

## For Ses #3 SP 713

### Observing

Watch for the moon or what else is in the sky, whenever you can. What do you notice?

### Viewing Activities

Write from your viewing activities in class with frames, plexiglass, paper, mirror, string, or other materials. Describe some arrangements you tried, what you observed and recorded. Note something you learned from the activities of others. Include aspects of the activity, discussion or historical examples that you are curious about, that surprise you, that you might take further. Reflect on your inferences and observations relating viewing and geometry.

Discuss your impressions on looking with the curved surfaces of mirrors, eyeglasses, lenses.

### Galileo Story

For an overview orientation:

Under **Early Telescopes and Spectacles**

Look at [Antique Spectacles](#) website, esp.:

Under [History & Refs](#): [Eyeglasses through the Ages](#) and [Key Historical Translations](#) (the first entry)

Under [Collections](#): [Virtual Museum](#) slideshows

Select from these readings under **Early Telescopes and Spectacles**

“Who Invented the Telescope”, N. Pelling, *History Today*, 2008. Popular-level provocative synopsis with speculations.

*The Long Route to the Invention of the Telescope*, Part 1. Rolf Willach, APS Trans. 2008. An experimental study of surviving spectacles, elucidating glass-working techniques.

*The Invention of the Telescope*, Albert Van Helden, 1977. Background to the Dutch claims, with the translated historical texts at the end.

Write in relation to the making of eyeglasses as an artisan activity. If you read from Willach’s study, consider glass as a material, its components and sources, the means of working the glass, and how these characteristics figured in the lenses artisans made and what Willach was able to infer from examining them centuries later. If you read from Van Helden’s, note the various means of the competing artisans in seeking to advance their inventions. If Pelling’s, comment on imagination and speculation as accessories to interpreting the artisans’ story.

### Galileo’s Geometric and Military Compass

Read an account of Galileo’s invention of the geometric and military compass:

Under **Galileo Instruments**:

[Galileo’s geometric and military compass](#), by the instrument scholar Silvio Bedini

A discussion of this instrument and Galileo’s textbook is at the Florence museum site

Under **Galileo Instruments**: [Galileo’s compass](#); [Drake’s translated text](#)

Another pdf of Drake’s text is below, at [Galileo’s Military and Geometric Compass Text](#)

We will try an improvisation of this instrument in class, and see an original made by Galileo’s instrument-maker at the Collection of Historical Scientific Instruments at Harvard on Jan. 13.

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EC.050 Recreate Experiments from History: Inform the Future from the Past: Galileo  
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