

Weather UNIT

Stage 1 – Desired Results

Established Goals:

S6E3. Students will recognize the significant role of water in earth processes.

- b. Relate various atmospheric conditions to stages of the water cycle.

S6E4. Students will understand how the distribution of land and oceans affects climate and weather.

- a. Demonstrate that land and water absorb and lose heat at different rates and explain the resulting effects on weather patterns.
- b. Relate unequal heating of land and water surfaces to form large global wind systems and weather events such as tornadoes and thunderstorms.
- c. Relate how moisture evaporating from the oceans affects the weather patterns and weather events such as hurricanes.

Essential Questions:

What changes have occurred to our water since the dinosaurs used it?

What affect do weather and climate have on each other?

Where does the water go during a drought?

Why is the weather often hard to predict?

If the Earth were made of just continents, what weather patterns would occur?

How can two cities with the same latitude and longitude have different climates/weather?

Why are hurricane formations increasing?

Enduring Understandings: (*Students will understand that...*)

The sun provides energy for the water cycle.

The water cycle is made of stages (evaporation, transpiration, condensation, precipitation).

Water changes phases (solid, liquid, gas) according to temperature.

The compound water is not created nor destroyed; it only changes form.

The uneven heating of the Earth and its water affect climate, weather patterns, and large wind systems.

Land and water absorb and lose heat at different rates.

Location affects weather patterns (latitude, altitude, maritime).

Air masses have the properties/characteristics of the area from whence they come.

Wind gets its name from its origin.

Water heats the air, which rises and creates the conditions that may form hurricanes.

That solar heating and water vapor in the atmosphere affect weather and climate.

Air masses, pressure systems and fronts cause weather to change.

Weather observations help in predicting future weather events.