

Aloha Telescope Lesson Plan

Developed by: Caroline Power

Lesson: **The Moon and its Phases**

Grade Level

4th Grade

Standards

S4E2. Obtain, evaluate, and communicate information to model the effects of the position and motion of the Earth and the moon in relation to the sun as observed from the Earth.

S4E2.b. Develop a model based on observations to describe the repeating pattern of the phases of the moon (new, crescent, quarter, gibbous, and full).

Vocabulary:

- Moon
- New Moon
- Crescent Moon
- Quarter Moon
- Gibbous Moon
- Full Moon
- Orbit

Related Resources:

- The Many Names of the Full Moon (see handout)
- [Lunar Crash Landing](#)
- [“Next Time You See the Moon” by Emily Morgan](#)
- “Understanding Student Ideas in Astronomy” by Page Keeley and Cary Sneider
 - Moonlight
 - Gazing at the Moon
 - Going Through a Phase

Lesson Plan Overview

In this activity, students will create a moon journal for 12 days prior to a full moon.

Materials:

Moon Journal (See Attachment – “MoonJournal4thGrade-PowerPoint”) Pencil

Lesson

Start your Moon Journal at least 12 days before the Full Moon. Pick a viewing spot that has a good view of the southern sky. Every clear day for the next two weeks, you will go to that spot at sunset, find the Moon in the sky, and draw its shape in your Moon Journal.

Moon Shape-Shifting:

Fill in the month and dates in the Moon Calendar. Each day, draw what shape the Moon looks like.

Moon Tracking:

On your first day, figure out where north, south, east, and west are. On the Moon Tracking sheet, draw where the Sun is when it’s setting. You can also include some landmarks on your horizon (houses, trees, and so on).

Mark where the Moon is compared to the landmarks you see and label it with the date.

Cross-Curricular Connections:

- Math:
 - Distance from the moon to the Earth, sun, other moons, planets, etc.
 - Place value of numbers in facts about the moon and other planets
 - Operations with numbers related to the moon
- Reading:
 - Read Alouds:
 - Next Time You See the Moon by Emily Morgan
 - Who Was Neil Armstrong? by Roberta Edwards
- Writing:
 - Moon fable
 - Lunar Crash Landing
 - Moon exploration informational prompt

The Many Names for the Full Moon

by Randy Russell

(edited from source: http://www.windows2universe.org/earth/moon/full_moon_names.html)

Sometimes, in the fall, you may hear people call the Full Moon the "Harvest Moon". That is because farmers can stay in their fields late, after sunset, harvesting their crops by the bright light of a Full Moon. Did you know that there are special names for the Full Moon during each month of the year?

The Algonquian tribes of Native Americans assigned the names for the Full Moon. Most of these people hunted and fished to get food, but some also grew crops. The names they had for the Moon are related to the seasons, nature, hunting, fishing, and farming. The Algonquian people lived all over the northern and eastern parts of North America. When settlers from Europe met them, some of the settlers started using most of the same names for the Full Moon.

The table below lists the names the Algonquian people used for the Full Moon during different months of the year.

Month	Moon name	Why that name?
January	Wolf Moon	Hungry wolf packs howled at night
February	Snow Moon	Heaviest snowfalls in the middle of winter
March	Worm Moon	Start of spring, as earthworms (and the robins that eat them!) began to appear
April	Pink Moon	An early spring flower called "moss pink" started to bloom
May	Flower Moon	Many types of flowers bloom in May
June	Strawberry Moon	Strawberries were ready to be picked and eaten
July	Buck Moon	New antlers of buck deer, coated with velvety fur, began to form
August	Sturgeon Moon	Sturgeon, a large fish found in the Great Lakes, were easily caught at this time of year
September	Harvest Moon	Farmers could continue harvesting until after sunset by the light of the Harvest Moon
October	Hunter's Moon	Hunters tracked and killed prey by moonlight, stockpiling food for the coming winter
November	Beaver Moon	Time to set beaver traps before the swamps froze, to make sure of a supply of warm winter furs
December	Cold Moon	The cold of winter sets in