SCIENCE, TECHNOLOGY, ENGINEERING & MATH



TRACKING SOLAR TIME: SUNDIAL (6-8)

KEY CONCEPTS:

- A sundial is a chronometer (timepiece) that tells time using the shadow of a point cast by the sun on to a plate marked with the hours of the day.
- The path taken by the sun through the sky during the year is called the ecliptic.
- A gnomon is the pointer piece of the sundial. It comes from ancient Greek meaning "pole" or "indicator."
- The sundial must be oriented differently depending on the hemisphere. In the northern hemisphere, the noon marking should align with the north, while in the southern hemisphere, noon should be aligned south.





LITERACY CONNECTION:

<u>A Wrinkle in Time</u> by Madeleine L'Engle is the first in a series of books that take the reader through an adventure of both space and time.

Don't have the book? Click on the title above for a free audio version.

ACTIVITY: SUNDIAL

Materials: paper plate, pencil or stick, clay (optional), 12 rocks/paperclips, compass, clock

TIP: Don't have a compass? You can make one with a few simple items!

- 1. Choose a sunny area to set up your sundial.
- 2. Push the pencil through the <u>center</u> of the plate.
- 3. Put the stick or pencil in the ground (or in a large piece of modeling clay, if your space is on a concrete or wooden surface).
- 4. Using the compass, angle the pencil slightly north.
- 5. Visit your sundial each hour to mark the shadow's location at that time.

TIP: Use rocks, pennies or paperclips to mark each hour

EXPLORE: Do you think a sundial would work on a different planet? Calculate your 'space age' if you were on a different planet in our solar system:

Mercury \rightarrow (Your age) x 4	Venus → (Your age / 2) x 3
Mars → (Your age) / 2	Jupiter \rightarrow (Your age) / 12 (you would be a baby!)

For step-by-step instructions, watch the video at: Sundial STEM Activity

This at-home educational activity is from the Literacy Coalition of Palm Beach County's literacy-based Stories & STEM program. Stories & STEM is made possible with support from Prime Time Palm Beach County, Inc., which receives significant funding from the Children's Services Council of Palm Beach County, Inc.

Having fun? Send pictures or video links of you and your Stories & STEM projects to csharkey@literacypbc.org