

ACTIVITY 2

MOON OBSERVATION JOURNAL

Grades :
**4 and
higher**

Level of preparation:
easy

Student groupings:
individual

Length:
**5 minutes each time, total
length of one month**

Location of activity:
at home

BRIEF DESCRIPTION

Students observe the Moon as often as possible during a lunar cycle (30 days) and record their observations in a Moon observation log.

LEARNING GOALS

- Observe the Moon in the sky.
- Explain the changes in the appearance and position of the Moon during its cycle.
- Identify the different phases of the Moon.

MATERIALS

- Student worksheet and observation journal

INTRODUCTION

The cycle of the phases of the Moon lasts almost 30 days (29.5 days exactly). This is the time between two consecutive full moons. Throughout the cycle, it's possible to observe the Moon in its various phases: crescent moon, quarter moon, gibbous moon and full moon. Although most students have already seen the Moon in its various phases, few of them have taken the time to analyze changes from day to day. This is why it is interesting to note your observations.

PREPARATION

Print the student worksheet and extra copies of the Moon observation journal. We recommend distributing two copies of the journal to each student at the beginning of the month, then keeping several extra copies in the classroom or available online.

METHOD

- Explain to students that they will observe the Moon as often as possible in the coming month. It will obviously be impossible to record observations every single day, especially because of the weather. This is fine; it is not necessary to make observations on all days to show the cycle of phases of the Moon. The idea is to get students to look to the sky at different times of the day to find the Moon.
- Review the instructions on the worksheet with your students to make sure they understand the assignment.
- Throughout the month, especially during the cloudless days, remind students to observe the sky to find the Moon.
- At the end of the month, ask students to answer the questions on their activity sheet and review them with the class.

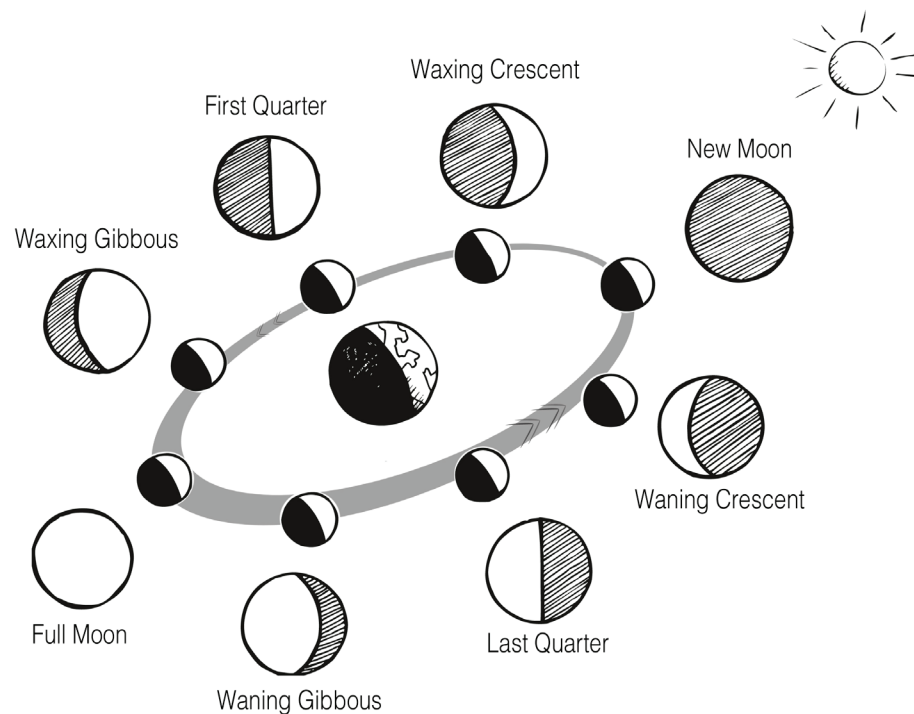


Figure 1. Schematic diagram, not to scale, showing the position of the Moon for the main phases.

ADDITIONAL INFORMATION

For a visual explanation of the phases of the Moon, please watch the accompanying video: <http://youtu.be/iF8k9ibNKo8>.

To understand the cycle of phases of the Moon, we must first understand some basic concepts.

- The Moon does not shine by itself. We see it because it reflects sunlight.
- The Moon is always half-lit: one half is facing the Sun (it's daytime on the Moon in this half) and the other half gets no sun (where it is night on the Moon).
- The Moon orbits the Earth with an orbital period (time to complete a full revolution) is about a month.
- During this month, the illuminated fraction that is visible from Earth varies. Sometimes the half we see is the fully illuminated half: this is what we call a full moon. Conversely, we call it "new moon" when we face the unlit portion of the Moon.
- Between these two extreme phases, we find the crescent moon, the quarter moon and the gibbous moon (between a quarter and full moon).

Moreover, the Moon is not always visible in the same place in the sky. Its position varies throughout the day, as the Earth rotates on its axis, and also during the month, as the Moon orbits the Earth.

Name: _____

MOON OBSERVATION

In the coming month, we invite you to discover the Moon! Observe it as often as possible and record your observations in this journal. For each observation, draw the Moon as you see it in the sky. Don't forget to include the horizon in your drawing to properly represent the height and the tilt of the Moon. Also note also if you see anything special like a bright star near the moon or a moon halo.

Remember to look up regularly and don't forget that the Moon is often visible in the daytime.

At the end of the month, answer the following questions:

How has the Moon changed during the month? Describe the changes you have observed.

Can you predict what the Moon would have looked like on days you didn't get to see it?

Did you always observe the Moon at the same time? Have you noticed a difference in the times when the Moon was visible?

On each of your observations, write the name of the phase: crescent, quarter, gibbous or full moon.

MOON OBSERVATION JOURNAL

Date: _____
Time: _____
Location: _____
Weather and sky conditions: _____

Date: _____
Time: _____
Location: _____
Weather and sky conditions: _____

Date: _____
Time: _____
Location: _____
Weather and sky conditions: _____

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