

Names: _____

Group # _____

Period # _____

Reflection

OBJECTIVE

- Observe the reflection of an object from the surface of a mirror and carefully sketch the incident and reflected rays.
- Show that the angle of incidence is equal to the angle of reflection.

MATERIALS

Mirror

Protractor

4 pins

A piece of letter sized (or larger) piece of cardboard

Blank printer paper with no lines on it

Tape

Thin dry erase marker

INITIAL SETUP AND PROCEDURE

1. Tape the blank paper onto the piece of cardboard.
2. Place the mirror on the paper.
3. Use the marker to draw a thin vertical line on the mirror near its center.
4. Trace the base of the mirror along the paper and place a dot where the line that you previously drew on the mirror touches the paper.
5. Place a pin approximately 5 cm in front of the mirror and a few cm to the left of the line you drew on the mirror.
6. Look in such a way that the pin lines up with the vertical line. So, you could draw a line that passes through them. Now add a second pin that also lies on this line.
7. Now look from the other side and observe the two pins lining up with the vertical line. Add a third pin that is in line with the others.
8. Finally, add a fourth pin on the reflected side that is in line with all of them.
9. Remove the mirror from the paper and draw a line that is perpendicular to the line representing the surface of the mirror at the point where the vertical line was drawn on the mirror. You should already have a dot on the paper representing this point (see step 4 above).
10. Use a ruler to draw a line on the left side of the mark connecting the dots where pins one and two were placed. The line should connect three points: pin 1, pin 2, and the dot where the line was drawn on the mirror. This line represents the incident ray.
11. Use a ruler to draw a line on the left side of the mark connecting the dots where pins one and two were placed. The line should connect three points: pin 1, pin 2, and the dot where the line was drawn on the mirror. This line represents the reflected ray.

