



# Venus-Watch Campaign (2011)

## 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 in the eastern sky at dawn until June 2011.

**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 March, 2011  
weather:

Date \_\_\_\_\_ Aperture of telescope \_\_\_\_\_ cm

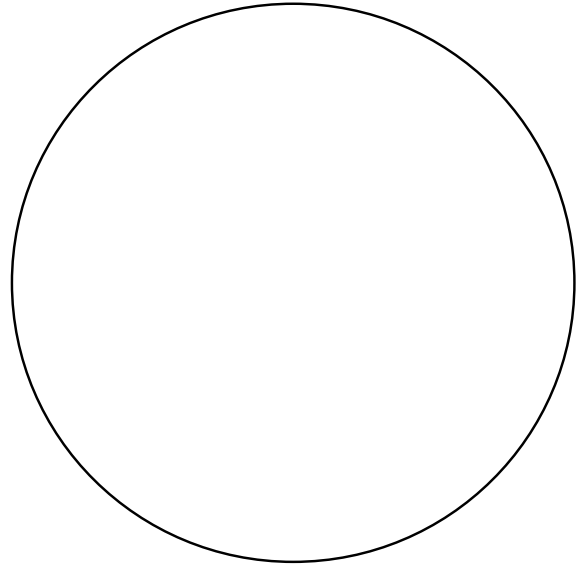
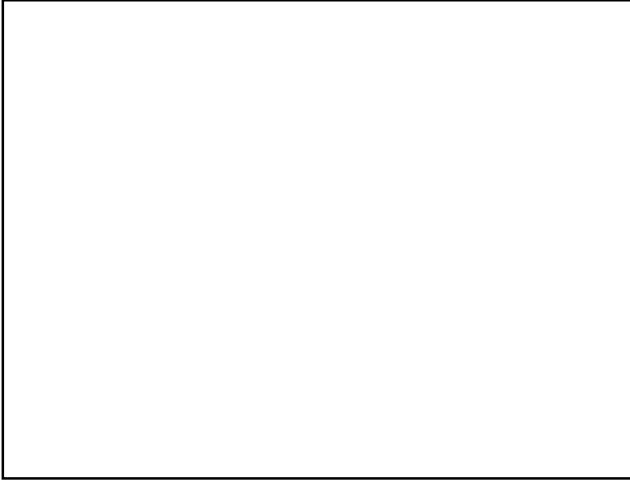
Site \_\_\_\_\_ Magnification \_\_\_\_\_ x

# Observation & Sketch

"You are Galileo!" Project  
Venus-Watch Campaign (2011)

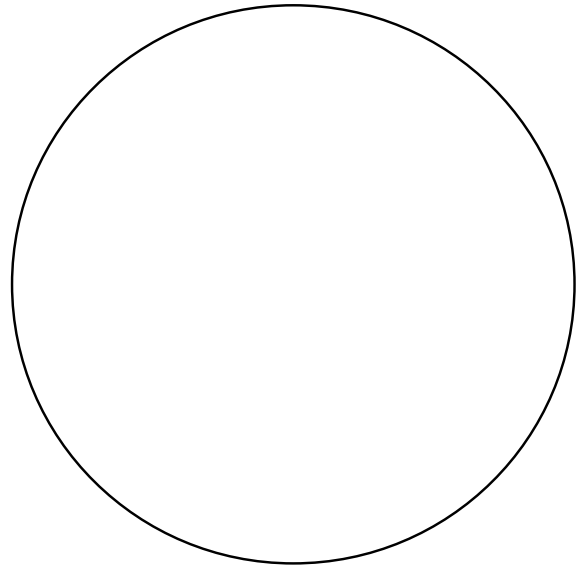
Second observation  
in April, 2011  
weather:

Date \_\_\_\_\_ Aperture of telescope \_\_\_\_\_ cm  
Site \_\_\_\_\_ Magnification \_\_\_\_\_ x



Third observation  
in May, 2011  
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

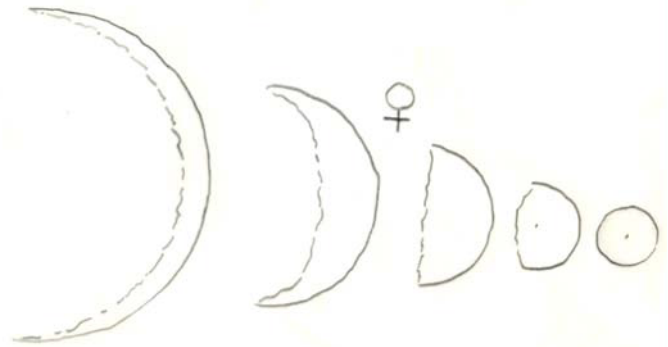
Name \_\_\_\_\_

■ 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

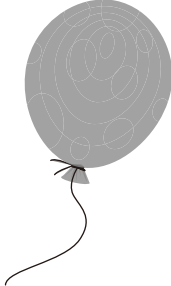


↑ A hand written copy of a sketch of Venus drawn by Galileo Galilei


■ Why did the size of Venus change?

