Up at the Moon*
  , by Allan Fowler
- *So That's How the Moon Changes Shape!*
  by Allan Fowler
- *The Moon Seems to Change*
  by Franklin M. Branley
- *The Moon Book*
  by Gail Gibbons
- *Moonwalk the First Trip to the Moon*
  by Judy Donnelly

- *Magic Tree House Research Guide Space*
  by Will Osborne and Mary Pope Osborne
- *Magic Tree House Midnight on the Moon*
  by Will Osborne and Mary Pope Osborne
- *The Moon*
  by Seymour Simon
- *The Earth*
  by Seymour Simon
- *Jimmy Zangwow's Out-of-this-World Moon Pie Adventure*
  by Tony DiTerlizzi

Video:

- *Space Science for Children All About the Moon*
  Schlessinger

Background for Teachers

Earth is a small planet, third from the sun in our solar system. Earth's shape is spherical, the result of gravity pulling Earth's material toward a common center. Earth's surface is mostly rock, with three-fourths of the surface being covered in water. The gravitational pull of Earth's mass is enough to hold on to an atmosphere of natural gases. This atmosphere has evolved as a result of changing conditions on Earth's surface and the evolution of plant life. The atmosphere on Earth is a major component of our global ecosystem. Water exists as liquid, solid, and gas.
The moon is about 1/4 the diameter of Earth. Craters, bowl-shaped depressions formed where meteorites have struck, mark its landscape. Rough, mountainous highlands and flat plains are its basic surface regions. The moon surface reflects light from the sun.

Intended Learning Outcomes

1. Use a Science Process and Thinking Skills
2. Manifest Science Interests and Attitudes
3. Understand Science Concepts and Principles
4. Communicate Effectively Using Science Language and Reasoning

Instructional Procedures

Pre-Assessment/Invitation to Learn

Read the first riddle clue to the class (or have individual cards made for each clue), and have them write down what they think it might be. Read the next clue and have them write down what they think it might be. Continue doing this until you have read all of the clues. Discuss their final answer.

Riddle
This object is part of the solar system.
It is smaller than the Earth.
It is usually seen at night.
It has holes called craters on its surface.
It goes around the Earth.
It seems to change shape on different nights.
If you look up at night, you will probably see it.
(*Exploring Space*, Evan Moor, 1998, pg. 51)

Instructional Procedures

Activity 1

Hand out "My Moon Book." (Note to teacher: the moon book will be an ongoing journal

throughout Standard I)
Have students write down what they think the moon is made of on page 2 in their moon journals. What do they think is on the moon?
Divide the class into small groups and have them look at the poster of the moon and Earth and list the ways they are alike and different in their moon book.
Read *What the Moon is Like* to the whole class and then have them work with their groups (or as a whole class) to add items they learned from reading the book in their moon books.

Activity 2

Read aloud *Earth Dance*. Point out the illustrations in this book.
Read *Goodnight Moon* or another book about the moon.
Ask students: How do Earth and moon appear? How are they similar? How are they different?
Have students write down their answers on page 3 of their journals.
Tell children they are going to paint the planet Earth or moon in space. (You may wish to let students choose which they draw or assign half the class to one or the other.)
Share photos and artworks and videos depicting Earth and the moon in space.
Model painting the spherical shape, colors, and atmosphere.

Extensions

Math -

Show different types of geometric shapes. Ask which one is like the moon and Earth. Have them brainstorm why Earth and moon are round like a sphere. *(Standard III, Objective 1)*
Help students determine the relative size of Earth, the moon, and sun as viewed from space. *(Standard II, Objective 2)*

Language Arts -

Have the students write a story if Earth was another shape. Have them tell of problems there might be living on Earth if Earth was that shape. What would have to change? *(Standard VIII, Objective 6)*
Write Earth and moon poems. *(Standard VIII, Objective 6)*
Write a story about a student's week on the moon. *(Standard VIII, Objective 6)*

Homework & Family Connections

Students can tell their families how the moon and Earth are alike and different.
Read books about the Earth and moon.
Send home a list of websites and encourage students to look them up with their families.

Assessment Plan

Response Questions

What is on the moon?
How are the moon and the Earth alike? Different? (Use a Venn Diagram and then complete page 3 in their moon books.)
What shape are the moon and Earth?

Check for accuracy on pages of their journals.

Authors

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