

Lab Write Up: Law of Reflection Experiment

Purpose: Test the law of reflection to confirm it is true.

Question: How can we test the law of reflection to confirm that it is true using a ray box, plane mirror and, protractor, pencil, and paper?

Hypotheses: I believe that we can test the law of reflection using these materials.

Procedure:

- Plug in ray box
- Slide in single slit square
- Attach clips to plane mirror
- Set mirror up vertically on a table with paper underneath
- Place ray box and table and point at the mirror
- Trace incident ray and reflected ray on the paper
- Measure the angle of incidence and angle of reflection with protractor
- Record the measurements
- Repeat 2 more times by changing the angle of the light each time

Analyze Data:

- Experiment 1: Angle of reflection: 20 Angle of incidence: 20
- Experiment 2: Angle of reflection: 57 Angle of incidence: 57
- Experiment 3: Angle of reflection: 31 Angle of incidence: 31
- Experiment 4: Angle of reflection: 15 Angle of incidence: 15
- Experiment 5: Angle of reflection: 30 Angle of incidence: 30

Conclusion:

My hypothesis was correct. These materials were able to prove the law of reflection when used properly. We had five successful experiments, but we failed a few because of a few reasons. One reason is that we didn't use the protractor correctly. Another thing that went wrong was our math being wrong. We made the mistake of not using a ruler to trace lines a few times. After making a few mistakes we finally found a way to do it right and we were able to conclude that the law of reflection was correct.