

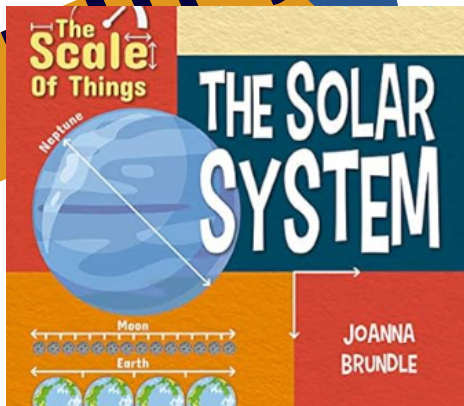
CONNECTIONS TO SCIENCE GUIDES

GEORGIA YOUTH SCIENCE & TECHNOLOGY CENTERS, INC.

THE SCALE OF THINGS: THE SOLAR SYSTEM

BY: JOANNA BRUNDLE

CAN'T FIND THE BOOK?
READ-ALOUDS ARE AVAILABLE
ON YOUTUBE.



ASK

- How big is the solar system?
- How far away are each of the objects in our solar system from the Sun?
- How can a model help us understand the scale of the solar system?
- Have you ever thought about being an aerospace engineer?

EXPLORE

TP SOLAR SYSTEM MODEL

Materials:

- One roll of toilet paper
- Markers (10 colors)
- Tape (for repairs if needed)
- A big open space

Directions:

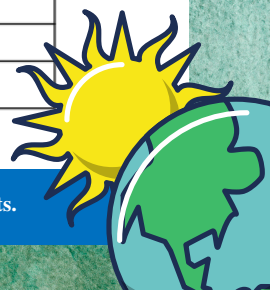
- Begin by unrolling your toilet paper a few sheets.
- Place a dot on the seam between the first two. Write Sun next to the dot.
- Using the table, mark off the distances to each of the planets. Mark each with a dot and its name. Note that the counts start from the Sun, not the previous planet.
- As you are experimenting, think about:
 - What are the strengths of this model?
 - What are the limitations of this model?

Fun Facts:

- The Solar System is roughly 4.5 billion years old.
- The Sun is 93 million miles from Earth.



| Object in the Solar System | Squares of Toilet Paper from the Sun |
|----------------------------|--------------------------------------|
| Mercury | 1.0 |
| Venus | 1.8 |
| Earth | 2.5 |
| Mars | 3.8 |
| Asteroid Belt | 7.0 |
| Jupiter | 13.2 |
| Saturn | 24.2 |
| Uranus | 48.6 |
| Neptune | 76.3 |
| Pluto | 100.0 |



EXPLAIN

MODELS OF OUR SOLAR SYSTEM

Our solar system is huge! Since the distance between the planets is so great, scientists use astronomical units (AU) to measure them. One AU is equal to the average distance between the Sun and Earth, or about 93 million miles. And, not just the distance between the planets is big - the planets also greatly vary in size. This makes it difficult to create a model that displays both distance and planet size accurately.

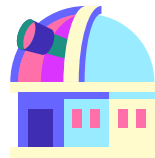


BACKGROUND

The Georgia Youth Science and Technology Centers, Inc. provides quality programs for teachers of STEM subjects that improve the teaching and learning process at the kindergarten through eighth grade levels. We present programs that change students' perceptions and inspire an appreciation for science, technology, engineering, and mathematics subjects.

EXTEND

BRASSTOWN BALD



At 4,783 feet above sea level, Brasstown Bald is the highest point in Georgia. From the observatory on the top of the mountain, stargazers can see some of the best views of the night sky in the southeast.

STEM CAREER

AEROSPACE ENGINEER

An aerospace engineer designs, builds, and tests airplanes, rockets, satellites, and spacecraft. At work, aerospace engineers can design airplane wings, build satellites to bring back information from space, and invent spacecraft for the first manned mission to Mars. If you are interested in designing, building, and testing vehicles like these, being an aerospace engineer might be for you!



ABOUT US

GYSTC, Inc.

gystc@kennesaw.edu
470-578-7592
www.gystc.org

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