



International Year of Astronomy 2009 "You are Galileo!" Project

Venus-Watch Campaign (2008)

Observation & Sketch

Galileo Galilei was an Italian scientist. He was the first man observed Venus using his small hand-made telescope in 1610 and made a great discovery. What did he find? Let's experience his surprise by recreating his observations by yourself.

Name _____

Address _____

Age _____

■ Let's observe and sketch Venus. We can see Venus at the western evening sky from December 2008 to February 2009.

Example
weather: Fair

Date 18:50, November 14, 2008 Aperture of telescope 4 cm

Site Tokyo, JAPAN Magnification 35 x

The magnification of a telescope can be calculated as follows. "Focal length of telescope ÷ focal length of eye piece"

Sketch Venus in detail. Magnify!

Example

Draw the size of Venus relative to the telescope's field of view

Example

First observation
in December, 2008
weather: _____

Date _____ Aperture of telescope _____ cm

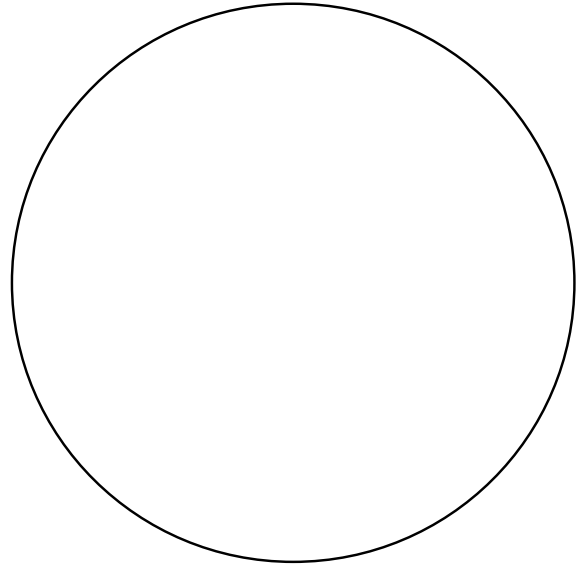
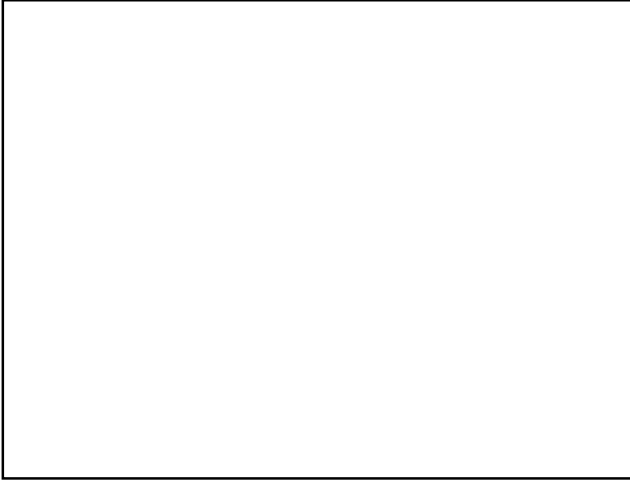
Site _____ Magnification _____ x

Observation & Sketch



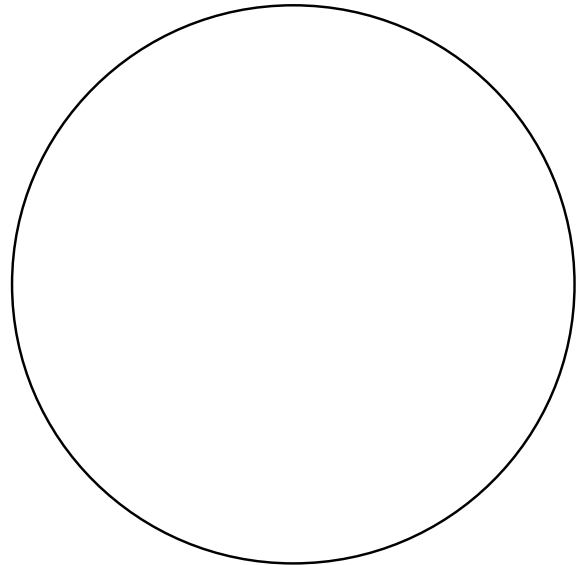
Second observation
in January, 2008
weather:

Date _____ Aperture of telescope _____ cm
Site _____ Magnification _____ x



Third observation
in February, 2008
weather:

Date _____ Aperture of telescope _____ cm
Site _____ Magnification _____ x



■ Describe your Venus observations and note anything peculiar you found



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After observation workbook

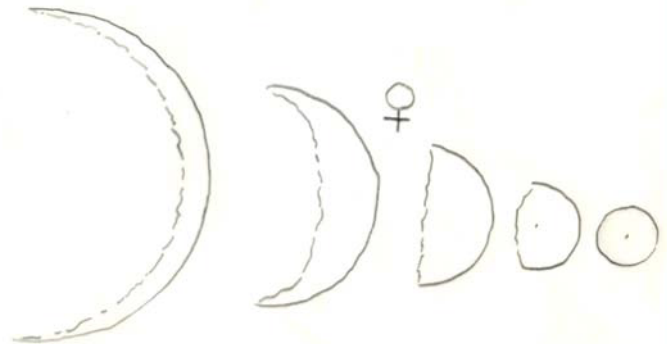
Name _____

■ Did you notice changes of the size and shape of Venus though your observations?

