Data Integration - Weather and Extreme Weather

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Data source:

Weather Underground - Comparing weather past and present
https://www.wunderground.com/history/daily/us/ar/little-rock/KLIT/date/1969-10-26

This source has multiple links to websites that give furthur in depth information on tornadoes, winter storms, hurricanes. It also has experiments, vocabulary, photos and many more.
http://www.weatherwizkids.com/weather-hurricane.htm

Lesson Enhancement:

I plan on teaching a unit lesson on weather. My students are required to learn about the different types of weather. Most of my students are quick learners so I like to push them and present them with information that is more in depth.. I will also be covering extreme weather and their causes in the same unit. The information from Wunderground will be a great way to compare and contrast the weather from different months and years to show the students how the weather is similar during the same time throughout the year.

This data will enhance my lesson by sparking my student's interest. Wunderground will be used to show my students how the weather changes from season to season. We will compare the weather in different states at different times of the year and compare them to the weather in Houston, Texas.

Personally I feel by incorporating this data into the lesson will give the students real world data on a subject that is being presented to them. Students will be able to see how the information is relevant to their lives and to their education. Its gives students a visual representation of what is being taught, this helps keep each different learner engaged in the lesson. Depending on the data being presented it can be interactive and not just looking at a picture. Data should be used more when presenting new information to the students especially with science. Using this data changes how I teach because I can give real world examples to what I am teaching and pull data from dates and times when I was growing up to share stories and how things have changed regarding weather from when I was younger to the present.

New objectives that can be addressed:

Math: Graphs and how to interpret the information on the graphs
Social Studies: Timelines and past, present, future
Reading: compare and contrast, fact or fiction

Track the path of past hurricanes -
https://coast.noaa.gov/hurricanes/

Past tornadoes - used to talk about tornado alley
http://www.tornadohistoryproject.com/
https://www.ustornadoes.com/sitemap/

Wildfires -
https://www.fireweatheravalanche.org/fire/

Interdisciplinary context: How can the data be used to create interdisciplinary lessons, discussions or activities in your classroom. How can you connect to multiple content areas?

I will tie the information into math by creating graphs out of the material that is presented on the topic. Bar graphs can be used for the lower elementary grades and they can compare the data from one month, or year to the next to see how the weather changes. This will give a visual representation on how weather has changed throughout the years or months. Circle graphs can be used to compare which type of weather happens most frequently. The different types of weather can be connected to social studies by talking about the different regions throughout the world and how the people that live in those regions have adapted to the weather. History: Weather can also be tied into history and how major weather catastrophes have changed the world. Reading: Hurricane Heros - Read this book as a class and use it as a way to lead students into writing a compare and contrast paper about this hurricane and Hurricane Harvey.

Examples of books to use

- Extreme Weather: Surviving Tornadoes, Sandstorms, Hailstorms, Blizzards, Hurricanes, and More!
- Flood
- National Geographic Readers: Storms!
- Extreme Weather Systems
- National Geographic Kids Everything Weather: Facts, Photos, and Fun that Will Blow You Away
- The Everything KIDS' Weather Book: From Tornadoes to Snowstorms, Puzzles, Games, and Facts That Make Weather for Kids Fun!
- Hurricane Heroes in Texas (Magic Tree House Series #30)
    - Read this book as a class and have the students compare and contrast the differences between this hurricane and hurricane Harvey (All of my students experienced this hurricane in one way or another)

STEM

Weather is a great unit to tie into STEM. With the "E" in STEM the students can create different structures that can withstand the different types of weather for example: hurricanes, tornadoes, typhoons, and extreme winds. A blow dryer can be used to replicate the wind and a large tub can be used that has water in it to represent various water levels and its impact on

structures. The students will have to go through different trials to build a successful structure. Students will research dates when a weather catastrophe took place , when it took place, and how the weather began to change. Use this information to help construct the structure to withstand the different types of weather.

With the “T” in STEM there are so many different websites that can be used. Below I have included links to different games for the students to either play on their own or as a whole group. The weather channel website can simply be used to look up the weather for the day and students can take turns being the meteorologist for the classroom and presenting the weather for the day. The data can be used for the students to pick a day in the past (their birthday) and each student will have to gather in information about the weather and present to the class what the weather was like.

This website allows for the student or teacher to go back and forth to different times to see how the weather has changed and is predicted to change in the future.

https://climatekids.nasa.gov/time-machine/

This website is a multiplayer game where students have to answer weather questions

https://scijinks.gov/wild-weather-adventure/

This website gives information on hurricanes and show a video on satellite imagery during hurricane katrina

https://scijinks.gov/hurricane/

This website the students have to read the weather report and label the different cities on the map using the correct symbol for that type of weather.

https://www.turtlediary.com/game/weather-report.html

With the “M” in STEM different types of graphs are an easy and fun way to compare the weather throughout different years, months, and seasons. Teaching the students how to read a thermometer in both celcius and farenheit will allow the students to read a thermometer on their own.

Resources:

Examining United States tornadoes... past, present and future. (n.d.). Retrieved March 8, 2019, from https://www.ustornadoes.com/

Home | NOAA SciJinks – All About Weather. (n.d.). Retrieved March 8, 2019, from https://scijinks.gov/

Little Rock, AR History | Weather Underground. (2019). Retrieved from https://www.wunderground.com/history/daily/us/ar/little-rock/KLIT/date/1969-10-26

NASA. (n.d.). Retrieved March 8, 2019, from https://climatekids.nasa.gov/time-machine/

NOAA Office for Coastal Management. (n.d.). Retrieved March 08, 2019, from https://coast.noaa.gov/

TornadoHistoryProject.com. (n.d.). Retrieved March 8, 2019, from http://www.tornadohistoryproject.com/

U.S. Wildfire Map - Wildfire, Forest Fire, and Lightning Map for the Western United States | Fire, Weather & Avalanche Center. (n.d.). Retrieved March 8, 2019, from https://www.fireweatheravalanche.org/fire/

Weather Report. (n.d.). Retrieved March 8, 2019, from https://www.turtlediary.com/

Weather Wiz Kids. (n.d.). Retrieved March 10, 2019, from http://www.weatherwizkids.com/