



Weather Words

Adaptation

The act or process of changing or adjusting something to fit in a new role or context.

Air

The invisible mixture of odorless, tasteless gases that surrounds the Earth, such as nitrogen and oxygen.

Albedo

How strongly a surface reflects back solar energy.

Altitude

The height of something above the Earth's surface or above sea level.

Anemometer

A weather instrument that measures the wind speed.

Architecture

The act or process of designing buildings.

Arid

Extremely dry, especially from the lack of rainfall.

Atmosphere

A mix of gases held in place around the planet by gravity.

Atmospheric pressure (or air pressure)

The weight of air as it presses on objects below or within it.

Axis

An imaginary line that an object turns around. The Earth's axis runs from the North Pole through its center to the South Pole.

Barometer

An instrument that measures air pressure.

Carbon

A chemical element found in all living things.



Weather Words

Climate

The average weather conditions in a place over a long period of time, such as 30 years.

Five climate types are:

Tropical: In this hot and humid zone, the average temperatures are greater than 64°F (18°C) year-round and there is more than 59 inches of precipitation each year.

Dry: These climate zones are so dry because moisture is rapidly evaporated from the air and there is very little precipitation.

Temperate: In this zone, there are typically warm and humid summers with thunderstorms and mild winters.

Continental: These regions have warm to cool summers and very cold winters. In the winter, this zone can experience snowstorms, strong winds, and very cold temperatures — sometimes falling below -22°F (-30°C)!

Polar: In the polar climate zones, it's extremely cold. Even in summer, the temperatures here never go higher than 50°F (10°C)!

Climate change

When the typical weather in a region changes over a long period of time.

Cloud

A mass of water vapor that floats in the sky. Different cloud types form at different altitudes and temperatures. Three common cloud types:

Cirrus: thin, wispy and feathery cloud.

Cumulus: fluffy white cloud with a flat bottom.

Stratus: wide, thick low-lying gray cloud.

Condensation

When gas cools and changes to a liquid; for example, when warm steam touches a cold window.

Convection

Vertical transport of heat and moisture in the atmosphere, especially by changes in wind direction (updrafts and downdrafts) in an unstable atmosphere.

Density

The quantity of living things in a shared environment. Also, how much mass (amount of matter an object is made up of) there is in a particular space.



Weather Words

Design

To make or draw plans to create something.

Drought

A shortage of rain over a long period of time. Drought affects plants, animals, and people.

Engineering

Using science and math to do practical things, such as designing machines.

Equinox

Either of the two times during the year when the Sun's rays are perpendicular to the Earth's equator, occurring in March and September. During the equinox, day and night are both 12 hours long all over the world.

Evaporation

When gas cools and changes to a liquid; for example, when warm steam touches a cold window.

Fog

A thick mass, like a cloud, made up of tiny water drops floating in the air and touching the ground.

Forecast

Weather prediction, or to predict the weather.

Greenhouse effect

The warming of the Earth's surface that takes place when heat from the sun is held in by the Earth's atmosphere.

Greenhouse gases

These are gases in Earth's atmosphere that trap heat. They let sunlight pass through the atmosphere, but they stop the heat that the sunlight brings from leaving the atmosphere.

The main greenhouse gases are:

- Water vapor
- Carbon dioxide
- Methane
- Ozone
- Nitrous oxide
- Chlorofluorocarbons



Weather Words

Hail

Frozen rain, or small balls of ice that fall from the sky.

Humidity

Water vapor or moisture in the air.

Hygrometer

An instrument that is used to measure the humidity of the air.

Inspiration

Motivation or creative spark.

Meteorologist

A scientist who studies weather conditions and patterns.

Meteorology

The branch of science that studies weather and the atmosphere.

Orbit

The path described by one celestial body in its revolution about another.

- **Orbital period:** the time taken for a given object to make one complete orbit about another object; the Earth takes 365 days to orbit the Sun.
- **Rotation:** a single complete turn.
- **Solar system:** a sun with the celestial bodies that revolve around it in its gravitational field.

