THEMATIC UNIT

ED 2510

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TOPIC: Weather GRADE: Second Grade

1. STANDARDS**: New York State P-12 Common Core Learning Standards for English Language Arts & Literacy**
* Reading Standards for Informational Text Grades K-5
	+ 4. Determine the meaning of words and phrases in a text

relevant to a grade 2 topic or subject area.

* + 5. Know and use various text features (e.g., captions, bold print,

subheadings, glossaries, indexes, electronic menus, icons) to

locate key facts or information in a text efficiently.

* + 9. Compare and contrast the most important points presented

by two texts on the same topic.

* Writing Standards K-5
	+ 7. Participate in shared research and writing projects (e.g.,

read a number of books on a single topic to produce a

report; record science observations).

 **New York State Elementary Science Core Curriculum Standards for K-4**

* Performance Indicator 2.1: Describe the relationship among air, water, and land on Earth
	+ 2.1a Weather is the condition of the outside air at a particular moment.
	+ 2.1b Weather can be described and measured by:

• temperature

• wind speed and direction

• form and amount of precipitation

• general sky conditions (cloudy, sunny, partly cloudy)

* + 2.1e Extreme natural events (floods, fires, earthquakes, volcanic eruptions, hurricanes, tornadoes, and other severe storms) may have positive or negative impacts on living things.
1. TEXT SET:
* *The Magic School Bus Kicks Up A Storm: A Book About Weather* by Nancy White, Joanna Cole, and Bruce Degen
	+ In this book, students will go on a fun adventure with the magic school bus and learn lots of interesting facts about wind, thunderstorms, snow, and lightning.
* *The Best Book of Weather* by Simon Adams
	+ This book provides interesting facts on topics ranging from the power of the sun to the changing seasons, climate and even horrible events like hurricanes. This book is packed with solid information but is written at an age friendly level.
* *Weather* by DK Publishing
	+ This book uses powerful visuals to discuss the power and beauty of the weather. This book discusses violent hurricanes and electric storms to baking sunshine and torrential rain.
* *Weather* by Alice K. Flanagan
	+ This book is a great introduction to different types of weather. It has lots of useful vocabulary words and a glossary at the end.
* *Weather* by Kate Walker
	+ This book gets into the science of weather with great tier 3 words and definitions.
* *Oh Say Can You Say What’s the Weather Today?: All About Weather* by Tish Rabe
	+ In this book, the Cat and company travel by hot air balloon up into various weather phenomena including rain, snow, thunder, tornadoes, and hurricanes. Along the way they learn about thermometers, anemometers, wind vanes, cloud formations, humidity, fog, smog, weather folklore, and how to stay safe in lightning.
* *The Snowy Day* by Ezra Jack Keats
	+ This book is the story of Peter and how he spends the day exploring his neighborhood after the first snowfall of the season.
* *Rain School* by James Rumford
	+ This book is the story of a group of students in Chad who work hard to build a school for them to learn in. As they finish building, summer comes bringing torrential rain that destroys the school. But, the children leave knowing that they will build their school again.
* *Bartholomew and the Oobleck* by Dr. Seuss
	+ This book is the story of a King who is tired of the same precipitation falling from the sky, so he ask his magicians to create something new. They say they will and that it will be called Oobleck. The next morning the pageboy, Bartholomew Cubbins, sees the Oobleck falling from the sky, causing problems all over the place. He tries to stop it as best as he can, but it is only when he gets King Derwin to take responsibility and apologize that the Oobleck stops falling.
* *Cloudy with a Chance of Meatballs* by Judi Barrett
	+ This book is the story of a city called Chewandswallow where the precipitation is food! Everything is great until the food begins to grow in size and cause problems for everyone.
* *Come On, Rain!* by Karen Hesse
	+ This book follows a young girl named Tess who pleads with the sky for rain because all of the plants are dying from the hot summer drought.
* *Blizzard!: The Storm that Changed America* by Jim Murphy
	+ This book tells the story of a blizzard that struck New York City in 1888 causing the entire city to shut down under 21 inches of snow.
1. TECHNOLOGY RESOURCES:
* I will use the website *Weather Wiz Kids* to allow for additional exploration of the weather. This website offers information about all kinds of weather, news headlines about the weather, jokes, games, experiments, review questions and career info for student who are really interested in weather.
* Another website I will use is *NASA’s Climate Kids* website. This website offers news articles, games, projects, videos, and informational articles about the weather and climate. It is user friendly and would appeal to a second grader.
* Another website I will use is *Science Kids*. This website is useful for students, teachers, and parents as it offers experiments, games, quizzes, facts, projects, lessons, videos, and topics.
* An interactive website I will use is called *Interactive Weather Maker.* IN this online game, students can control all the aspects of the weather and watch the changes that take place as they adjust certain factors.

I will introduce these websites to my students as additional resources that they can use when learning about the weather. I will also have a day where we either go to the computer lab or bring laptops into the classroom so that all of my students have a chance to explore these websites. The students will have the opportunity to use these websites to help them complete their projects.

