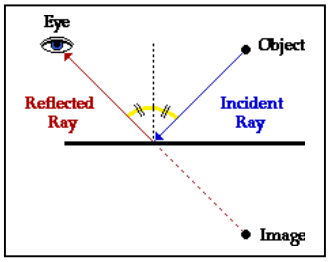
Activity #9

Title: The IR Challenge! –Student Response Sheet-Teacher's Copy



1. Maximum effective distance (straight-line measure) of IR remote controller = approx. 10-15 meters.

2. In the space below diagram your mirror arrangement—including the measured length of each "leg" of the IR beam's path from the remote controller to the appliance. Calculate the TOTAL LENGTH of the beam's distance and record this in the appropriate space.

Diagrams will vary considerably from one group to the next.

Diagram

_____meters

+_____meters

+_____meters

+_____meters

= Calculations will vary meters (TOTAL DISTANCE traveled of IR beam)

3. Infrared energy seems to travel in straight lines as does visible light and it also reflects off mirrors in much the same way as visible light.

4. From this activity it appears that one difference between infrared and visible light is that IR cannot be seen by the naked eye. Another difference is that the operational effective distance of the IR beam is limited to about 10-15 meters where reflected visible light from the mirrors APPEARS to have no limits, at least within the confines of the classroom. (Although, in reality, both IR and visible light are governed by the Inverse-Square Law!)