

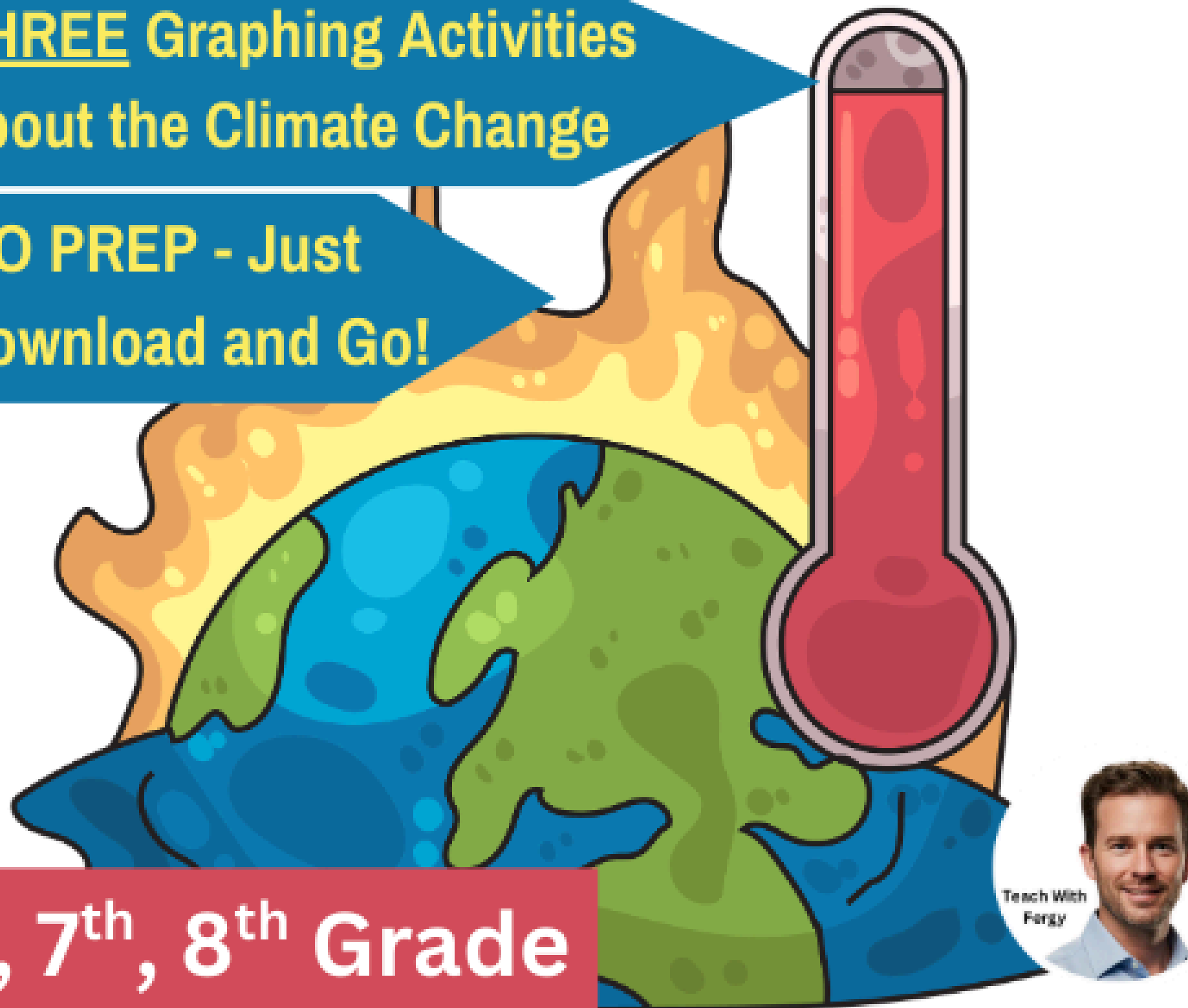
Climate Change & Long-Term Trends Graphing Labs Middle School

- THREE Graphing Activities about the Climate Change
- NO PREP - Just download and Go!

Students use Real World Data to create different graphs and answer climate change-related questions

SCROLL
to take a look inside!

