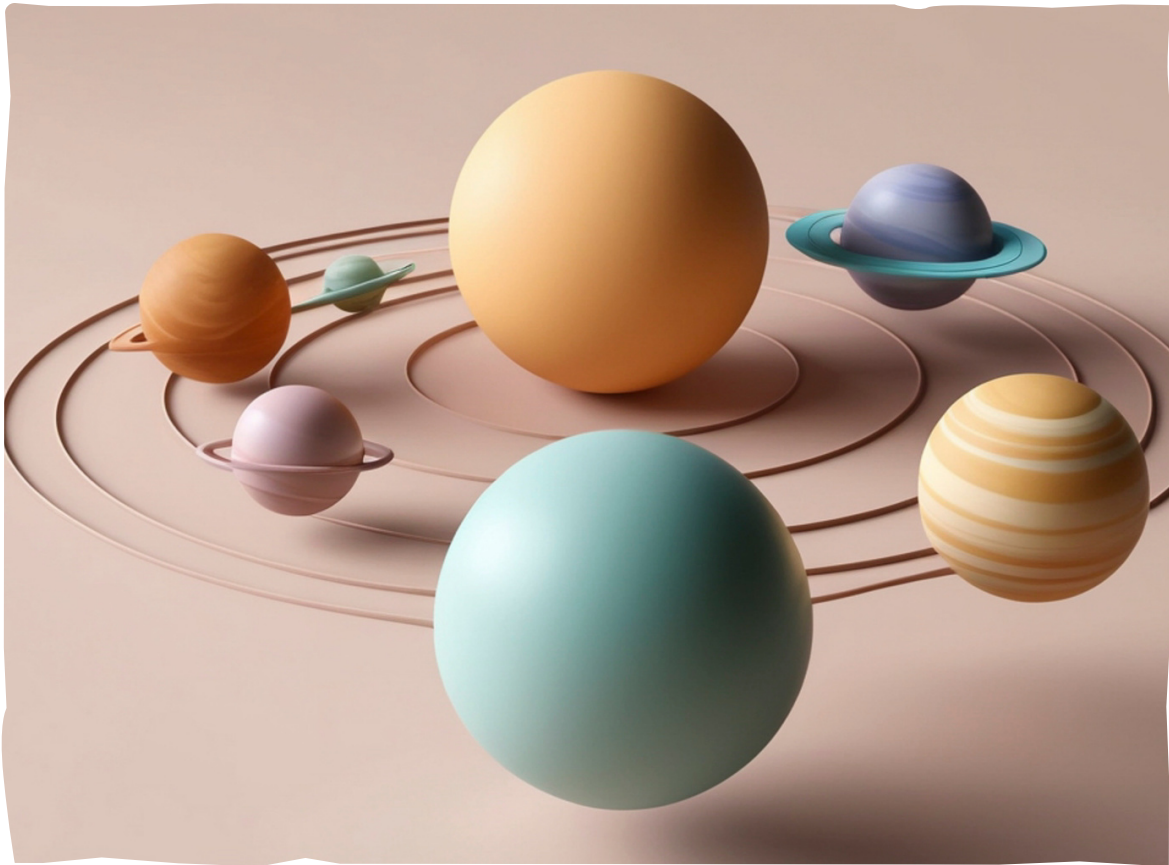


Intro to Astronomy



Mid-Valley
STEM-CTE HUB



www.midvalleystem.org
midvalleystemctehub@linnbenton.edu
Linn-Benton Community College
Albany Campus - CC-212



Intro to Astronomy

The Intro to Astronomy Kit introduces young learners to the wonders of space through hands-on exploration and play. Using an articulating Sun, Moon, and Earth model, an inflatable solar system, and solar system cards, students investigate day and night, Earth's place in space, the planets of our solar system, and basic astronomy concepts. Designed for Pre-K through 2nd grade, this kit encourages curiosity, observation, and scientific thinking while making abstract space concepts more concrete and engaging.



Grade Level

Pre-K - 2nd grade

Group Size

Suitable for Class Demo

Time Duration

20 - 45 minutes

Content of Kits

Components

- 1 Articulating Sun, Moon, Earth model
- 1 Inflatable solar system set
- 1 Handheld air pump
- 1 set of Solar system cards
- Spare AA batteries



Usage

Getting Started

1. Inventory and Inspect the Materials

Begin by unpacking the kit and confirming that all components are present, including the articulating Sun, Moon, and Earth model, inflatable planets, air pump, solar system cards, and spare batteries. Check that the model powers on properly and that all materials are in good condition before introducing them to students.

2. Inflate and Organize the Solar System

Use the included hand pump to inflate the planets and arrange them in a space large enough for students to move around safely. Consider displaying the planets in order from the Sun to help students become familiar with the layout of our solar system.

3. Explore the Sun, Moon, and Earth Model

Spend a few minutes operating the articulating model and observing how the Earth and Moon move. Familiarize yourself with how the model demonstrates concepts such as day and night, Earth's rotation, and the Moon's orbit so you can confidently guide classroom discussions.

