

An Eye on the Weather

Objective: To teach students the different kinds of weather and what climatic processes form these phenomena.

Materials:

- 2 large plastic soda bottles
- Duct tape
- Water
- Small twigs
- Pencil
- Poster Board
- Crayons or markers
- Plain cardboard puzzles
- A Local map
- Pointer (optional)

5 to 10 minutes; Weather Memories

Ask students to recall the most recent or most severe storm they have experienced and explain what made the storm memorable. Ask children what they can remember about how the clouds looked; how the air was moving; and whether it was raining, thundering, and/or lightning.

10 to 15 minutes; Weather Discussion

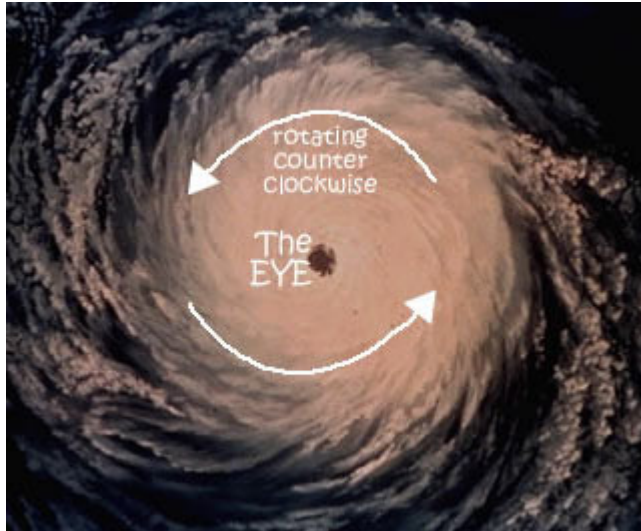
Discuss the different types of weather and what causes these things to occur. What area of the world do these types of weather occur most frequently and why?

Tornado: Tornadoes are associated with large (supercell) thunderstorms that often grow to over 40,000 feet. A column of warm humid air will begin to rise very quickly. The column of air begins to rotate. If this column gets caught in a supercell updraft, the updraft tightens the spin and it speeds up (much like a skater's spins faster when arms are pulled close to the body. A funnel cloud is created.

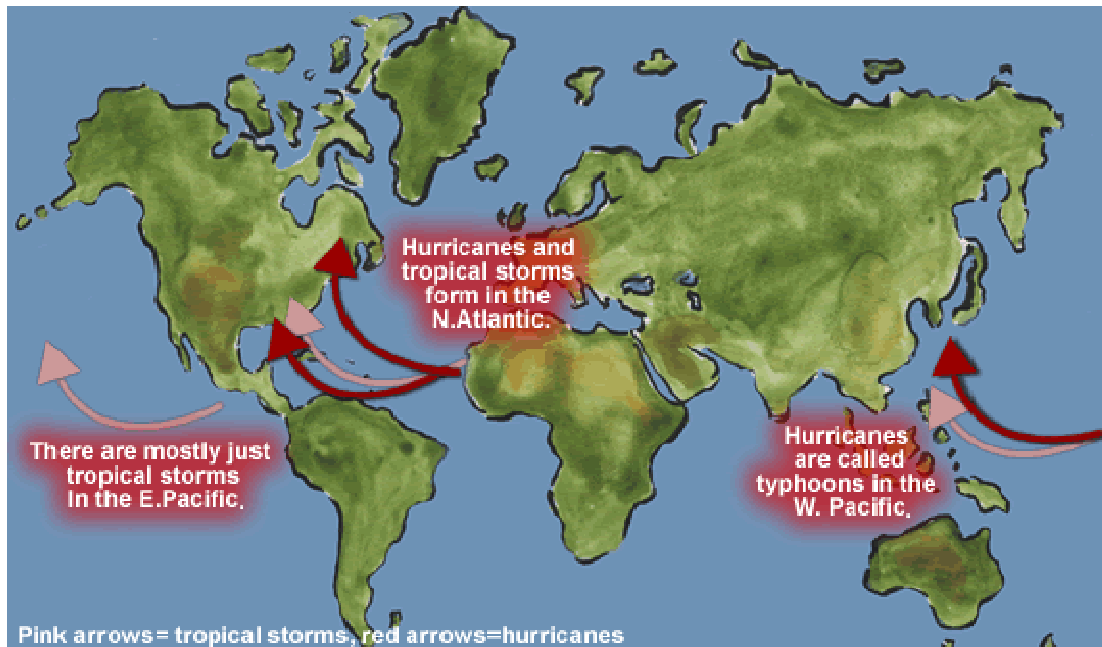
Lightning: Lightning happens when the negative charges (electrons) in the bottom of the cloud are attracted to the positive charges (protons) in the ground.

Thunder: Thunder is the clap heard as air is heated at a rapid rate from a lightning bolt.

Hurricane: Hurricanes are huge storms! They can be up to 600 miles across and have strong winds spiraling inward and upward at speeds of 75 to 200 mph. Each hurricane lasts for over a week, moving 10-20 miles per hour over the open ocean.



With warm air at its center, a hurricane is different from extra tropical cyclones, which are the most common type of storm in the United States. The center of the storm is the calmest part. It is called the eye and has only light winds and fair weather.



Blizzard: Cold air (below freezing) is needed to make snow. Moisture is needed to form clouds and precipitation. For a blizzard to form, warm air must rise over cold air.

Hail: A frozen raindrop or graupel that is kept from falling to the ground by the upward flowing air of a thunderstorm. The more droplets that freeze onto the hailstone, the longer the hailstone spends in the sky. When it finally grows too heavy to be held up by the flowing air, it falls to the ground. When warm air and cold air are brought together, a front is formed and precipitation occurs.

10 minutes; Tornado in a Bottle Demonstration

1. Cover the mouth of one plastic soda bottle with a strip of duct tape.
2. Punch a hole in the tape with the pencil, making the hole slightly larger than the pencil.
3. Half fill the other bottle with water. Add some twigs and grass.
4. Put the taped mouth of the empty bottle on top of the mouth of the other bottle. Use duct tape to tightly bind the necks of the two bottles together.
5. Quickly flip the bottles over. Grab the taped necks firmly and swirl them in a circular motion parallel to the floor. Set them down and observe the results.

5 to 10 minutes; Weather Safety

In groups, ask students to come up with as many weather safety tips as they can. At the end, the groups can share their conclusions and write their tips on a poster.

10 to 15 minutes; Weather Scene Puzzle and Weather Word Descrambler

Using plain, cardboard puzzles, ask students to draw their favorite weather scene using crayons or markers. Then complete the word descrambler found below.

10 to 15 minutes; Be a Weather Man!

Using weather words, ask students to put on their own weather forecast for a news broadcast. To make the broadcast more authentic, a local map and pointer can be provided. For more fun, students can even make up their own weather names!

Ex. Frosty, Gale, Blizzard, Hurricane, etc.

WEATHER WORDS DESCRAMBLER!

Unscramble the weather words.

CETFROSA_____	PMASHREETO_____
OARBREMET_____	AOTRNDO_____
ENACIRRUH_____	NIAR_____
MERUMS_____	DNIW_____
UUUCMLS_____	ATRSTUS_____
QXNEUIO_____	CDLOU_____

Answers

1. Forecast
2. Barometer
3. Hurricane
4. Summer
5. Cumulus
6. Equinox
7. Atmosphere
8. Tornado
9. Rain
10. Wind
11. Stratus
12. Cloud