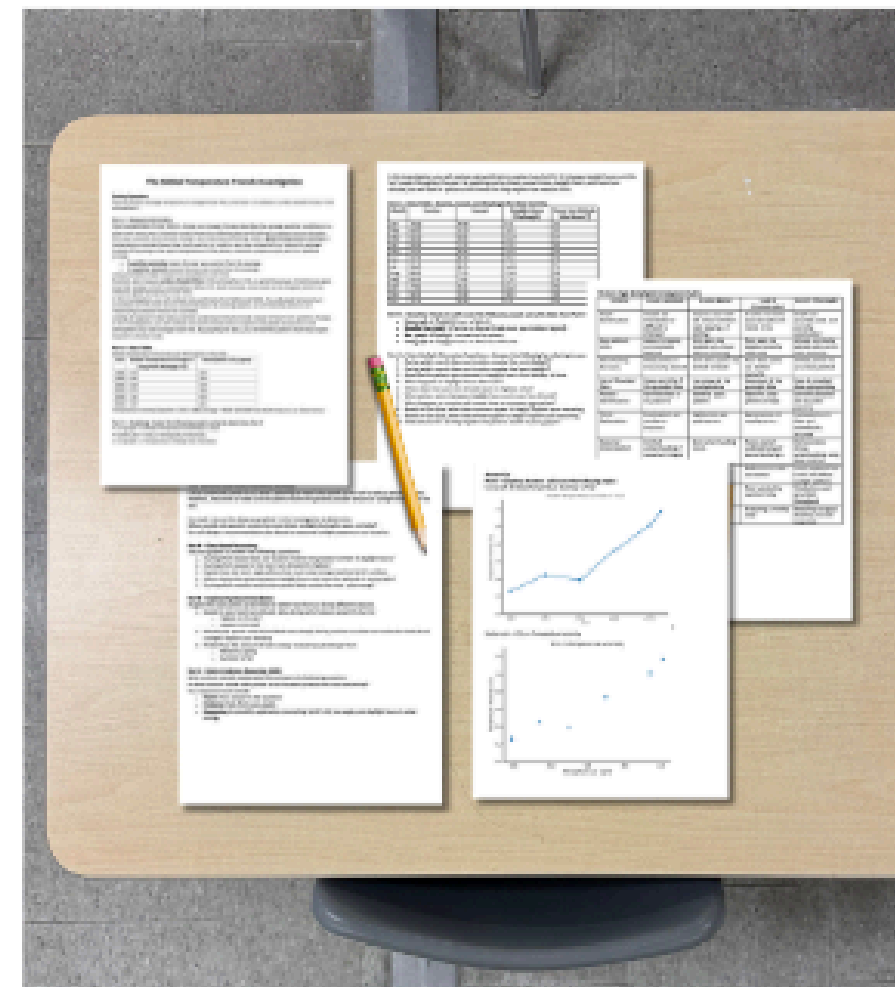
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HOW THESE ACTIVITIES HELP YOU

- **Saves Prep Time** - Everything is pre-made, ready to go, and fully editable.
- **Provides Built-In Assessments** - The rubric let you quickly check for understanding.
- **Encourages evidence-based reasoning** by having students use graphs to explain how and why trends and changes occur

