

FLASHLIGHTS AND LASER POINTERS AT A DISTANCE

Exploring Basic Principles of Light

Go out into the main corridor with your team. Have one person hold a flashlight and another stand facing the light a foot or two away so that the beam is visible on her/his body. Now have them slowly separate. At what distance does the beam of light become too spread out to see distinctly?

Continue separating further apart. Can the flashlight itself be seen from the full length of the corridor? Approximately what distance?

Where do you need to be in relation to the flashlight itself in order to see the light at its source from a long distance?

What generalizations about light from a conventional flashlight and distance can you make from conducting this trial?

Now use the laser pointer to conduct a similar trial. Have one person stand at the end of the corridor with the laser pointer and see how far away you can be and still see the laser dot of light on yourself or a teammate. Approximately how far apart are you?

How large is the dot of laser light when it hits where you are?

Where do you need to be in relation to the laser pointer in order to see the point of light at its source—the pointer?

From that distance can you reflect/redirect the laser light using a mirror? What are your results?

What generalizations about laser light and distance can you make from conducting this trial?