4. Review the Solar System Cards

Sort through the solar system cards and identify how you would like students to use them. The cards can be used for matching activities, planet identification, vocabulary practice, sequencing exercises, or as visual references during lessons and investigations.

Storage

- After use, deflate the inflatable planets and fold them loosely to prevent creasing or damage. Store them together with the hand pump in the designated container to keep all solar system components organized.
- Store the solar system cards, spare batteries, and Sun, Moon, and Earth model in their designated locations within the kit. Keeping smaller items organized will make inventory and setup easier for future use.

Troubleshooting

• The Sun, Moon, and Earth Model Is Not Working

If the model does not power on, check that the batteries are installed properly and replace them with the included spare AA batteries if needed..

• Inflatable Planets Are Losing Air

If a planet appears soft or partially deflated, check that the air valve is fully closed after inflation. Add additional air with the hand pump as needed before beginning activities.



Activity Guide

Beginner

Planet Parade

Students learn the names and order of the planets by arranging the inflatable solar system in sequence from the Sun. Students practice observation, sequencing, and comparing planetary characteristics.

Oregon Science Standards

K-ESS1-1 & 1-ESS1-1

Procedure

1. Inflate and display the planets around the classroom.
2. Introduce each planet using the solar system cards.
3. Have students work together to place the planets in order from the Sun.
4. Discuss observable differences such as size, color, and position.
5. Practice naming the planets as a class.

Intermediate

Day and Night Detectives

Using the articulating Sun, Moon, and Earth model to demonstrate Earth's rotation to students, investigate how Earth's rotation creates day and night.

Oregon Science Standards

K-ESS1-1 & 1-ESS1-1

Procedure

1. Turn on the model and identify the Sun and Earth.
2. Observe how one side of Earth faces the Sun while the other side faces away.
3. Slowly rotate the Earth and discuss what happens as different areas move into sunlight and darkness.
4. Have students act out Earth's rotation by standing and turning in place.
5. Record observations through drawings or journals.

Advanced

Moon Watcher

Students observe the Moon over several days and use the Sun, Moon, and Earth model to explore why the Moon appears to change shape over time.

Oregon Science Standards

1-ESS1-1 & 2-ESS1-1

Procedure

1. Show students the Moon using the model and discuss its orbit around Earth.
2. Have students observe and draw the Moon over multiple evenings or from provided photographs.
3. Compare observations and look for patterns in the Moon's appearance.
4. Use the model to demonstrate how the positions of the Sun, Earth, and Moon affect what we see from Earth.
5. Create a class chart of Moon observations.



Learning Extensions

STEAM Connections: Science - Math

Learning Objectives:

- Identify the Sun, Earth, Moon, and major planets in our solar system.
- Describe the Sun as a star and recognize its importance to life on Earth.
- Observe and describe patterns in the sky, including day and night and changes in the Moon's appearance.
- Use models to explore how the Earth rotates and how the Moon moves around Earth.
- Compare and contrast the characteristics of different planets.
- Develop observation and questioning skills while investigating space and astronomy concepts.

Career Connections:

- **Astronomer** – Studies stars, planets, galaxies, and other objects in space.
- **Astrophysicist** – Investigates how the universe works using science and mathematics.
- **Aerospace Engineer** – Designs spacecraft, satellites, rockets, and other technologies used in space exploration.
- **Planetary Scientist** – Studies planets, moons, and other objects within our solar system.
- **Astronaut** – Conducts research and exploration missions in space.
- **Satellite Technician** – Helps build, maintain, and operate satellites used for communication and research.
- **Meteorologist** – Uses observations and technology to study Earth's atmosphere and weather patterns.
- **Space Mission Specialist** – Supports planning and operations for space missions.

Essential Employability Skills:

- **Communication**
- **Critical Thinking**
- **Collaboration**
- **Observation and Attention to Detail**
- **Problem Solving**
- **Curiosity and Initiative**





Resources and Accessibility

Safety Guidelines

- **Use Inflatable Planets Safely**

Encourage students to carry, toss, and move the inflatable planets gently. Keep the activity area clear of obstacles to prevent tripping or collisions during movement-based lessons.

- **Handle Materials With Care**

Remind students to use the Sun, Moon, and Earth model as directed and avoid pulling, twisting, or forcing moving parts. Adult supervision is recommended when inflating or deflating the planets.

Accessibility

- **Provide Multiple Ways to Learn**

Support students with visual models, hands-on exploration, verbal explanations, movement activities, and picture-based solar system cards. Offering information in multiple formats helps meet diverse learning needs.

- **Encourage Flexible Participation**

Allow students to participate in ways that match their abilities and comfort levels, such as pointing to planets, sorting cards, sharing observations verbally, drawing pictures, or helping arrange the solar system model.

Library Catalog



Library Resources



Feedback

QR to feedback survey