GLOBAL TEMPERATURE TRENDS INVESTIGATION

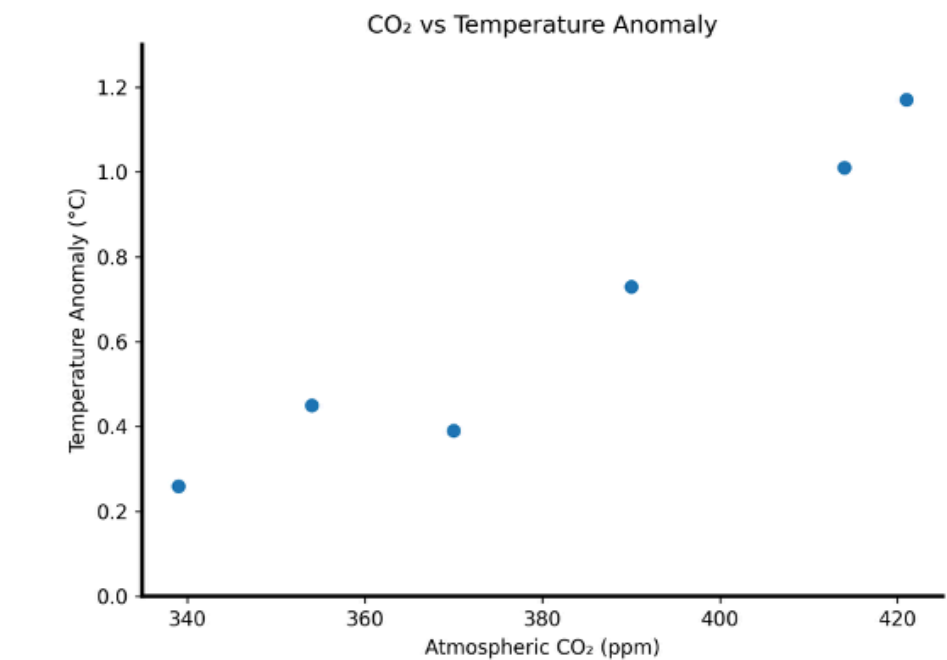
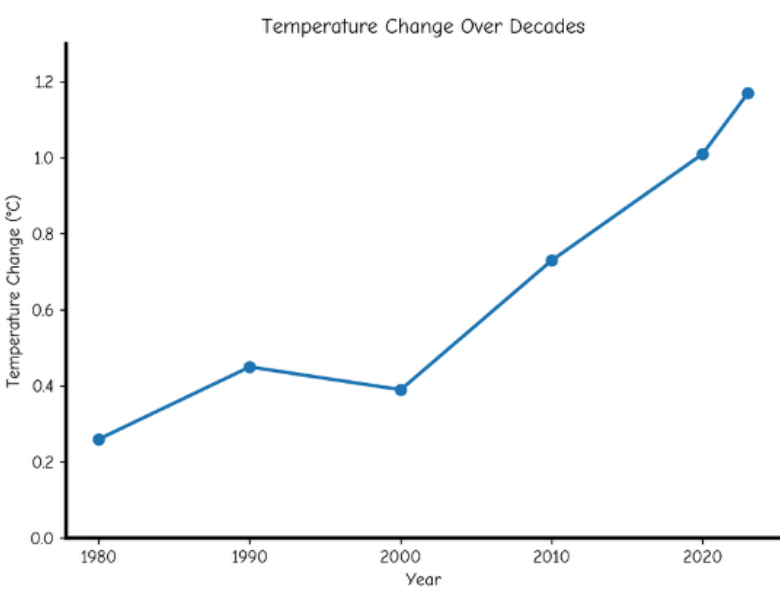
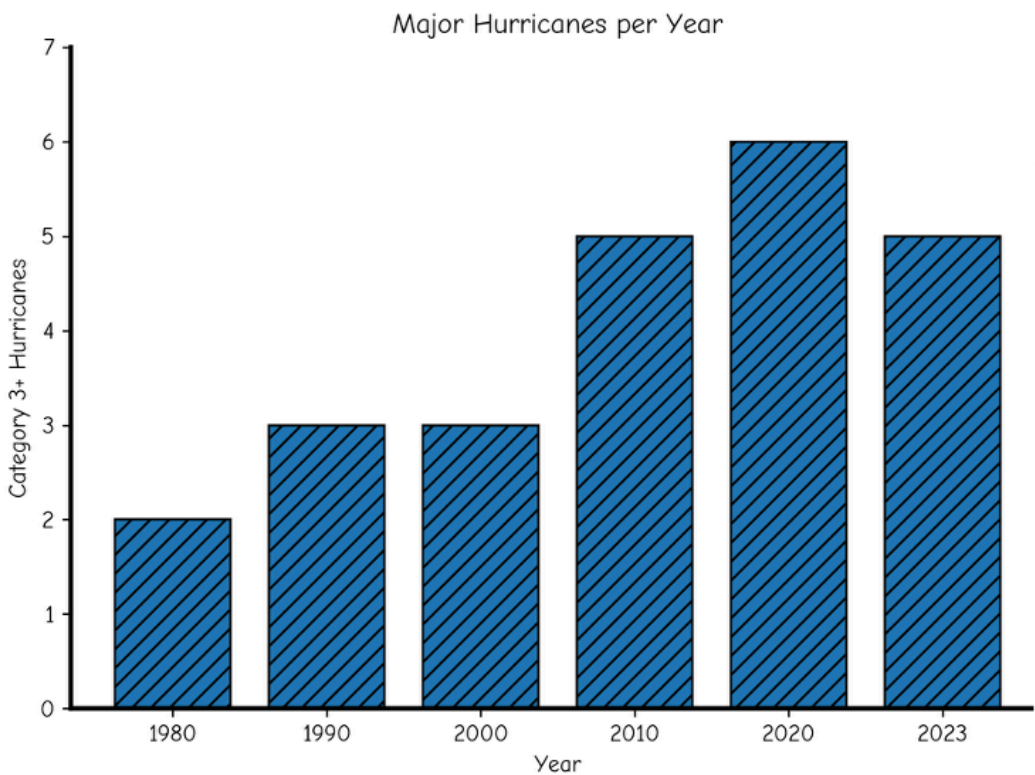


