



THE MOON

Earth's dependable space neighbor

1st Grade Lesson Plan: The Moon: Earth's dependable neighbor

Overview

This series of lessons was designed to meet the needs of gifted children for extension beyond the standard curriculum with the greatest ease of use for the educator. The lessons may be given to the students for individual self-guided work, or they may be taught in a classroom or a home-school setting. This particular lesson plan is primarily effective in a classroom setting. Assessment strategies and rubrics are included. The lessons were developed by Lisa Van Gemert, M.Ed.T., the Mensa Foundation's Gifted Children Specialist.

Introduction

The moon incites children's curiosity from a very young age. Although it's a space object, it's more accessible to children because of its dependability and proximity. Through this short unit, children will develop a deeper understanding of the moon.

Learning Objectives

After completing the lessons in this unit, students will be able to:

- Discuss basic facts about the moon
- Recognize moon phases in pictures and when viewing the moon
- Understand the origin of moon craters
- Create a model of a cratered moon

Preparation

- Print out all sheets that need to be colored or completed on paper
- Make sure you have reliable Internet access
- Gather materials for activities
- Obtain books



Lesson 1: Introduce the moon

Read at least three books about the moon. You may choose from the recommendations below or select your own.

● *Papa, Please Get the Moon for Me* by Eric Carle



● *The Nightgown of the Sullen Moon* by Nancy Willard

● *So That's How the Moon Changes Shape* by Allan Fowler

● *The Moon Book* by Gail Gibbons

● *Goodnight Moon* by Margaret Wise Brown

● *All about the Moon* by David A. Adler

Have the child order the books within the following categories by laying them out on the floor or on a table in order:

- From favorite to least favorite
- From hardest to easiest
- From most to least realistic

Have the child write or dictate a short book review of his/her favorite book. The review should include the following:

- The best thing about the book
- Who he/she would recommend the book to (boy/girl, grade/age)
- Reasons for recommendation (illustrations/story/funny/sad)

Ask the child the following questions:

- Would you like to go to the moon? Why or why not?
- If you went to the moon, who would you take with you?
- What do you think it would be like if we had two moons? How could we tell them apart?

Read the following facts about the moon and its phases.

The facts are grouped in lists of five facts. Within each group, have the child rank the facts from 1 to 5 in order of most to least important to know, with 1 being most important and 5 being the least. After the facts are ranked, have the child put a star next to the facts he or she knew before reading the list.

Rank Fact

- ___ The moon has many names; for instance, the Romans called it Luna.
- ___ The moon does not make its own light. It can only reflect light. We see the light reflected off of the moon from the sun.
- ___ The moon has no atmosphere, so it doesn't have weather. There is no wind on the moon. Because of this, the footprints on the moon left by the astronauts will stay for millions of years.
- ___ The moon is about 4.5 billion years old.
- ___ The moon is orbiting around the earth at the speed of 2,288 miles (3,683 kilometers) per hour.

Rank Fact

- ___ The surface of the moon isn't flat. It has lots of craters. They were formed by meteorites hitting the moon.
- ___ The moon also has mountains and valleys.
- ___ The moon moves across our sky toward the east.
- ___ The moon is 250,000 miles from earth.
- ___ The moon takes 27 days, 7 hours, 43 minutes and 11.6 seconds to orbit the earth.

Rank Fact

- ___ The part of the moon we can see changes. We call these changes the phases of the moon.
- ___ The phases of the moon are caused by its orbit around the earth.
- ___ The first phase of the moon is called the new moon. That is when the moon isn't visible from earth.
- ___ If you have 13 full moons in a tropical year (winter solstice to winter solstice), the extra one is called a blue moon.
- ___ It takes the moon about 29 1/2 days to go through all its phases. We call this a lunar month.



Lesson 2: Introduce moon craters

Explain that moon craters are different sizes. They are usually shaped like circles with the middle sunken in and the edges high.