1. WORD WALLS:
* **Air temperature**: a measure of the amount of heat in the air
* **Autumn**: the season of the year that occurs after summer and before winter. Autumn officially begins in late September.
* **Cirrus clouds**: thin, wispy clouds that form high in the atmosphere
* **Cumulus clouds**: fluffy, mid-level clouds that develop in towering shapes and signal fair weather.
* **Cumulonimbus:** a dense and vertically developed cloud that produces thunderstorms. The cloud can bring heavy showers, hail, lightning, high winds and sometimes tornadoes.
* **Earthquake**: the shaking or movement of a portion of the Earth's surface.
* **Equator**: an imaginary line around the middle of the Earth
* **Erosion**: breaking up and wearing away of Earth’s surface by natural forces, such as water or weather.
* **Flash flood**: sudden flooding that occurs when floodwaters rise quickly with no warning within several hours of an intense rain. They often occur after intense rainfall from slow moving thunderstorms.
* **Flood**: results from days of heavy rain and/or melting snows, when rivers rise and go over their banks.
* **Fossil fuels**: fuels that are burned to run cars and power plants
* **Frostbite**: happens when you have excessive exposure to extremely cold weather. It usually affects the toes, fingers, ears, and tip of the nose.
* **Humidity**: the amount of water vapor in the air
* **Hurricane**: a windy, spiraling storm that forms over the ocean
* **Imaginary**: not real
* **Meteorologist**: a scientist who studies and predicts the weather
* **Precipitation**: general name for water in any form falling from clouds. This includes rain, drizzle, hail, snow and sleet. Although, dew, frost and fog are not considered to be precipitation.
* **Rain gauge**: instrument that measures how much rain has fallen
* **Spring**: the season between winter and summer. Spring officially begins in late March and lasts until late June.
* **Stratus clouds**: low-lying, gray and sheet-like clouds that often produce drizzle.
* **Summer**: the warmest season of the year. Summer officially begins in late June and last until late September.
* **Thermometer**: instrument that measures how warm or cool something is
* **Thunder**: the explosive sound of air expanding as it is heated by lightning.
* **Tornado**: a windy, whirling cloud shaped like a funnel. Tornadoes form over land.
* **Troposphere**: a band of air around the Earth that reaches 9 miles into the sky
* **Water vapor**: water that has changed into an invisible gas in air
* **Weather**: describes the condition of the air at a particular time and place. Weather also tells how the air moves (wind) and describes anything it might be carrying such as rain, snow or clouds.
* **Wind gauge**: instrument that measures wind speed
* **Winter**: the coldest season of the year. Winter officially begins in late December to late March.

These words will be introduced through our readings and website explorations. To teach certain words like thermometer for example, I would have students actually use a thermometer. This way, they will grasp a better understanding of what a thermometer is and what they do. These words will most likely be common in student writing, so that is why I have chosen to include them on the word wall.

1. LEARNING LOGS:
* Which is your favorite of the four seasons and why? What do you do during the season that makes it so special to you?
* In other parts of the world, the seasons can be a lot different. Write a story in which you explain to a foreign exchange student how the four seasons are in your town.
* Draw a picture of a tornado and write about it and the destruction it can cause
* Write an acrostic poem about the weather. Start each line with a letter from the word "weather."
* Choose a type of cloud. Draw what that cloud looks like and name some characteristics of that type of cloud.
* Write down 3-5 wonders you have about the weather
* During the winter, it can get so cold outside that without a coat you can get sick. What are some of the things that can happen if you don't protect yourself from the temperature? What are extra precautions you can take to be warm during the winter?
* If you could choose one type of weather for the rest of your life, what would it be? How would your choice effect your life and your environment?
* Tell what a meteorologist does. Name some tools a meteorologist uses to do his/or her job.
* Write a story in which weather plays an important role in the plot.
* Record weather observations on a daily basis.
* Write five things about hurricanes.
* Write about your favorite or most scary weather experience.
1. DIFFERENTIATION:
* For my ENL students, I will focus on the essential content I am trying to teach, so as not to bog the students down with unimportant information that may distract from the content. I will emphasize the main points as I read and make sure my students understand what the important information is.
* For my behavior and emotionally disturbed students, I will make sure all of my directions are clear and that I repeat multi-step directions multiple times.
* For my gifted students, I will encourage them to work in literature circles to discuss and further their understanding of weather. I will provide them with higher order thinking discussion questions if necessary.
* For my visually impaired students, I will be sure that all of the important information is also stated out loud so they can hear it.
1. PROJECTS: Students can choose from this list of projects to complete in groups or individually.
* **Local Newspaper Weather Page**- Students will work in groups to create a newspaper weather page for their local newspaper. They will create a poster with all of their information to present to the class.
* **Weather in History**- Students will research historical weather events, and locate as much factual text, picture, video and audio material as possible. They will create a presentation that discusses the details of the actual weather event. Then, individually they will write 3-5 journal entries as if they were experiencing the event themselves.
* **My Favorite Weather-** Students will choose a type of weather (rain, snow, hail, tornado, hurricane, earthquake, etc.) and research their choice. They will create a poster board with all of their information to share at a family literacy in science night.
* **Act it Out**- Students will write the script of a short skit where weather plays an important role in the plot. Students will act out this play for the class.
* **Sing a Song**- Students will write a song about the weather or a specific type of weather and perform it for the class.
* **You Be the Meteorologist-** Have students create a weather report and props to perform a weather segment from a news broadcast, similar to what they have seen on television.
1. **ASSESSNMENT:**
* My assessment of student learning will come from the student responses to the writing prompts and their projects. The writing prompts all call for an understanding of weather and types of weather. I will be able to tell their level of understanding from the amount and accuracy of detail the students include in their writing. I will be able to asses student understanding from their projects based on the information they include in their presentations.