- Background Reading
- Climate Change Data Tables
- Students Create Different Graph Types
- Extension Activity
- Full Marking Rubric

NO PREP or Materials

- Three Climate Change science investigations that use real-world data for students to graph and analyze
- Multiple graphing tasks (line graphs, bar graphs, scatter plots) with data tables and analysis questions
- Complete teacher supports including answer keys, discussion questions, and extension activities with rubrics

What You Get



Extreme Weather Patterns Investigation

Driving Question:
How are rising global temperatures connected to changes in extreme weather patterns?

Part 1 – Background Reading
Over long periods of time, Earth's climate can change. Scientists study long-term climate patterns to understand how temperature influences weather events.

Extreme weather refers to unusual, severe, or rare weather events such as hurricanes, wildfires, heatwaves, floods, and droughts. While weather describes short-term atmospheric conditions, climate refers to long-term patterns over decades.

Scientists have observed changes in certain types of extreme weather over the past several decades. For example:

- The number of major hurricanes has increased in some time periods.
- Wildfire seasons have become longer in many regions.
- The total area burned by wildfires has increased.

Warmer global temperatures can influence extreme weather in several ways:

- Warmer ocean water provides more energy for hurricanes.
- Hotter and drier conditions increase wildfire risk.
- Higher temperatures increase evaporation, which can intensify storms.

In this investigation, you will analyze real-world data to explore how extreme weather patterns have changed over time. You will graph hurricane frequency, wildfire acreage, and compare temperature trends with extreme weather events.

By identifying patterns in the data, you will explore how rising temperatures may influence the frequency and intensity of extreme weather.

Part 2 – Data Table
Extreme Weather and Temperature Data (United States Trends)

Year	Global Temp Anomaly (°C)	Major Hurricanes (Category 3+)	Wildfire Acreage Burned (million acres)
1980	0.26	2	2.9
1990	0.45	3	4.6
2000	0.39	3	7.4
2010	0.73	5	10.1
2020	1.01	6	10.3
2023	1.17	5	8.8

Data compiled from NOAA Hurricane Database (HURDAT2), National Interagency Fire Center (NIFC), and NASA GISTEMP. Data includes the most recent complete year available at time of publication.

