

WEATHER RATS ELEMENTARY CURRICULUM TOPICS

Technology/Engineering

1. Design process, building and designing instruments, using technology.
2. How do instruments work? Instrument performance and characteristics. Build and use hand-made weather instruments, compare characteristics and performance to Davis weather station. Research other types of weather instrument technology, compare to Davis and hand-made tools.
3. Technology as a tool, instrumentation design, quality assurance and control. How does the Davis station work? What are its component pieces? How do we know it is accurate?
4. How and why do we measure? Fahrenheit vs. Celsius

Local

1. What is climate? Local climate study: students design climate measurement data collection strategies (school day, 24 hr., weekly, etc.) and compare data.
2. Weather where you are: biometeorology. The Misery Index: students design and use a personal comfort index for a particular season.
3. Decision-making: Recess advisory: will recess be indoor or outdoor? Students can advise principal as to what decision to make and be ready to support their decisions with data.
4. Morning weather report.

Global

1. We Live in Air: comparing weather and its impact on different economies, cultures, diversity within CASA network. Look at Jet Stream and its effect on weather in the Weather RATS areas. Look for connections between RATS areas based on Jet Stream and water and wind currents.
2. Connect the dots: tornadoes, hurricanes, and floods in the CASA states: where does the weather go, and what does it do in different places?
3. Impact of weather on ecosystems: the water cycle. Where does the water go? Compare water cycle in Arizona vs. Puerto Rico (drought vs. flooding).

Hazards and Human Impacts: Hurricanes, Tornadoes, and Floods

1. Connect the dots: anatomy of a natural disaster – how and why these weather events form;
2. Connect the dots: warning and response issues, disaster preparation and mitigation, evacuations; impact of events on local populations.
3. Forecasting and impacts on human decision-making: pattern of snow days called in surrounding communities in New England. Use Weather RATS towns as a database. Analyze factors used by school systems to cancel school vs. decisions made by surrounding communities. Do different communities respond to similar weather conditions in different ways?