Blue is you, the observer. The green spots are two points that give out light, and the line is a **concave** lens. The other two points (at the end of the blue lines) is where the lines *appear* to be to the observer, ie. what you'd see.

If the thing giving out the light is close to the lens, and you're far away, this is what you get:

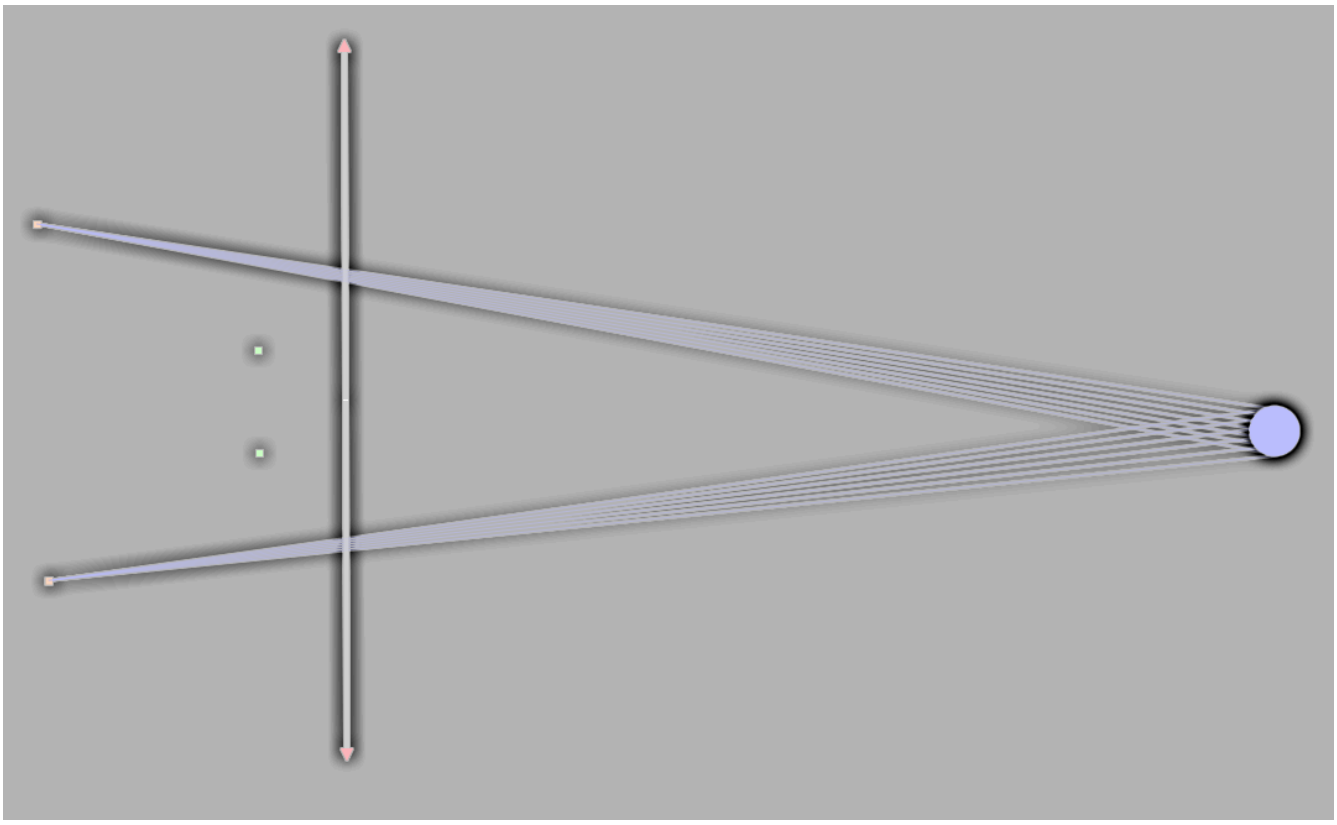


Image appears **larger** (wider apart), and is **virtual** (ie. you can't place a projector for it to focus on). (if you move too close it'll go out of focus)