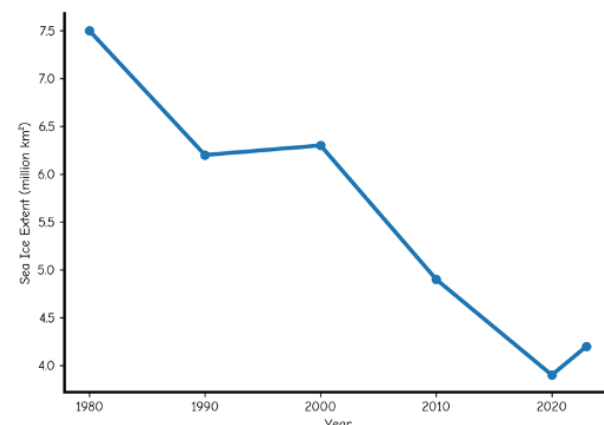
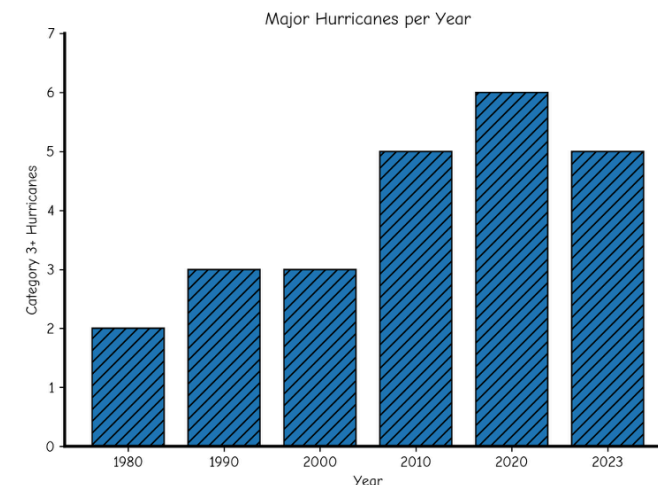
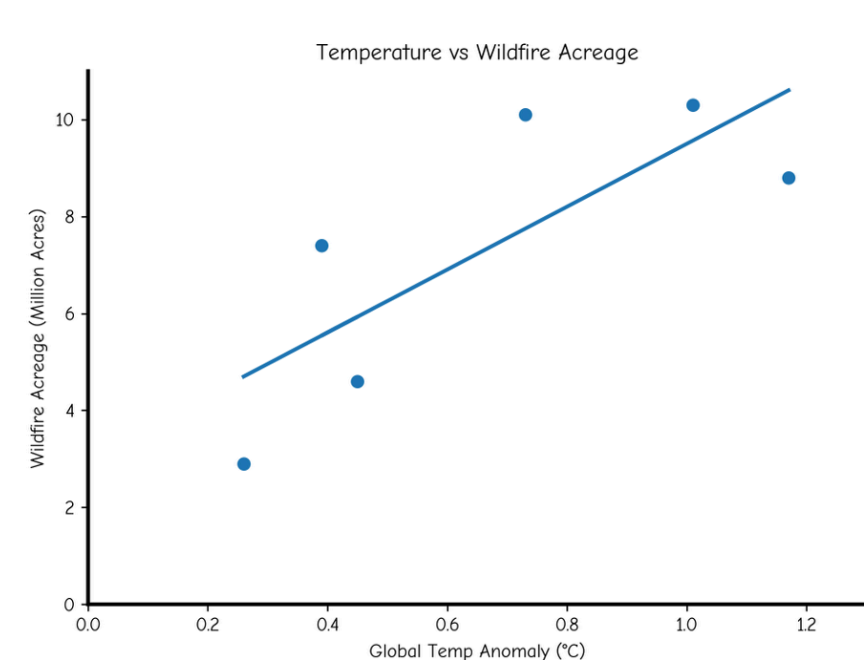
What Will Your Students Learn?

- ✓ Helps students build **graphing and data analysis skills** using real-world climate environmental data
- ✓ **Supports NGSS Science & Engineering Practices** through analyzing patterns and relationships in data
- ✓ Connects Earth science concepts (like sea level, extreme weather patterns, and forest fires) to real climate change data
- ✓ Encourages evidence-based reasoning by having students use graphs to explain how and why climate change occurs

Part 2 – Data Table

Arctic Sea Ice, Global Sea Level, and Temperature Data

Year	Global Temp Anomaly (°C)	Arctic Sea Ice Extent (million km ² , September minimum)	Global Sea Level Rise (mm above 1993 level)
1980	0.26	7.5	—
1990	0.45	6.2	—
2000	0.39	6.3	20
2010	0.73	4.9	48
2020	1.01	3.9	87
2023	1.17	4.2	101

