



# Let's Observe the Moon! (for 15x)

## Observation and Sketch

Name \_\_\_\_\_

Address \_\_\_\_\_

Age \_\_\_\_\_

In 1906, the Italian Scientist Galileo Galilei became the first person to make an astronomical observation using a telescope. He made a great discovery when he was observing the Moon. What was his great discovery? Let's use our telescope and experience his great discovery!

■ Let's Observe and draw a sketch of the Moon. If possible, draw a couple of sketches on different days.

**Example**  
weather: clear

Date 18:30 Month 2 Day 24 Aperture of Telescope 4 cm

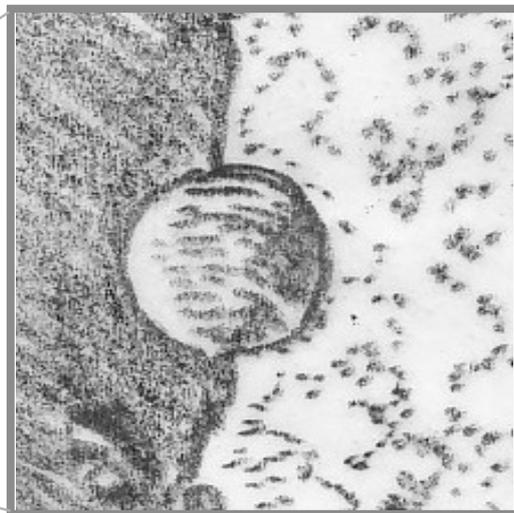
Site Mitaka-shi, Osawa, Japan Magnification\* 15 x

Magnification of a telescope can be calculated as follows: Focal length of telescope ÷ Focal length of eyepiece.

Draw a sketch of the whole moon.

**Example**

Make a detailed sketch of what you find interesting →



**Day 1**  
weather:

Date \_\_\_\_\_ : \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Aperture of Telescope \_\_\_\_\_ cm

Site \_\_\_\_\_ Magnification \_\_\_\_\_ x



# Observation and Sketch

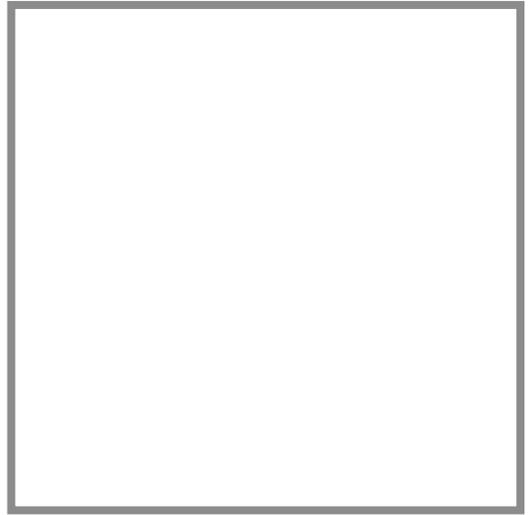
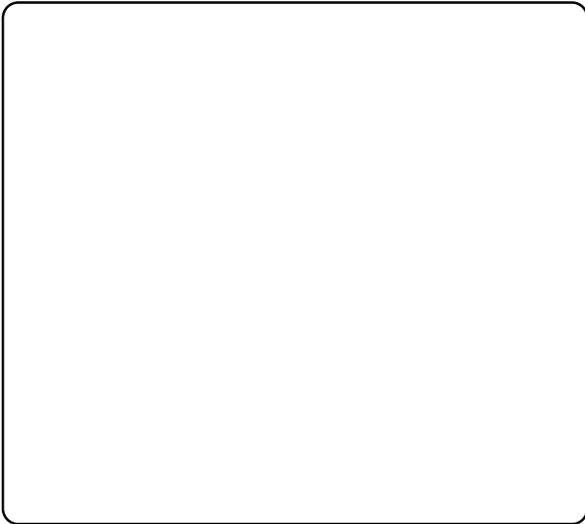
"You are Galileo!" Project  
Let's Observe the Moon! (for 15x)

Day 2

weather:

Date \_\_\_\_\_ : \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Aperture of Telescope \_\_\_\_\_ cm

