SCIENCE PARENT GUIDE – UNIT 1

IMPORTANT CONCEPTS YOUR STUDENT SHOULD KNOW AND ACTIVITIES TO DO AT HOME

Weather

Description

In this unit students will identify the basic patterns of weather while using simple instruments to measure temperature, wind, and precipitation. Students will make observations about weather and maintain a weather journal. Students will also explain weather findings through pictographs, charts, and bar graphs. After studying weather, students will observe sky conditions for each season and collect weather data for each season. Students will also illustrate the different types of clothing required for weather conditions and each season. Lastly, students will compare and contrast variation in weather patterns by seasons.

KEY WORDS TO KNOW

- Weather- The happenings in the atmosphere at a certain time. What the air outside is like.
- Season- One of four times of the year–fall, winter, spring, and summer.
- Fall-the season that follows summer.
- Weather- The happenings in the atmosphere at a certain time. What the air outside is like.
- Precipitation- rain, sleet, snow, or hail
- Cloud- The water that falls to Earth as rain, snow, sleet, or hail
- Summer- the season that comes after spring and before fall. Summer may be very dry.
- Spring- the season that comes after winter. Temperatures get warmer in spring.
- Winter- the season that comes after fall and before spring. Winter is the coldest season.
- Fall-the season that follows summer.
- Temperature- The measure of how hot or cold something is
- Thermometer- A tool that measures temperature.
- Wind vane- a tool that measures wind direction
- Rain gauge-a tool that measures the amount of precipitation that falls
- Precipitation- rain, sleet, snow, or hail
- Cloud- The water that falls to Earth as rain, snow, sleet, or hail
- Thunderstorm- a storm with rain, thunder, and lightning.
- Wind- moving air. Wind can move sailboats, kites, pinwheels, and wind vanes.
- Hurricane- A very large storm with strong winds, high ocean waves, and heavy rain.
- Tornado- a funnel-shaped, spinning cloud with strong winds. A tornado can destroy buildings.

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Recommended Children's Literature Beginning to Learn About Summer by Richard L. Allington, PH.D. and Kathleen Krull Beginning to Learn About Winter by Richard L. Allington, PH.D. and Kathleen Krull Hurricane! by Julies Archer 50 Words About Weather by David and Patricia Armentrout Wind by Ron Bacon Cloudy With a Chance of Meatballs by Judi Barrett Hurricanes by Joseph K. Brennan Magic School Bus: Inside a Hurricane by Joanna Cole Catch the Wind! All About Kites by Gail Gibbons Weather Mania by Michael A. DiSpezio	Simple Weather Experiments with Everyday Materials by Muriel Mandell I Can Be a Weather Forecaster by Claire Martin The Cloud Book by Tomie De Paola Changing Seasons by Henry Pluckrose What Will the Weather Be Like Today? by Paul Rogers Spring by Steven Schnur Weather Experiments by Vera Webster Rain by Robert Kalan The Snowy Day by Ezra Jack Keats Science in Our World: Weather by Brian Knapp Weather Forecasting by Gail Gibbons Weather Words and What They Mean by Gail Gibbons

Weather

Important Concepts Addressed in this Unit	Sample Problems	How You Can Help Your Student
Georgia Standards of Excellence **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.	1. Circle the four seasons: summer fall sunny spring holiday cold winter cloudy 2. If you wanted to know what direction the wind was blowing what weather instrument would you use? a. rain gauge b. thermometer c. wind vane	**Interactive Learning Games** • Remediation game on seasons http://www.playkidsgames.com/games/seasons/seasons.htm • Weather Dog game for vocabulary practice http://www.funbrain.com/weather/

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

c. Plan and carry out investigations on current weather conditions by observing, measuring with simple weather instruments (thermometer, wind vane, rain gauge), and recording weather data (temperature, precipitation, sky conditions, and weather events) in a periodic journal, on a calendar, and graphically.

d. Analyze data to identify seasonal patterns of change. (Clarification statement: Examples could include temperature, rainfall/snowfall, and changes to the environment.)

Science and Engineering Practices

- Obtain, evaluate and communicate information.
- Plan and carry out investigations
- Ask questions
- Analyze and interpret data

Crosscutting Concepts

- Patterns
- Stability and change

Core Idea

- Weather

3. Pretend you are a meteorologist. You need to measure the temperature outside. What type of weather instrument would you use?

a. rain gauge
b. thermometer
c. wind vane

4. Using the weather data below, create a graph which displays the information.

5. Using the information in the picture below, write a claim about what clothing people should wear on Saturday. Afterwards, write a sentence that supports your claim.

- Weather Transformer http://pbskids.org/catinthehat/games/weather-transformer.html
- Weather Wheel http://pbskids.org/sid/weatherwheel.html
- NASA's Climate Kids http://climatekids.nasa.gov/menu/play/
- Additional Weather Games and Activities https://learnenglishkids.britishcouncil.org/en/category/topics/weather

Videos

Brainpop: Weather
https://www.brainpop.com/science/weather/weather/
Brainpop: Temperature
https://www.brainpop.com/science/energy/temperature/
Brainpop: Seasons
https://www.brainpop.com/science/earthsystem/seasons/

Online Text

STEMScopes: Watching the Weather
https://cdn.acceleratelearning.com/system/element_files/contents/64887/original/GA_1E1C_ELABORATE_InvestigatingWeather_ReadingScience.pdf?1492621836?iAVY2WG_85VEip-tKneSFjrUHIzU1h5J29DRsCAR9F2UGhD2FGWYXhvlBS_ihr6B

STEMScopes: Our Earth
https://cdn.acceleratelearning.com/system/element_files/contents/64878/original/GA_1E1AB_ELABORATE_TypesofWeather_ReadingScience.pdf?1492621672?My8

		aGKGa2-i0a92zMlll5KaAuUKWnTjWi8fkHQT88-DT5eDq0WZdPOuHRNfuQA1K Science A-Z: The Weather https://www.sciencea-z.com/main/MaterialDetail/material_id/352

CHANGES TO SCIENCE STANDARDS: Students are expected to perform the practices while learning the content and understanding the crosscutting concepts.

Science and Engineering Practices

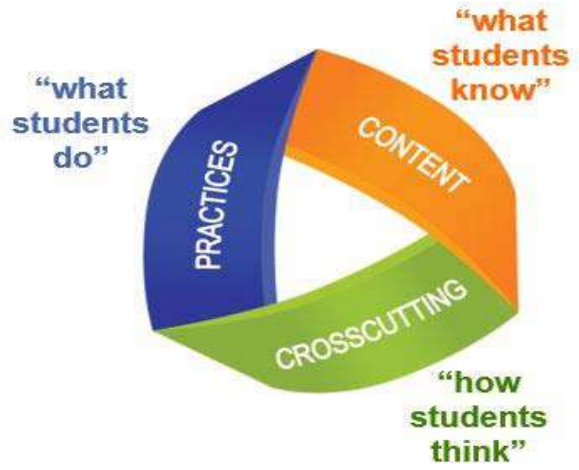
Students can use their understanding to investigate the natural world through the practices of science inquiry, or solve meaningful problems through the practices of engineering design.

Crosscutting Concepts

Provide students with connections and intellectual tools that are related across the differing areas of disciplinary content and can enrich their application of practices and their understanding of core ideas

Core Ideas

Core ideas cover the four domains: physical sciences, earth and space sciences, life science, and engineering and technology.



Quoted text from Peter A'Hearn