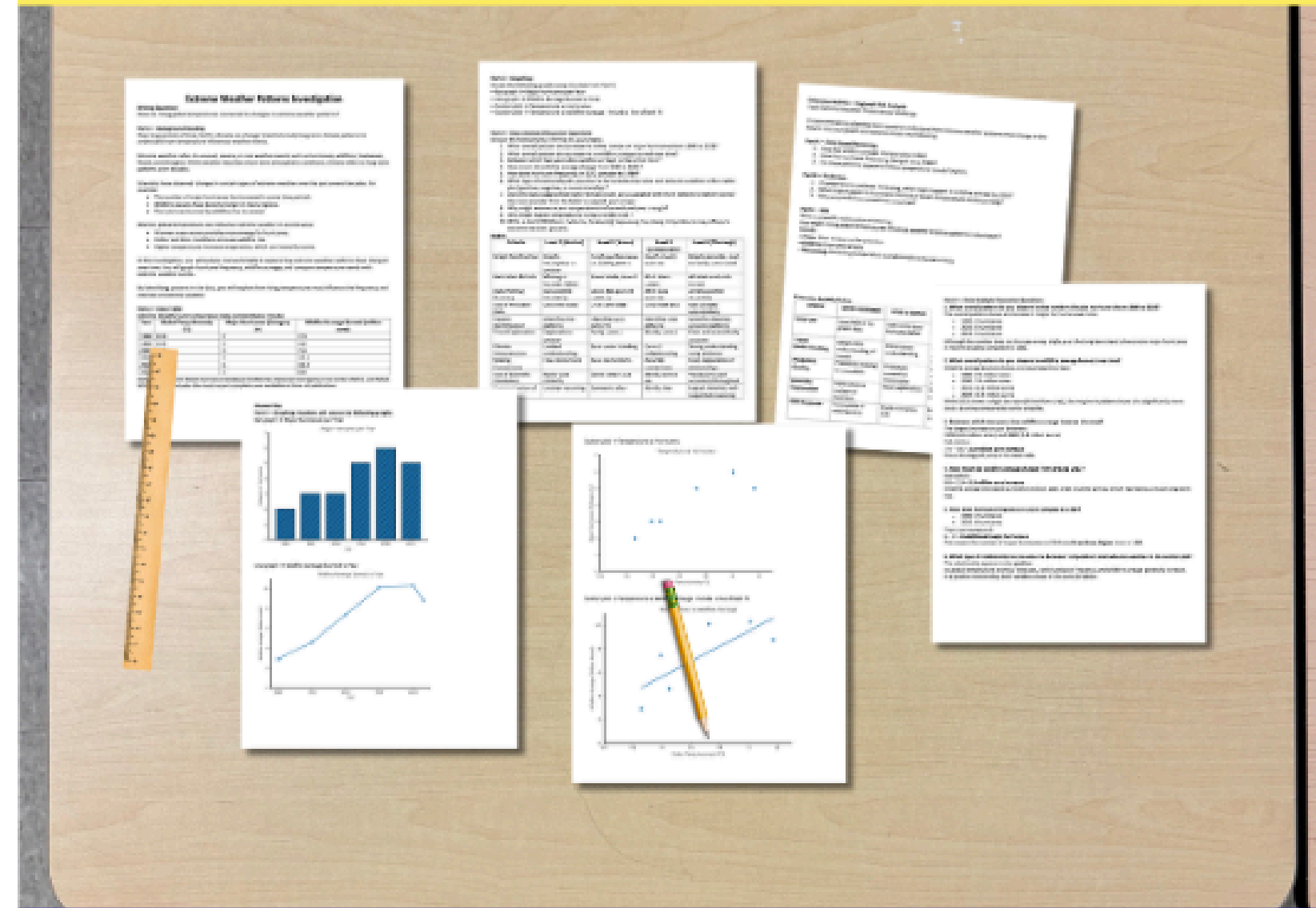


Your Activities

- Include a background reading for student understanding
- **DIGITAL** and **PRINT** ready
- Fully editable
- Extension activities for early finishers
- Complete Answer Key



