



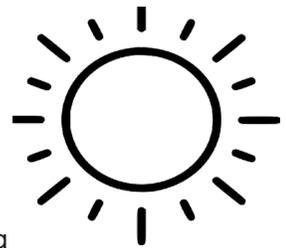
Make a Sun Shadow Clock

Building Activity

Long before clocks, people relied on the stars and our own Sun to tell time. They even used shadows. Depending on the time of day, shadows change direction. Make your own Sun Shadow Clock to observe how shadows change throughout the day!

What you need:

- Clear, sunny day
- Coffee can, small bucket, or similar item
- Sand (wet works best)
- Ruler
- Sidewalk Chalk



What you'll do:

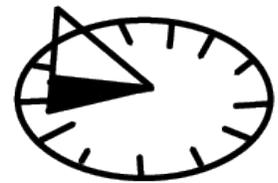
1. Go outside on a sunny day and fill an empty can or bucket with sand. Stick a ruler in the middle of the sand. Now you have a Sun Shadow Clock!
2. Place your Sun Shadow Clock on a sidewalk or driveway that gets lots of sun.
3. Look for the ruler's shadow and trace the line of the shadow with sidewalk chalk. Write the current time next to your line.
4. Check back in an hour or two and trace the ruler's shadow again and record the time. Continue this throughout the day, checking every 1-2 hours.
5. Use the questions and conversation starters below to get your child thinking about what causes shadows during the activity.

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TRACE

Questions and Conversation Starters

- Where is the ruler's shadow in the morning? Middle of the day? Late afternoon or early evening?
- What's causing the shadow to change?
- Do you think the shadow would be different if it were a different season? Why do you think that is?
- Discuss how shadows tell time. Shadows are made from any light source, in this case the Sun. When the light moves, so do shadows. The Earth's daily spin makes the Sun appear to move across the sky as time goes by, also affecting shadows.
- Can you create a shadow of your body? What happens to your shadow if you turn or move?
- What do you need to make a shadow? Can you make shadows inside? What items could you use?
- Go on a shadow scavenger hunt around the neighborhood and make a list of different shadows that you see (trees, clouds, etc.).



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