If the lens is further from the thing giving out light…

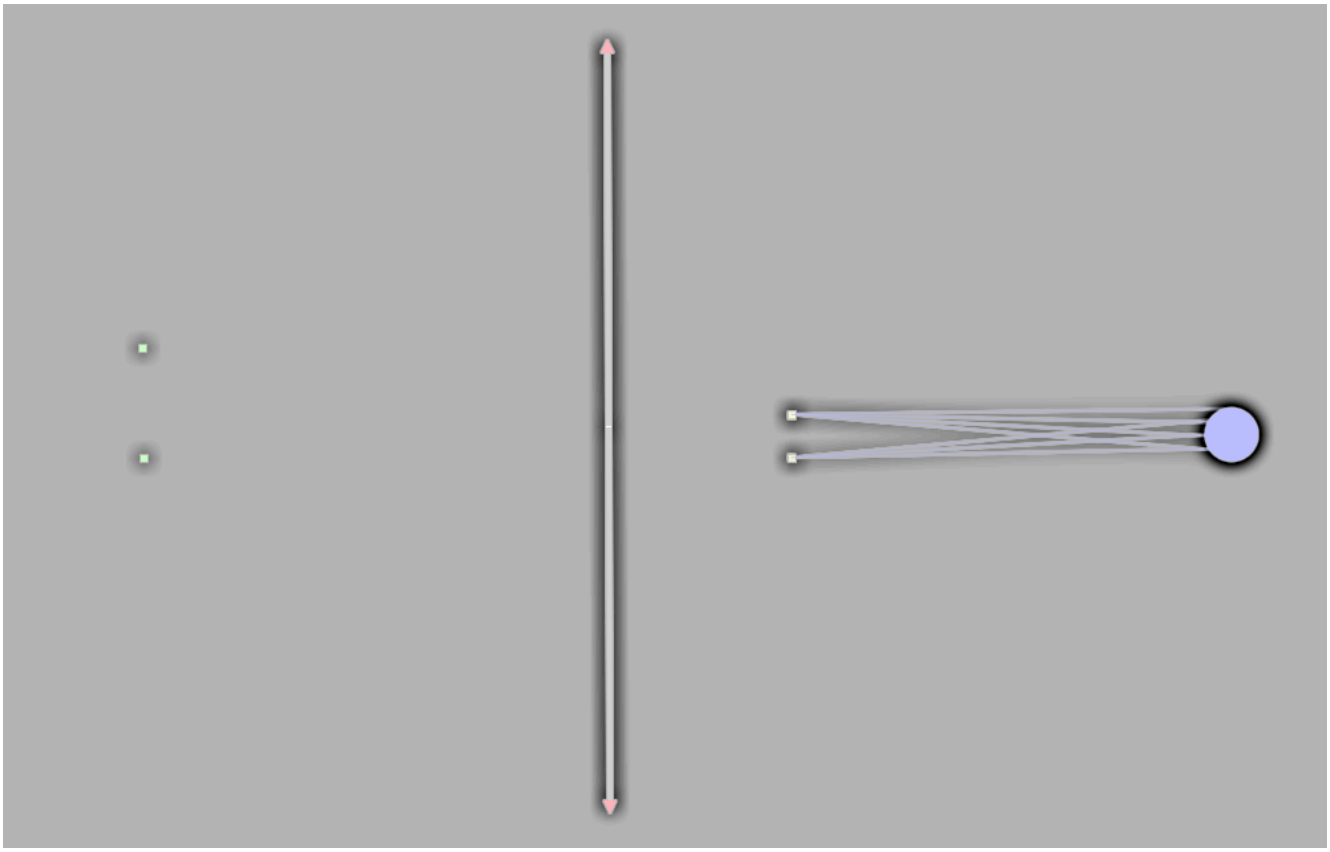
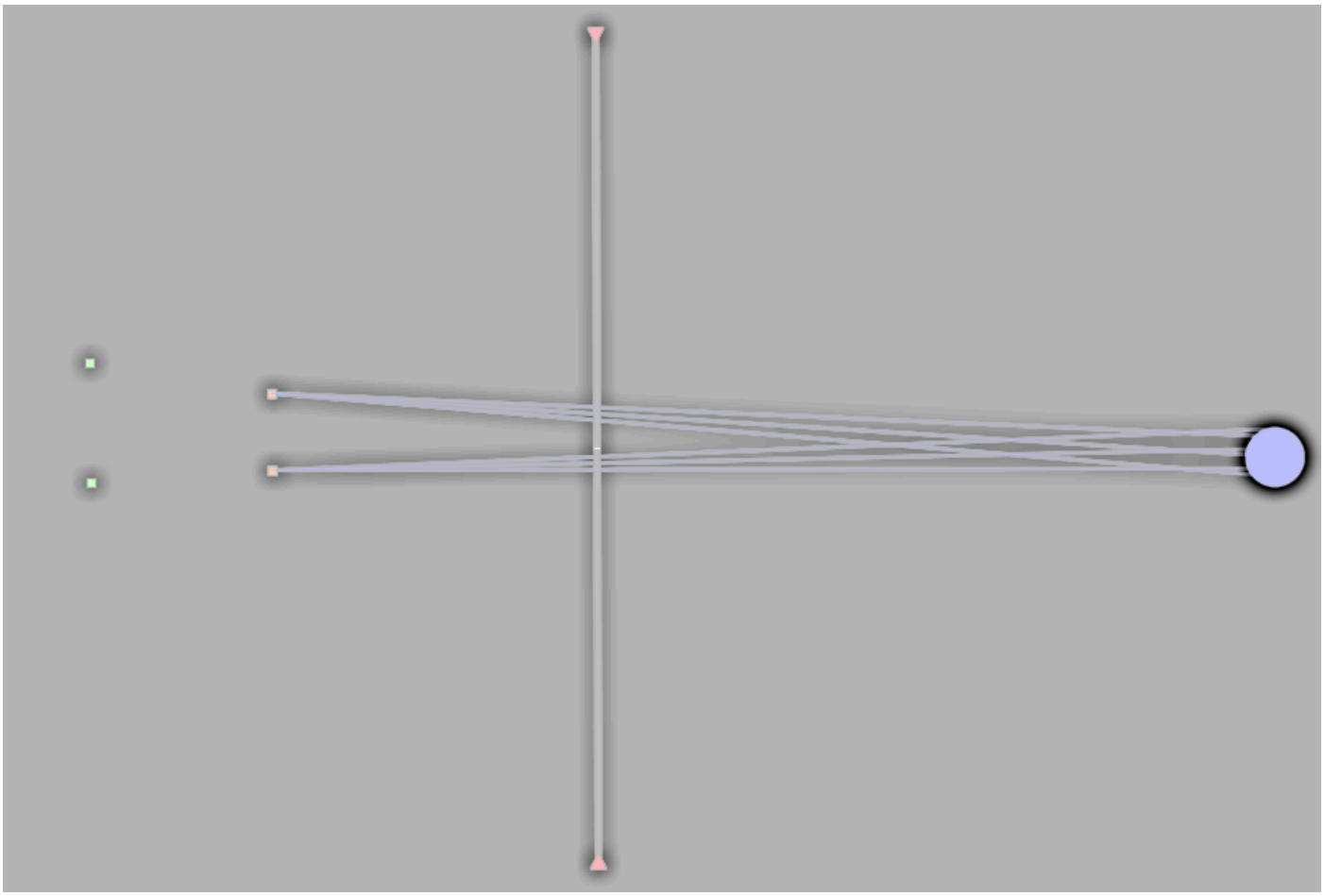


Image appears **smaller** and **is real** because you could put a projector where the two spots appear and it'd form a sharp picture. Not that you can see it, but the image is also **upside down**.

With a **convex** lens it's a bit simpler: the image is always **smaller**, and always **virtual** (another way of thinking of that, is that to your eye it looks like the image is 'behind' the lens). It doesn't matter where you put the various components. It's also always the **right way up**.



I made these using this excellent light simulating tool, feel free to try it out and see if it helps:

https://ricktu288.github.io/ray-optics/simulator/