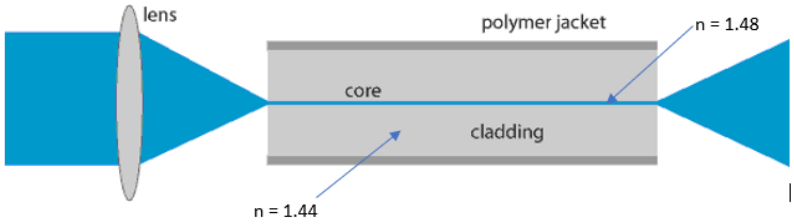
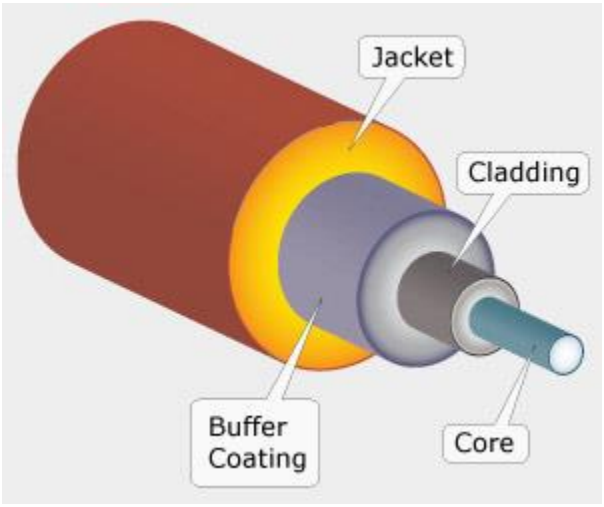
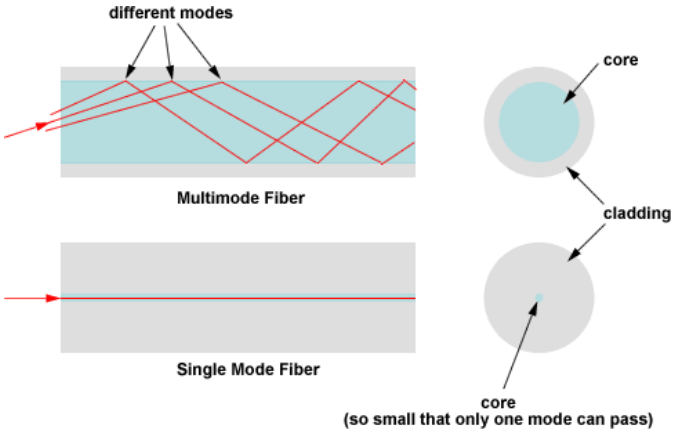
Fiber Optics

Name:

Fiber optics are a way to guide light within a low loss medium. They can broadly be described as working on the principle of total internal reflection. There is a bit more intricacy to it than that, but its essentially as if the light rays bounce at the interface of the core and cladding. One can also apply a wave optics view to it and there are spatial modes that are guided. Different core diameters allow some modes to propagate but not others. The fiber is composed of a high index of refraction core, a lower index cladding layer, and materials to provide strength to the assembly.







1. What is one application you can think of for fiber optics?

2. Was it harder to get light into the fiber with the laser or the LED?

3. What limitations of fiber optics can you think of?