

CRM 4 Sun, Earth and Moon System**Pacing**

- 25 days
- Nov. 13-Dec. 20
- Week 12-17

DESIRED RESULTS**Making Meaning**

Concepts in the study of the Sun, Earth, and Moon System help explain many patterns of change we observe in the world around us. Students examine changes in the sky and build an understanding of the Earth and our place in the solar system. These concepts in this unit build a foundation for the study of Astronomy, Climate Change, and Environmental Sciences.

The following make meaning valuable for learners and are investigated in this unit:

- The Sun, Earth, and Moon interact in a system and are intricately interconnected. The motion of the Sun, Earth, and moon and tilt of the Earth cause observable patterns: the apparent movement of the Sun in the sky, day/night, daily and seasonal changes in the length of shadows, seasons, phases of the moon, and the movement of stars in the night sky.
- Earth is part of a broader system: the solar system, which is a small part of the Milky Way Galaxy which is one of many galaxies in the universe.
- The Sun is the major source of energy for Earth, and fuels the water cycle and weather.

Transfer: Students will observe, graph, and analyze patterns of change in both weather and objects in the sky to build an understanding of interactions among the Sun, Earth, and Moon.

Enduring Understandings:

- We can observe, describe and record objects and patterns in our sky and on Earth.

Essential Questions:

- What objects and patterns can we observe in the sky and on Earth?

Essential Vocabulary

- air / aire
- breeze / brisa
- calm / calma
- change / cambio
- cirrus/cirro
- clouds /nubs
- cloudy/nublado
- cold /frío
- cool /fresco
- cumulus/cúmulo
- dark / oscuro
- day/día
- Fall/otoño
- freezing /congelación
- hot /caliente
- light / luz
- moon / luna
- night / noche

- nimbus/nimbo
- pinwheel / rehilete
- precipitation/precipitación
- rain gauge / pulviómetro
- rainy /lluvioso
- season/estación
- sky/cielo
- spring/primavera
- stars/estrellas
- stratus/estrato
- summer/verano
- Sun/Sol
- temperature/temperature
- thermometer/termómetro
- windy/ventoso
- wind/viento
- wind sock/manga de viento
- winter/invierno

Supporting Vocabulary Link

- [Elementary School Supporting Vocabulary](#)

Student Prerequisite Knowledge

Students should know:

- Weather is what we currently observe happening in our sky with precipitation, clouds, temperature and wind.
- Weather changes from season to season.
- Patterns occur in the cycle of the seasons and day/night.
- Earth rotates causing day/night.
- Scientists observe, describe and illustrate objects in the sky: clouds, moon, Sun, and stars.

