



Describe how lenses can be used

Build a refracting telescope from two magnifying lenses. First find the focal length of the two lenses then stick them down that distance apart.

Method

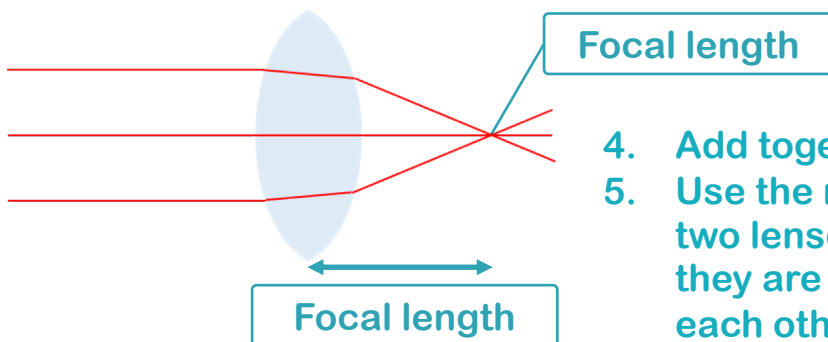
This experiment works best under fluorescent strip lights

1. Hold the lens directly under the florescent lighting above a clear plain desk. Make sure it is flat.
2. Move the lens up and down until the image of the lights is clear and focused on the surface.
3. Use a set square to keep your ruler perpendicular to the desk and measure the distance from the desk.



Focal length lens 1 _____ cm

Focal length lens 2 _____ cm



4. Add together the two focal lengths.
5. Use the modelling clay to stick the two lenses to the metre stick so that they are this distance apart from each other.

Describe how the image appears when you look down your telescope.

Add light rays to the diagram to show how they pass through the telescope.



Stretch:

“The first lens magnifies the second lens and that’s why it appears closer.” Do you agree? Explain your idea.

Challenge:

Explain what is happening to the rays of light as they pass through a lens. You can use the diagram to help you.