



## Telescope Simulator

### Summary

**Short Description:** This document explains how to utilize the Telescope Simulator app.

**Language:** English

**Suitable for age:** 12-18 years

**Key words:** Telescope, Refraction, Optics, Field of View

**Format:** .doc

**Link:** <https://astro.unl.edu/classaction/animations/telescopes/telescope10.html>



1. This app simulates a simple refracting astronomical telescope. It demonstrates how some parameters of the telescope affect its performance. You can change the aperture, eyepiece and target and see how the Field of View changes. You can also adjust the focus to make your image more clear.

<https://astro.unl.edu/classaction/animations/telescopes/telescope10.html>

The screenshot shows a simulation interface for a refracting telescope. At the top left, there is an 'Observing' panel with three sections: 'Aperture' (radio buttons for 8-inch, 6-inch, 4-inch), 'Eyepiece' (radio buttons for 40 mm, 20 mm, 10 mm), and 'Target' (radio buttons for Moon, Saturn, Cluster). To the right is a 'Focus Adjustments' slider ranging from -10 to 10, currently set at 8.0. The central part of the interface features a diagram of a 'Refracting Telescope' with yellow light rays entering from the left and converging at the eyepiece. A circular 'Field of View' is shown at the bottom right, containing a detailed image of the Moon. At the bottom left, a 'Readouts' panel displays the following information:

**Readouts**

LGP = 840 (times that of the human eye)

Resolution = 0,56 arc-secs

Magnification =  $\frac{F_o}{F_e} = \frac{1400 \text{ mm}}{40 \text{ mm}} = 35$

Field of View = 1.22