EXTREME WEATHER PATTERNS INVESTIGATION



Students Create Different Types of Graphs Based on Real World Climate Data

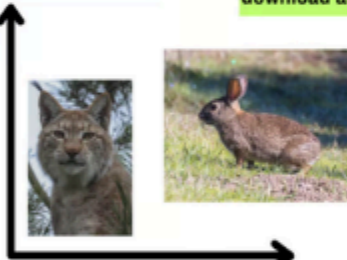
Middle School Science Graphing & Data Analysis Bundle

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THREE Graphing Activities

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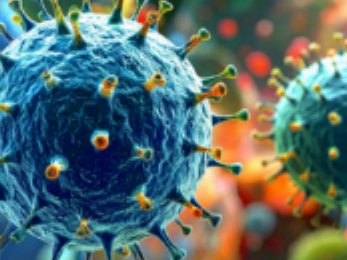


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Disease Spread & Public Health Data Bundle Middle School

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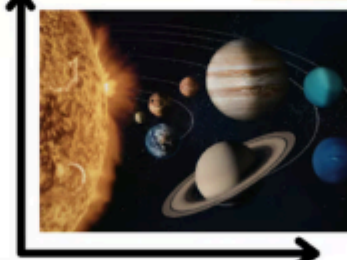


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Space Data Investigation Bundle: Planet Motion, Moon Phases, and Stars - Middle School

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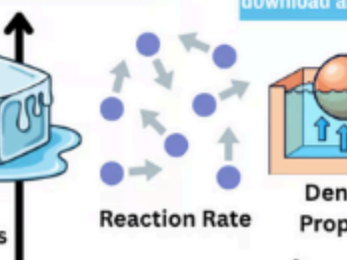


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Matter & Chemical Change Data Graphing Bundle Middle School

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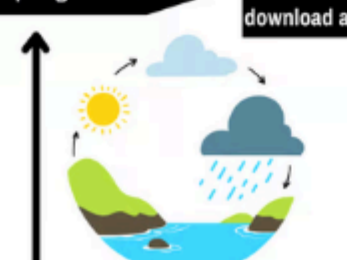


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Water Cycle Data Graphing Bundle Middle School

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Energy Transfer & Heat Graphing Bundle Middle School

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Climate Change & Long Term Trends Graphing Bundle Middle School

THREE Graphing Activities about the Climate Change

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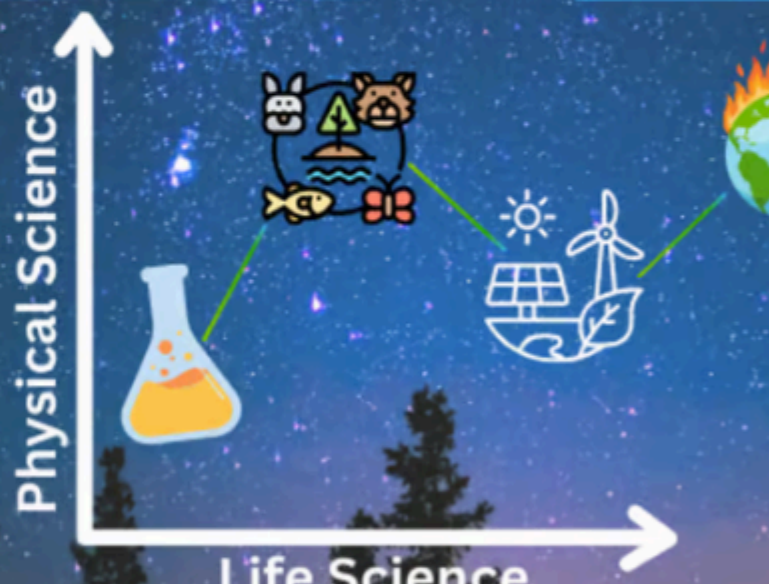


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Middle School Science Graphing & Data Analysis Mega Bundle

Graphing Activities Across ALL TOPICS

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in this resource!**

I am a real person and if
you have any questions,
suggestions, or concerns,
please reach out.



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*Let's
Connect!*