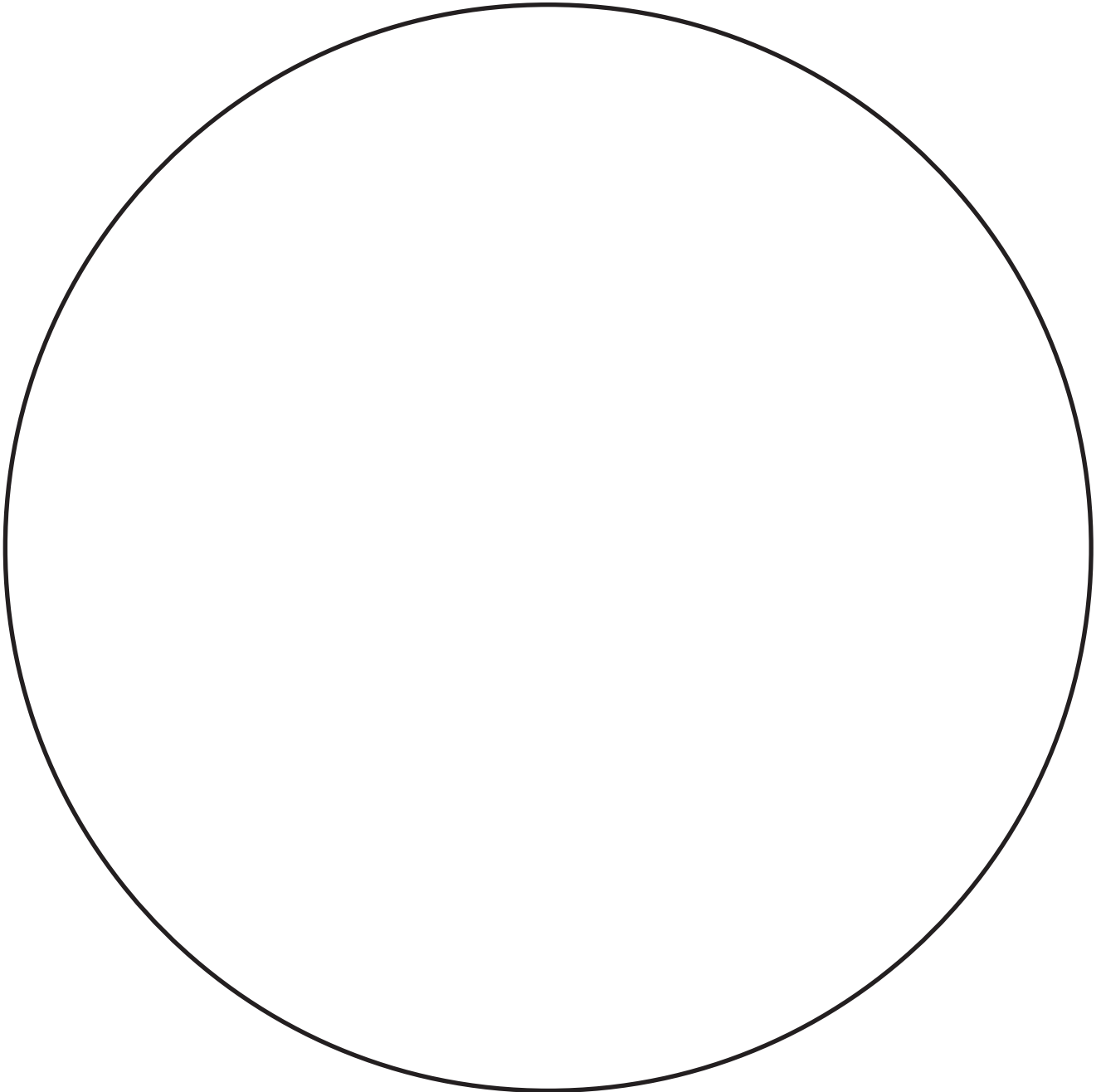
Ask why the child thinks the moon would be hit by more meteors than the earth. (The moon has no atmosphere to protect it, while the earth does.)