Precipitation

Water falling in the form of rain, snow, or hail.

Prediction

A declaration of an expected outcome.

Radar

An electronic instrument that determines the direction and distance of objects that reflect radio energy back to the radar site. Meteorologists use radar systems to see rain or snow.

Radiation

Energy that moves from one place to another in a form that can be described as waves or particles.



Weather Words

Rain

Drops of water that form in the clouds and fall from the sky.

Rain gauge

An instrument used to measure the amount of rain that has fallen.

Rainbow

A curved arc of light of many colors across the sky caused by the Sun's rays shining through drops of water during or after rain.

Satellite

Anything that orbits, or revolves around a bigger object. A weather satellite orbits Earth and provides information about the weather.

Season

A season is a period of the year that is distinguished by special climate conditions.

Snow

Soft, white flakes of ice that fall from the sky. Snow is formed when water in the upper air freezes into crystals.

Solstice

Either of the two times in the year when the Sun is furthest from the celestial equator, occurring in June and December.

States of matter

Matter is anything that takes up space. The three most familiar forms, or states, of matter are solid, liquid, and gas. Heating and cooling a substance may change it from one state to another. Ice and snow are solid water. Steam or fog are gas or vapor forms of water.

Storm

A violent disturbance in the atmosphere that brings rain, snow, wind, thunder, and lightning.

- Rain storm words: shower, thunderstorm, downpour, monsoon, flood, flash flood
- Winter storm words: cold snap, frost, blizzard, ice storm, freeze, snowfall, icicle

Technology

A way of solving practical problems that comes from research in science and industry.



Weather Words

Temperature

The measurement of heat or cold as shown in degrees on a thermometer.

Thermometer

An instrument that measures temperature.

Vapor

Tiny drops of water in the air; the gas form of water. Clouds are made of water vapor.

Velocity

The speed of an object in a particular direction.

Vortex

A mass of spinning air or liquid that pulls things into its center.

Water

A clear, thin liquid that has no color or taste when it is pure. It falls from clouds as rain or snow and enters rivers, lakes, and oceans. All animals, people, and plants need water in order to live.

Water cycle

The continuous, natural circulation of the Earth's water through evaporation, condensation, precipitation, and collection in lakes, streams, rivers, and oceans.

Weather balloon

A type of high-altitude balloon which carries instruments up in the sky to send back information on atmospheric pressure, temperature, and humidity.

Weather forecast

When meteorologists use many different tools to predict what the weather in the near future will be.

Weather vane

An instrument that determines wind direction.

Weather

The state or condition of the atmosphere.

Wind

Movement of air over the surface of the Earth.

Weather Wonders Name Cards

Make copies of these name tags and let child each choose their own Weather Wonders name. They can select from the Weather Words list (how about Albedo, Cirrus, Equinox, Fog, Rainbow, Snow, Solstice, Vapor, or Vortex?) — or choose another invented name.

My Weather Wonders name is:



My Weather Wonders name is:



My Weather Wonders name is:



My Weather Wonders name is:



Weather Log

Date/Time: _____

Location: _____

Temperature: _____

Sky (description): _____

Wind (description): _____

Wind direction: _____

Wind speed: _____

Atmospheric pressure: _____

Humidity: _____

Precipitation type: (at data collection time): _____

Precipitation amount (in last 24 hours): _____

Weather Log

Date/Time: _____

Location: _____

Temperature: _____

Sky (description): _____

Wind (description): _____

Wind direction: _____

Wind speed: _____

Atmospheric pressure: _____

Humidity: _____

Precipitation type: (at data collection time): _____

Precipitation amount (in last 24 hours): _____

Weather Wonders

Weather Journal



Your name here

.....

Fold cover along dotted lines

Weather Wonders



This certificate is presented to:

To celebrate your participation in
the Weather Wonders program!



Date

Signature