An apparent size of the same object changes...

Think about the apparent size of the baloon...



If it is close to you...



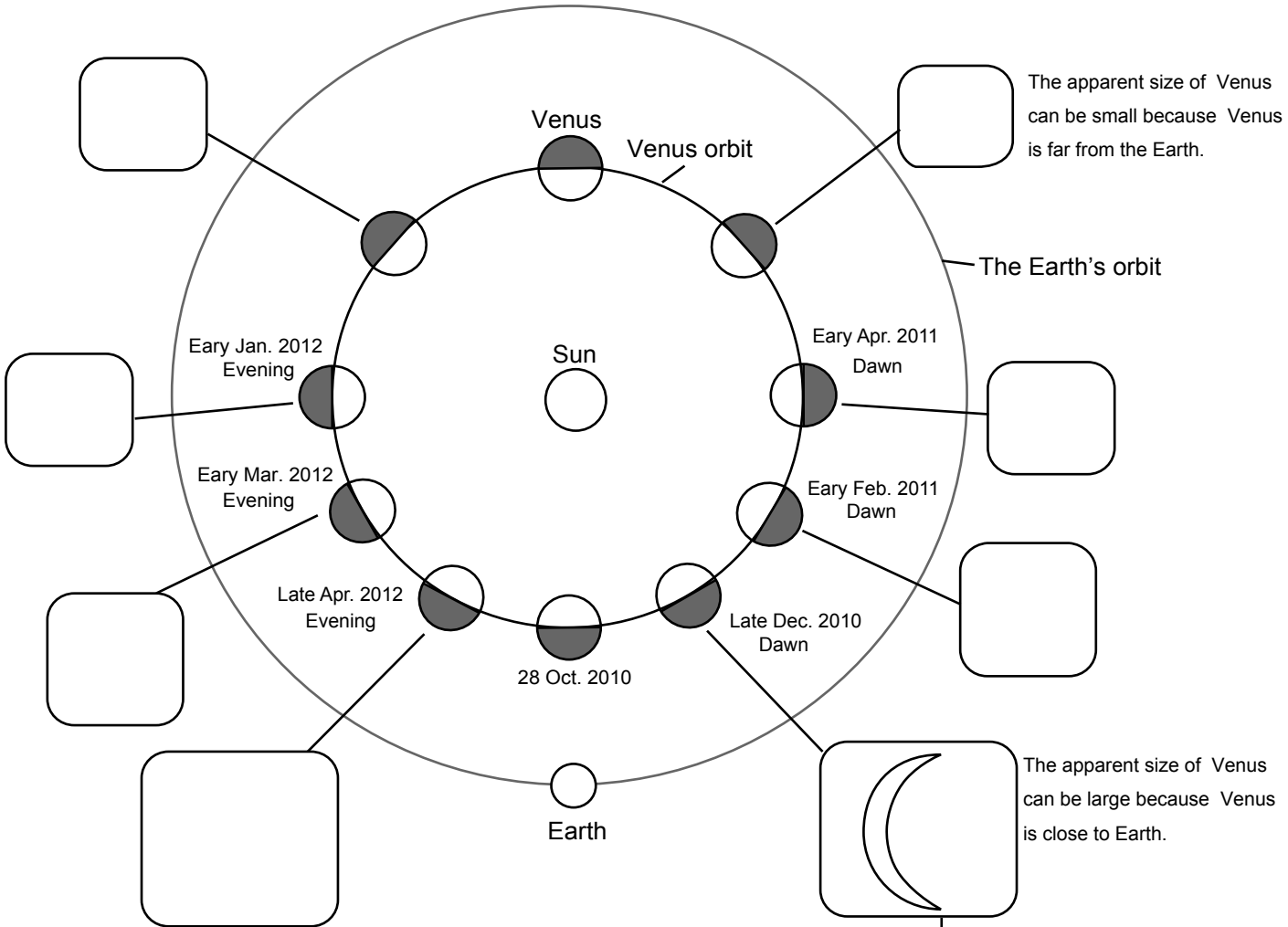
If it is far from you...

■ How about the size of Venus?

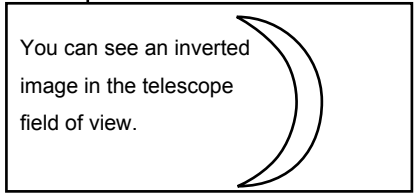
When Venus is large, it is (                      ).

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!