FSC SINGLE VISIT PROGRAM DESCRIPTION

1104 – Tilt

Grade Level:	1st Grade	**Instructor:**	Lambert, Lancaster
Location:	Planetarium	**Type:**	Single Visit
Capacity:	350	**Length:**	45 Minutes

Program Description

Students will enjoy a demonstration of Earth's tilt using the visuals of the planetarium. Students will experience how the sun changes height in the sky and how that relates to the pattern of the seasons. When the seasons go crazy, it's up to Annie and Max to set things right. But fixing this will take something extraordinary, and a little help. Come on a whirlwind adventure as the siblings learn just how the seasons and work, and discover that sometimes, all we need is a new angle on the world.

Georgia Performance Standards Addressed

S1E1. Obtain, evaluate, and communicate weather data to identify weather patterns.

a. Represent data in tables and/or graphs to identify and describe different types of weather and the characteristics of each type.

b. Ask questions to identify forms of precipitation such as rain, snow, sleet, and hailstones as either solid (ice) or liquid (water).

d. Analyze data to identify seasonal patterns of change.

Vocabulary

Seasons, rain, snow, solid, liquid, temperature, equator, axis, energy, atmosphere

Learning Targets	Success Criteria
Students will learn how the tilt of the Earth affects temperature and seasons.	Students will be able to describe the difference between weather and climate.
Students will observe how the tilt of the Earth changes the position of the sun in the sky.	Students will be able to explain how the position of the sun in the sky affects the amount of heating on Earth's surface.
Students will connect how the position of the sun in the sky affects heating of Earth's surface.	Students will be able to describe the predictable pattern of the seasons and the unique differences of each season.

Science Cross Cutting Concepts

		
Students will observe and identify the predictable pattern of the seasons and the difference between climate and weather.	Students will explore the cause-and-effect relationships between the tilt of the Earth and cause for the seasons.	Students will observe the flow of the sun's energy and how direct the sunlight can cause more heating of the Earth.

Science and Engineering Practices

		
Students ask questions about the characteristics of the different seasons and why our experiences of the seasons differ depending on where they are located on Earth.	Students construct explanations about how the Earth has seasons and why is it not the same between the northern and southern hemispheres.	Students engage in discussions, using evidence to support claims about why the tilt of the Earth affects the temperature throughout the year.

Pre-Visit Activities

Introduce new vocabulary words.

Show students a globe so that they see the Earth is tilted. Have students model the tilt of the Earth and how different hemispheres experience different amounts of light based on the tilt.

Post-Visit Activity

Ice melting lab: Have two lamps per station. One lamp should shine directly down on the ice. The other lamp should be shining at an angle. Observe which piece of ice melts faster. Make connections between the intensity of the heat (how directly the light is shining) and how that warms the ice.

Roles & Expectations

Students

- Students are expected to be respectful, ask questions, remain engaged, and avoid distractions like cell phones.

FSC Instructor

- Prior to the program, the FSC Instructor will communicate with the classroom teacher to develop a schedule and to share the roles and expectations.

Classroom Teacher

- The Classroom Teacher is an integral part of the class, and the Classroom Teacher's attentiveness is essential to the success of the program.
- The FSC Instructor is a guest presenter; therefore the normal classroom duties and responsibilities remain with the Classroom Teacher.
- Facilitate FSC Instructor and student interactions, prompting students for participation when appropriate.
- After the program, please complete the FSC Program Evaluation Survey using the link or QR Code below.

FSC Program Evaluation Survey Link:

https://forms.office.com/r/CSCkZYqxjY