Resources: AISD Module Kit, Model Lesson Portfolio, STEMscopes , eBooks: Envisions Science Levelled Readers, Scott Foresman Text, Science Notebook Resources , Weather Whiz Kids , Tree House Weather Kids - University of Illinois Extension , Weather Coloring Pages , Science Notebook Resources , BrainPop Jr. , Discovery Education		
ELPS: Mandated by Texas Administrative Code (19 TAC §74.4), click on the link for English Language Proficiency Standards (ELPS) to support English Language Learners.		
TEKS Knowledge & Skills	Acquisition <i>Important knowledge and skills</i>	
STAAR: RC = Reporting Category; DC = Dual Coded Skills; Readiness Standard; Supporting Standard Concepts are addressed in another unit.	Students Will Know	Students Will Be Able To
1.8: Earth and space. The student knows that the natural world includes the air around us and objects in the sky. The student is expected to:		
1.8A: record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy.	<ul style="list-style-type: none"> Weather is what we currently observe happening in our sky with precipitation, clouds, temperature and wind. Thermometers measure temperature (heat energy). 	<ul style="list-style-type: none"> Measure and record daily weather and changes in weather over time to internalize content area vocabulary (temperature, precipitation, wind conditions, and cloud coverage). Graph recorded weather data and look for patterns.
1.8B: observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun.	<ul style="list-style-type: none"> Patterns of change occur in the clouds, moon, Sun, and stars. As the Earth rotates, it makes the Sun appear to move across the day sky. As the Earth revolves around the Sun, it makes the stars appear to move in the night sky. 	<ul style="list-style-type: none"> Observe and record patterns in the clouds, stars, position of the Sun in the sky, and moon with increasing specificity to fulfill content area writing needs. Describe the patterns they observe and record both orally and in pictorial/written form.
1.8C: identify characteristics of the seasons of the year and day and night.	<ul style="list-style-type: none"> Patterns occur in the cycle of the seasons and day/night. Earth rotates causing day/night. Earth revolves around the Sun at an angle, causing the seasons. 	<ul style="list-style-type: none"> Use visual, contextual, and linguistic support to investigate characteristics of the seasons. Investigate the characteristics of the day/night cycle and collect data in a T-chart to share in cooperative groups.
1.8D: demonstrate that air is all around us and observe that wind is moving air.	<ul style="list-style-type: none"> Air is all around us. Wind is moving air. 	<ul style="list-style-type: none"> Capture air in baggies. Investigate wind and wind movement with hands-on experiences.
The study of science is taught through the lens of Scientific Processes (TEKS 1.1-1.4); therefore, these TEKS should be taught in conjunction with content throughout the year. Suggestions for TEKS to embed in each unit are provided in the Yearly Itinerary; however, the TEKS that can be addressed within a unit depends greatly on the learning activities in which students are engaged. Therefore, teachers must be deliberate in their choice of learning activities to ensure that all Scientific Processes TEKS are appropriately embedded within the course. In 1st grade, districts are encouraged to facilitate laboratory and field investigations for at least 80% of instructional time.		

ASSESSMENT EVIDENCE	
Student Work Products/Assessment Evidence	
Performance Tasks	Other Evidence (i.e. unit tests, open ended exams, quiz, essay, student work samples, observations, etc.)
<ul style="list-style-type: none"> • Pictorially record daily weather for several weeks by using content vocabulary cards from a word bank. • Identify weather patterns by reading information from a class chart. • Measure and record weather patterns including temperature, rainfall, wind speed, and cloud formations. • Make a graph, and look for patterns with increasing specificity to fulfill content area writing needs. • Research characteristics and look for patterns in seasons and day/night cycles by reading information from a class chart. • Descriptive investigations of the sky, clouds, moon, stars, and Sun by using the sentence stem: The sky includes ____ . • How Can You Make a Cloud? Lab 	<ul style="list-style-type: none"> • Science Notebook • Student Discussions • Weather Charts and Graphs • Weather Calendar • Temperature Takers Student Sheet • Weather Detective Student Sheet • Cloud Foldable • Cloud Observations and Drawings • Sun/Sky Observations and Drawings • Night Sky Observations • Sun, Earth, Moon Scaled Model • Seasons Word Wheel • Types of Weather Student Sheet • Teacher Observations: Use of safety rules and equipment • Teacher Observations: management and use of tools • Tools Foldable/Web in Science Notebook • Students' use of evidence to support explanations and claims.
LESSON PLANNING TOOLS	
<p>In the course of lesson planning, it is the expectation that teachers will include whole child considerations when planning such as differentiation, special education, English language learning, dual language, gifted and talented, social emotional learning, physical activity, and wellness.</p>	
<p>Model Lesson- Observing, Measuring, and Recording Weather</p> <ul style="list-style-type: none"> • Weather & Temperature <p>Suggested Pacing: (6 days) TEKS: 1.8A, 1.8D</p>	
<p>Model Lesson- Objects in the Sky</p> <p>The Sky</p> <ul style="list-style-type: none"> • Clouds <p>Suggested Pacing: (15 days) TEKS: 1.8B</p>	
<p>Model Lesson- Observing Patterns in Day/Night and Seasons</p> <p>Patterns of Day/Night & Seasons</p> <p>Suggested Pacing: (4 days) TEKS: 1.8C</p>	