

Moving Shadows

Parent Guide (1st Grade- UT SEEd Standard 1.1.3)



This activity works best on a sunny day! You will need a blank sheet of paper and three different colored writing utensils. Utah Science and Engineering Education (SEEd) standards were developed by scientists and educators and allow for age-appropriate progression. This activity is based on the 1st Grade Standards 1.1.3 and 1.3.3.

Standards 1.1.3 and 1.3.3- Design a device that measures the varying patterns of daylight. Examples could include sundials for telling the time or tracking the movement of shadows throughout the day. Determine the effect of materials in the path of a beam of light.

Instructions:

1. Walk around your house, either inside or outside, and take note of all of the things that cast a shadow on the ground.
2. Ask your child these leading questions: Are there always shadows on the ground? When do you notice them most often? Can you see your shadow right now? Is it in front of you or behind you? Why?



Explain that shadows are made because there is an object blocking the sun from hitting the ground.

3. Take turns tracing each other's shadows with chalk. Decorate them or give them clothes!

If it's not a particularly sunny day, you can create your own shadows by using a flashlight in a dark room and placing objects in between the light and the wall. Make animals with your hands, or try using dolls to act out a story!

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4. Find an object that is casting a shadow on the ground that you can trace onto a piece of paper. If your object is outside, tape your paper down or set rocks on it so it doesn't fly away in the wind!



5. Trace the object and leave the paper where it is.

6. Come back to check on it in 30 minutes. Has the shadow moved? Trace the shadow from your chosen object again in another color.

7. Wait another 30 minutes and come back to check on your paper. Has the shadow moved again? Trace the object's shadow one more time in a different color.

8. Check on your paper after another 30 minutes and discuss your findings.

High inquiry questions to ask your child:

Do you have a shadow? What do you notice about your shadow?

Why can we see shadows inside sometimes even though the sun isn't inside? (It shines in through the windows because they're transparent, or see-through).

Have you ever heard of a sundial? Explain how sundials were used to tell time. Show your child a picture or watch a video about how sundials work.

What other ways can we test how shadows move? (Let them come up with their own experiment!)