

# What Creates Shadows?

*Have you ever wondered where shadows come from? Maybe why some shadows are larger than others? Today, we are going to explore these questions and find out more about our shadows and the shadows around us!*

## Materials Needed:

- Flashlight
- Blank Paper
- Round Ball-Like Object (we use an apple or orange)
- Pencil or Pen

## Scientific Method:

**Step 1:** \_\_\_\_\_

Write any observations that you see about shadows.

---

---

---

**Step 2:** \_\_\_\_\_

What questions do you have about the shadows?

- 
- 
- 

**Step 3:** \_\_\_\_\_

What do you think causes the shadows to change?

---

---

**Step 4:** \_\_\_\_\_

- Hold the flashlight (on) above the blank paper, pointing straight down
- Trace the shape of the light that's on the blank paper
  - What shape is the light? \_\_\_\_\_
- Now point the flashlight (on) toward the traced shaped, but this time at an angle
- Trace the shape of the light that's on the blank paper
  - What shape is the light? \_\_\_\_\_
- Flip the paper over (or get a new paper) and repeat these steps, but with your round object!

**Step 5:** \_\_\_\_\_ & \_\_\_\_\_

What did the shapes look like when the flashlight was pointing straight down?

\_\_\_\_\_

What did the shapes look like when the flashlight was pointing at an angle?

\_\_\_\_\_

Why do you think shadows changed when you moved the flashlight?

\_\_\_\_\_

\_\_\_\_\_

**Step 6:** \_\_\_\_\_

Make sure you share your data with the teacher/group and check out what happened to other people's shadows! We always like to compare our results with others, just in case something different happens.