

Solar System Explorer

Grade 1-5

Teacher's Guide



Lake Erie Nature & Science Center

Description

Take a guided trip through the solar system with the experts in our planetarium and explore the planets in detail. By the end students will know all about our unique solar system and its place in the galaxy and universe. This field trip can be adapted for any grade level.

Length: 60 minutes. **Adult chaperones recommended:** 1

Content Standards

Subject	Gr	Standard	Objective/"I can" Statements
Earth/Space	1	The sun is the principal source of energy.	I can identify the sun as the principal source of energy.
Earth/Space	2	The atmosphere is made up of air. Water is present in the air.	I can explain what makes up the atmosphere.
Earth/Space	3	Earth's nonliving resources have specific properties.	I can explore how air, water and rocks make Earth unique.
Earth/Space	4	The surface of Earth changes due to weathering.	I can explain how weathering affects Earth's surface.
Earth/Space	5	The solar system includes the Sun and all celestial bodies that orbit the Sun. Each planet in the solar system has unique characteristics. The Sun is one of many stars that exist in the universe.	I can explain what makes Earth unique among planets in the solar system.

Pre-Trip Activities

Read an article from Science News for Kids, a resource that provides topics and current events that include new discoveries and research related to the solar system and space and facilitate a class discussion.

Vocabulary

asteroid	orbit
atmosphere	planet
dwarf planet	probe
erosion	solar system
gravity	star
moon	weather

Books

- Earth by Adele Richardson. Capstone Press, 2008.
- Earth by Alexis Roumanis. AV², 2016.
- Earth: No Place Like Home by Joyce Markovics. Bearport Publishing, 2015.

Post-Trip Activities at School

- Lower grades: Build or draw a scale model of the solar system using everyday materials or ticker tape (pocket solar system).
- Upper grades: Choose a major planet. Plan and build a scaled model that can demonstrate the planet size and rotation orbit in relationship to the sun and the Earth. Conduct the demonstration (with explanation) to the class.

Extension Activities

Grade 1: Build a model (kit) that can collect or use solar energy (simple, small devices, such as a solar oven, solar wind chimes or solar water heating devices). Ask: What colors or materials work best? Where does the device work best? What can be done to make the device work better?

Grade 2: Use everyday materials to allow students to experiment and make their own weather instruments. The process of testing and evaluating the instrument is even more important than the resulting product.

Grade 3: Make a dichotomous key to organize different types of rocks by grain size, texture, color or patterns.

Grade 4: Research how the surface of another planet has been affected by weathering.

Grade 5: Choose a planet (other than Earth) and research and develop a plan to colonize the planet with humans. Evaluate current conditions and what would be needed to meet the basic requirements for humans to live on Mars.