Show pictures of craters of the moon so the child develops a feel for how many there are. You can also explore the moon at earth.google.com/moon.



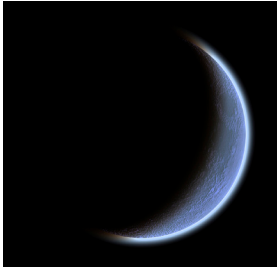
Moon Crater Art Project

- Materials: watercolor paint, white cardstock or construction paper, paintbrush, white glue
- Cut the cardstock or construction paper into a circle as large as the paper will allow. (You may use the circle pattern on the next page of this lesson.)
- Have the child draw craters within the circle with pencil.
- Use the glue to “draw” over the lines.
- When the glue is dry (or at least mostly dry), use watercolor paint to paint the moon. Using blues, greens, and purples will imitate the idea of the blue moon.





Lesson 3: Introduce moon phases



Watch these two short videos on the phases of the moon:

- bit.ly/phase-video
- bit.ly/moonphase-1



Match the name description of the moon phase to the picture. (See below.) Only four of the eight phases are on the chart. If the child is interested in all eight phases, have him or her describe the other phases and draw pictures of them. Hint: in the northern hemisphere, the waxing moon is on our right side, so

the picture at right is of a waning moon and the picture at left is of a waxing moon.

Go to bit.ly/phase-cal and have the child find the moon phase when he/she was born.

Every night for a month, have the child shade in what part of the moon he/she can see. After the month, see how many of the phases of the moon the child can identify.

Have the child play this matching game:

New Moon: The moon is all dark because the lit-up half is facing away from earth



Quarter Moon: A week after the New Moon, we can see half of the half that shows, so 1/4 of the moon



Full Moon: Two weeks after the New Moon, we can see the entire lit-up half of the moon.



Last Quarter (or Third Quarter) Moon: Three weeks after the New Moon, we can see half of the lit-up part again. It's the other half than we saw before.





Chart the Moon phases

MOON PHASES CALENDAR						
Month:			Year:			
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

© This lesson plan is the property of the Mensa Education & Research Foundation, mensafoundation.org. It is provided as a complimentary service to the public. Reproduction and distribution without modification is allowed. Images, links and linked content referenced herein are the property of the originating entities.



Extension

Additional Resources

Lots of moon data, including phases, rise and set times, and more:

bit.ly/astrofun

Pictures of the moon:

bit.ly/moonimage

alanbeangallery.com

Lunar Madness homepage:

bit.ly/lunarmadness

"Everything you ever wanted to know about the moon:"

bit.ly/everythingmoon

The Moon Society homepage:

moonsociety.org

More books about the moon:

Moontellers: Myths of the Moon from around the World by Lynn Moroney

Moon Landing: the Race for the Moon by Carole Stott

Activity

Make Moon Sand:

- 6 cups of play sand (from home and garden store)
- 3 cups corn starch
- 1½ cups cold water

Thoroughly mix water and cornstarch until smooth (several minutes). Gradually mix in sand with hands, one cup at a time. Store in an airtight container. To freshen, add 2-3 tablespoons of water.



Assessment

SECTION	FAR EXCEEDS EXPECTATIONS	EXCEEDS EXPECTATIONS	MEETS EXPECTATIONS	PROGRESSING
INTRODUCTION				
Ordering of books: used strong reasoning skills				
Book review: covered 3 main points required in clear and creative manner				
Reflection questions: answers demonstrated full understanding of reading material				
Fact ranking: used reasonable logic				
MOON CRATERS				
Art project: used materials to effectively convey knowledge of moon craters				
MOON PHASES				
Phase matching: correctly matched description to picture				
Phase tracking: accurately tracked moon phases for 1 month				
Phase identification: correctly identified phases tracked				

© This lesson plan is the property of the Mensa Education & Research Foundation, mensafoundation.org. It is provided as a complimentary service to the public. Reproduction and distribution without modification is allowed. Images, links and linked content referenced herein are the property of the originating entities.