Site \_\_\_\_\_ Magnification \_\_\_\_\_ x

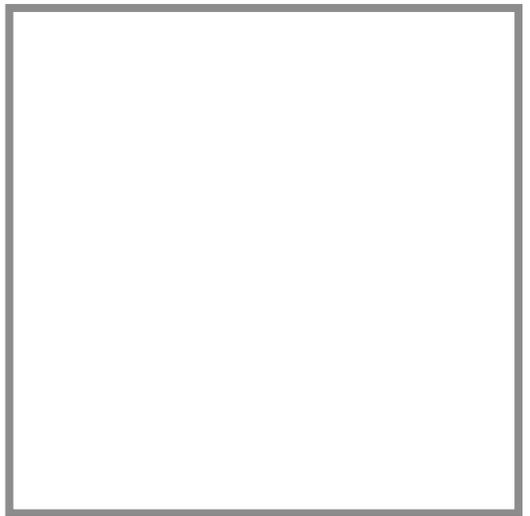


Day 3

weather:

Date \_\_\_\_\_ : \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Aperture of Telescope \_\_\_\_\_ cm

Site \_\_\_\_\_ Magnification \_\_\_\_\_ x



Write down What you have noticed through Observation and Sketch, and anything peculiar you found

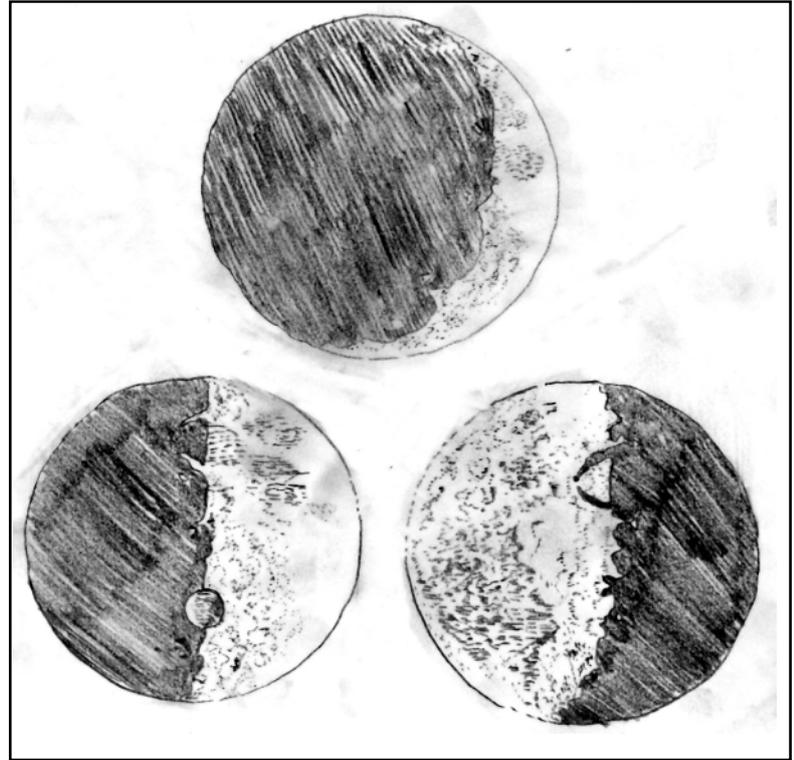


# Let's Observe the Moon!

## Post Observation Study

Name \_\_\_\_\_

From your own observation and Galileo's observations, you can see that the surface of the Moon is uneven and rough and that the apparent shape of the Moon changes on different days.



A copy of Galileo's sketches of the Moon→

- Now, let's look at the map and find the place you decided to make a detailed sketch of. What kind of name does it have?

