

Science Club Jr. Shadows and Light

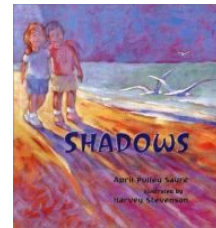
Science Club Jr. activity sheets offer online books, activities, and discussion questions that help families with young children explore science together!

What is something that follows or leads us on a sunny day? Shadows!



Introduce the Topic

Shadows are all around us. Start with this fun online read-aloud of April Sayre's poetic book, *Shadows* : <https://tinyurl.com/y8pmjzoc>



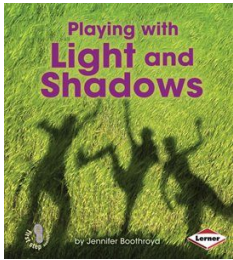
Ask Discussion Questions

Go outside on a sunny day and **talk** about shadows with your child. Here are some questions to get started:

1. Let's look at the shadows around us! How are they the same, how are they different?
2. Why do you think are they different?
3. What do you need to have/make a shadow? Can we make it go away?
4. Do you think our shadow is always the same? (It might be fun to take a picture of your shadows and go back outside a few hours later to compare.)
5. What do you think makes a shadow change its size?



Get More Information



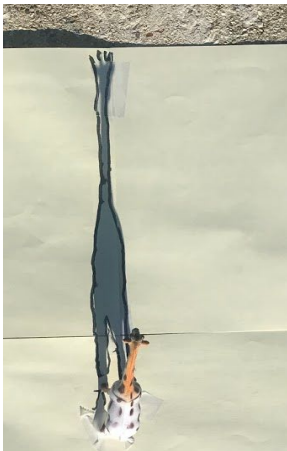
Now head over to Hoopla Digital and **read** this short book explaining lights and shadows: <https://tinyurl.com/y9xbj5mu>

Activity for the Youngest Scientists

Here is a very simple activity to show that shadows change throughout the day:

Set a toy or stuffed animal on a piece of paper in direct sunlight and observe it throughout the day. Use a marker and trace the shadow to really notice how it moves and changes in size.

Make sure the place where you set up this experiment will have full sunlight for the entire time and that it isn't too windy (our giraffe ended up being blown away!)



7:45 am



8:45 am

Activity: Let's Make a Sundial

Sundials are the world's oldest known tools to tell the time of the day.

Parts of a sundial:

- **dial plate:** the flat surface of the sundial
- **hour lines:** numbered lines on the dial plate
- **gnomon:** the pointed part in the middle

As the sun moves across the sky from east in the morning to west at sunset, the **gnomon** casts its shadow along the **hour lines** on the **dial plate**, allowing us to read the time on a sunny day.



Supplies:

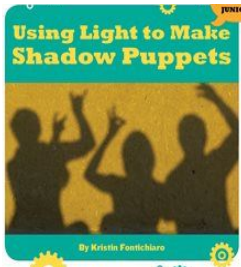
- pencil
- a ball of clay or play dough
- some rocks (about the same size)
- sharpies or other markers that can write on rocks
- chalk to mark the spot of your gnomon if it gets knocked over

Instructions

1. Stick the pencil into the ball of clay (this will be your gnomon)
2. Find a spot that is sunny all day (the more wind protected, the better)
3. Trace that spot with chalk (in case your gnomon tips over)
4. Start at a time that works for you, but make sure it's on the hour
5. Put a rock to the point your pencil shadow points (mark that rock with the hour)
6. Set a timer to remind yourself to go back every hour with a new rock
7. Continue for as many hours as you like, or until the sun sets

Want to Learn More?

Read these titles together (available on Hoopla).



[Using Lights to Make Shadow Puppets](#)

By Kristin Fontichiaro



[Shadows](#)

By Sharon Coan



[Time](#)

By Various Authors