STEM

Activity Guide
Paper Plate Sundial

Background:
Before there were clocks, people used the sun's position in the sky to keep track of time. While doing this activity you'll be able to experiment with Physics (the science behind how things move), Engineering (the art of design), and math (the calculation of what time it is).

Link to video demonstration:
https://www.youtube.com/watch?v=CsaV90smywQ – One example of a paper plate sundial

Materials Needed:

- Sturdy Paper Plate
- Sharpened Pencil
- Permanent Marker
- Watch
- Tape

Rules/Pre-Start Guidelines:
Check with an adult about the materials and location you plan to do this activity, ask for permission, not forgiveness.
To do this you need to be outside. Find a place with a lot of sun.

Instructions:

1. Decide where you are going to do this activity
2. Gather your materials
3. Use the point of your pencil to create a hole in the center of your paper plate. Don't make it too big, we want the pencil to fit snuggly in the hole for stability
4. Place the plate upside down with the pencil poking through. The eraser end should be sitting on the ground
5. Check your clock, when you get close to the beginning of a new hour take your sundial out to a flat sunny spot.
6. You may tape or put a rock on the rim to help weigh down the sundial so it doesn't fly away
7. Each hour, got outside and use your permanent marker to draw a line
8. Label each line with the time of day
9. You are now tracking time with the sun!

Challenge: How to Take this to the next level:
What will happen as the seasons change?
Will the time change day to day?
What else can you make a sundial out of?