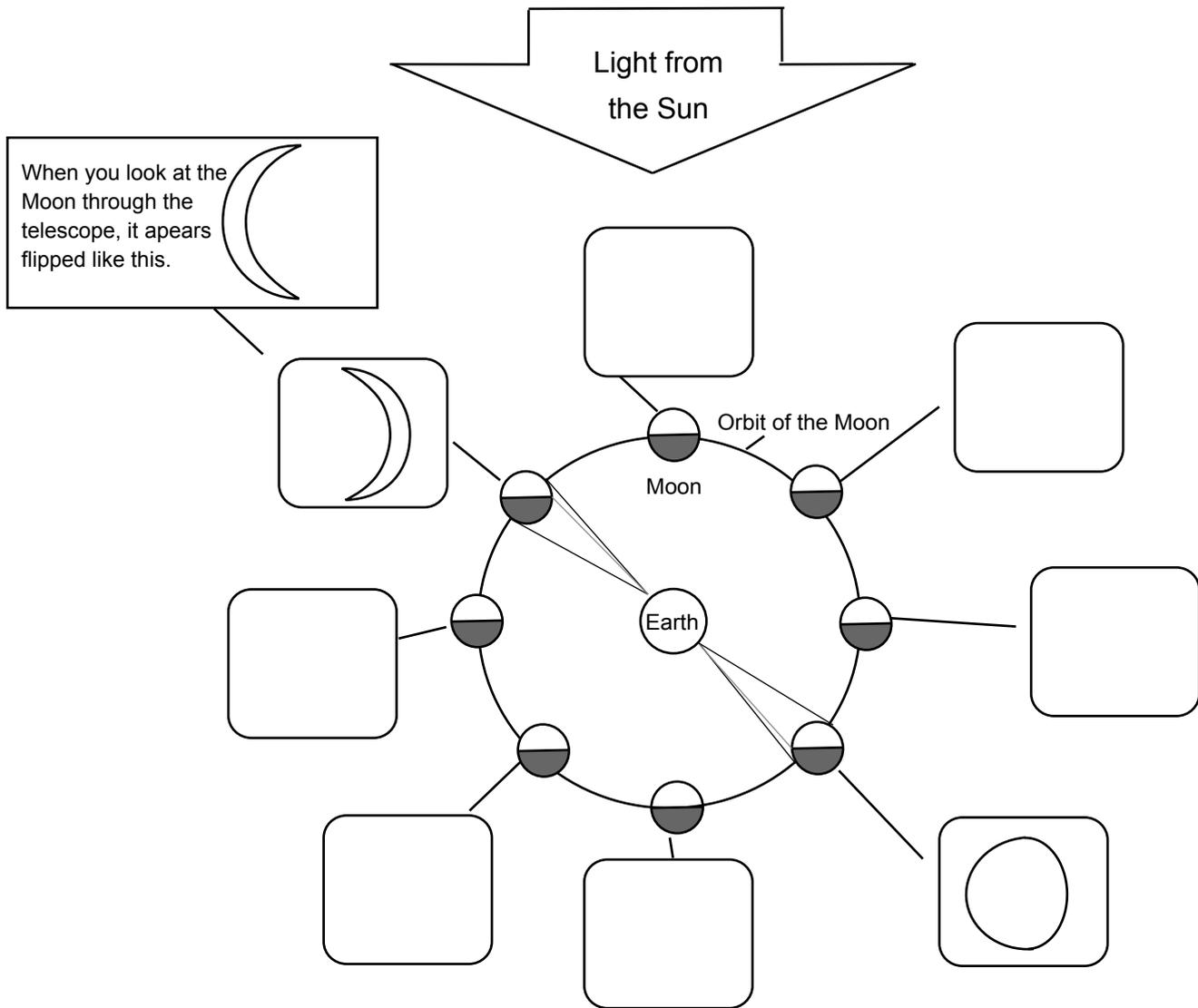
\*You can download a map of the Moon from the “You are Galileo!” web site. Also, there is a map of the Moon in the guidebook attached to the telescopes by Hoshi no Techo, Inc.  
(<http://kimigali.jp/sheet-e.html>, “English” -> “Moon” -> “Map”)

\*The map shows around the time of full moon. When you watch the moon in the evening, the left side of the map (East side of the Moon) is bright. When you watch the moon at dawn, the right side of the map (West of the Moon) is bright. You can see an inverted image in the field of view of the telescope.

- There are craters, maria and mountain ranges on the Moon. Did you find them in your observation and sketches? Mark the ones you've noticed.
  - Craters: Dents on the surface of the Moon. Most are round.
  - Maria(seas), lacus(lake), sinus(bay): Sections that look dark on the Moon. Though they are called the sea, they are covered with rocks and have no water. They don't have many craters and are flat.
  - Mountain range: Sections where mountain form a line just like mountain ranges on Earth.

# Post Observation Study

Next, let’s consider why the phases of the moon changes. This is because the relative positions of the Moon, Sun and Earth changes. The Moon rotates around the Earth like the figure below. Draw how the Moon looks like from the Earth.



→You can see that the shape changes like they do in your sketches.

■ Let’s write down what you learned with this observation and what you want to learn more about.

Did you experience Galileo’s Discovery?