

Name _____

Light Reflection: Can You See Me Now?

Background: Have you ever wondered why you can see yourself in a mirror? When you see your face in a mirror you are seeing light from your face reflecting off the flat, shiny surface. Light travels in straight lines. What happens when you are NOT standing directly in front of a mirror? What can you see?

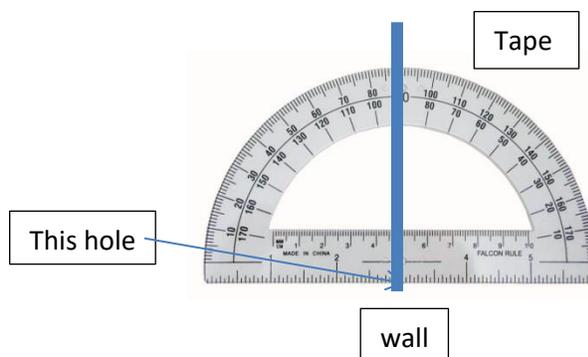
Hypothesis: Can two people see each other in a mirror if they are not standing directly in front of it? Yes or No Explain your answer.

Materials:

- 3-inch square mirror
- Masking Tape (to hold mirror to wall)
- 3-inch square paper
- Protractor
- 10 feet of string

Set Up:

1. You will need to work with a group to do this activity.
2. Double tape mirror on the wall at eye level. Cover with the paper on top so you can lift it to see the mirror.
3. Thread the string through the hole in the protractor.



4. Tape the protractor to the floor so the ruler part is next to the wall with the 90° mark on the center of the masking tape. Be sure to be able to adjust the string so that half of it is on each side.
5. Mark a spot on the right side of the mirror on the floor with tape. One group member should stand there.

6. Your group should hypothesize where to stand to see each other's reflection in the mirror. When you agree on the spot, a group member should stand there.
7. Remove the paper from the mirror. Stand at your spot and check if you can see your partner. If you cannot see your partner's eyes, move your spot.
8. Each partner now should gently pull the string, so it goes from the protractor to the center of your body.
9. Measure the angles made by the string. Remember to measure each side from the zero mark.

My angle is _____ My partner's angle is _____

10. Repeat the activity again. Cover the mirror and stand at a different angle.

Results of second measurement:

My angle is _____ My partner's angle is _____

How do your measurements compare? If the angles are slightly off, what may attribute to that situation?

Lab Summary:

1. Explain how light is reflected off a mirror.

2. Describe two real life situations where this can be used.

3. Draw a diagram with lines showing how light is reflected off a mirror.