Venus at different days



20cm refractor, 35mm single-lens reflex camera film: NEOPANSS, Pseudo color F. Fukushima NAOJ

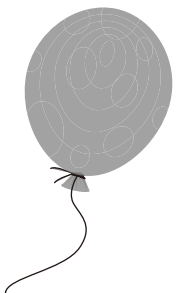


↑ A hand written copy of a sketch of Venus drawn by Galileo Galilei


■ Why did the size of Venus change?

An apparent size of the same object changes...

Think about the apparent size of the balloon...



If it is close to you...



If it is far from you...

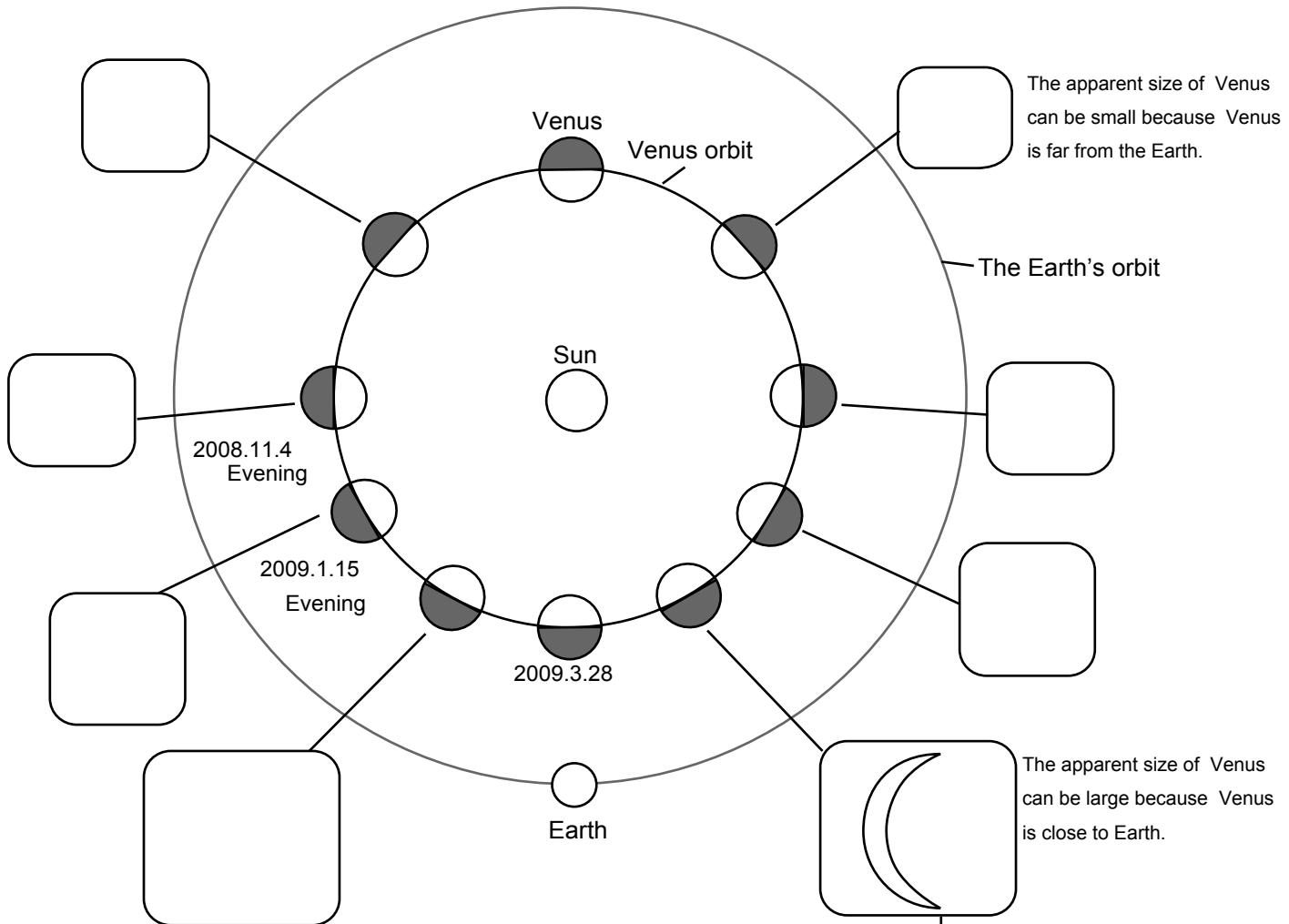
■ How about the size of Venus?

When Venus is large, it is ().

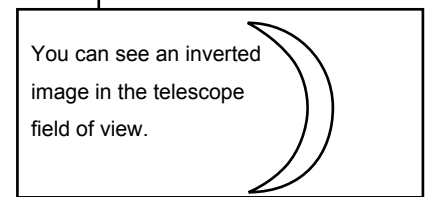
When Venus is small, it is ().



■ Why did the shape of Venus change? It's derived from the configuration of the Venus, Sun and the Earth.
Venus and the Earth are orbiting around the Sun.
Draw the apparent figure of Venus in the boxes.



→ Do you notice a change of the size and shape of Venus in your figure as well as your sketch?



■ Summarize what you found out, what you want to know more, and what you want to examine in the future.

Did you find what Galileo did? You are the little Galileo!