

## ANGLES OF REFLECTION

*Have you ever wondered why you can see your face in a mirror? This occurs because mirrors are very smooth and shiny. Light bounces, or reflects, off of the smooth and shiny surface of mirrors. When you see your face in a mirror you are seeing light from your face reflecting off of the mirror.*

*The way light bounces off mirrors is very much like the way a ball bounces against a hard surface. You can throw a ball straight down, and it will bounce straight back at you. Or, you can bounce a ball at an angle and it will bounce off the floor at the same angle away from you. Light reflects the same way off of a mirror. In other words, light reflects from a mirror at the same angle as it arrives.*

### Activity Directions

1. You need to work with a partner to do this activity. Attach a magnet-backed mirror to the wall at around eye level. Cover the mirror with a piece of paper using tape.
2. Now, both you and your partner should try to guess where you both need to stand to see each other's reflection on the mirror. When you both agree on the places, mark them on the floor with pieces of tape.
3. Remove the paper from the mirror. Stand at your chosen places to determine if you can see each other in the mirror.
4. If you can't see each other, try different places until you can. Mark the places that work with pieces of tape.
5. Next, place long pieces of string on the floor from the center of your place markers to the wall directly under the center of the mirror. These should be straight lines.
6. Look at the angles made by the strings on the floor and the wall to see if they are the same size. Remember that light bounces off a mirror at the same angle that it arrives. Therefore, when the light from your face travels to the mirror on the wall, it should bounce off the mirror at the same angle to the eyes of your partner.
7. Write a description of what you did in this activity. Include a diagram with lines showing how light reflects off a mirror.

### NOTES AND DIAGRAM