Worksheet for Exploration 34.1: Lens and a Changing Index of Refraction

Light rays from a point source, initially in air, are shown incident on a lens. **Restart.**

a. How, if at all, would the path of the rays change if the source and lens were placed in another medium with an index of refraction of \( n = 1.2 \), which is less than the index of refraction of the lens? Draw what you expect the rays to look like in the new medium.

Make a prediction and then test your prediction by using the slider to increase the index of refraction of the surrounding medium. Was your prediction correct? Explain.

b. Now, what happens if the index is increased to \( n = 2.0 \), so that it exceeds the index of refraction for the lens? Draw what you expect the rays to look like in the new medium.

Make a prediction and then check your prediction using the slider. Was your prediction correct? Explain.