



Wind Gone Wild!



Name: _____

1. **Word Meanings:** Solve the puzzle by using the words in the Word Box.

Word Box

condenses
particles

devastation
spiral

gigantic
tornado

hailstorm
waterspouts

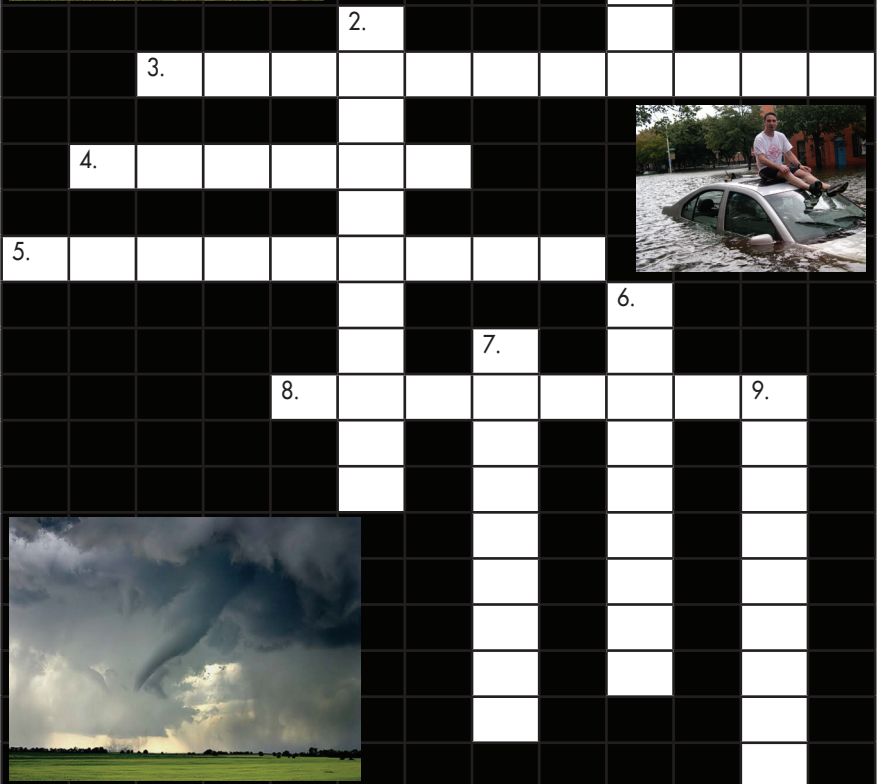
jet stream

Across:

3. tornadoes that occur over water
4. a curve that keeps winding
5. a storm where small round pieces of ice fall like rain
8. huge, enormous

Down:

1. a dark column of wind that whirls around at a high speed
2. total destruction
6. strong winds that are produced when warm air meets cold air above the earth
7. very small bits or pieces of something
9. when a gas changes to a liquid or a solid, it



2. High winds can cause all kinds of destruction. Name some forms of weather conditions that have high winds. For example: hurricane

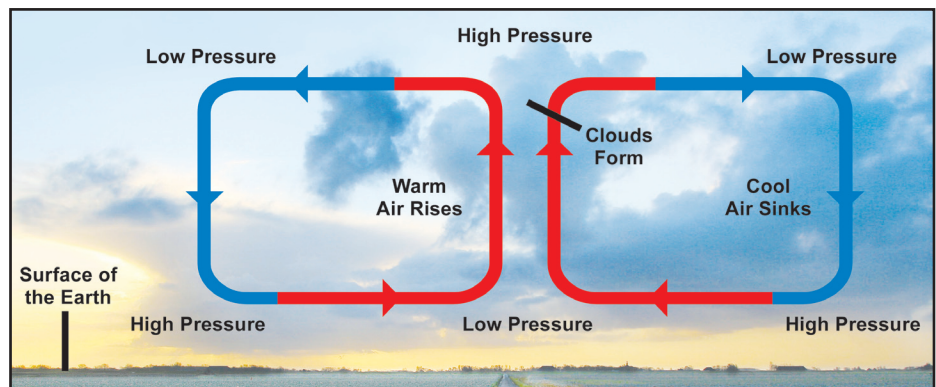


Songs and poems have been written about it. Movies have been made where it is the star. Wind is present everywhere in our life. We love to feel a breeze on our face when we are outside. It powers sailboats so we can enjoy the water. But, like other forces in nature, it can become so powerful that it gets out of control and does a great deal of damage.

What is wind?

Even mighty storm winds start off as a gentle breeze. The weight of the atmosphere on our Earth's surface creates air pressure. This air pressure differs from place to place. It depends on how the air is moving at this time. If the air is rising, less air is pushing down and there is low pressure near the surface. If the air is falling, more air is pushing down and there is high pressure near the surface. Surface air is always on the move as it tries to even out the pressure between high and low areas. This movement of air is known as wind.

When warm air meets cold air high above the earth, they combine to produce very strong winds. These winds are called jet streams. They form an uneven path around the Earth. They travel from west to east, about 6 miles (10 km) above the Earth's surface.



The surface air movements between highs and lows create our everyday winds. These winds change in direction and strength almost constantly.

Storm winds can bring rain, snow, dust, hail, and sand. Severe snowstorms can disable power lines, stop traffic, and disrupt daily lives. When the winds of a snowstorm reach 39 mph (62 km/hr), it becomes a blizzard. Blizzards can cause all kinds of dangerous conditions for animals and people. Hailstorms occur after hail is formed in big thunderclouds. Strong rising winds push ice crystals around inside the cloud. Many layers of ice build up on the crystal. When the hailstorms get heavy, they fall to earth.

3. a) When does a snowstorm become a blizzard?

b) Why are hailstorms dangerous?



Dust storms have very strong winds that can lift great amounts of dust. Often the dust is lifted very high in the air and then dropped. Gigantic, dust-filled clouds are formed over the deserts and then fall to earth as the rising air condenses. Particles of sand are larger and heavier than dust. So sand is blown along closer to the ground. It piles up along fences and against homes. Sandstorms can blow away valuable topsoil that is needed for growing food.

Whirlwinds are formed when the wind rotates in a circular motion. It can be in many forms. The most severe whirlwind is the tornado. Most tornadoes form in thunderclouds. Strong updrafts of air come very close to strong downdrafts of air. The updrafts leave a low pressure area in the cloud. More air rushes in to replace them. Soon the air is twisted into a spinning spiral. Tornadoes are the fiercest of “wind gone wild” and can cause great losses of human life and property damage.

Waterspouts are tornadoes over water. Once the funnel forms, it sucks up water as it touches the surface of the water. It sends out a whirling spray from its base. Waterspouts can pick up shells, small fish, and crabs. When the spout weakens, all the water crashes down. Usually this occurs over the water, but sometimes it happens on the coastline.

Fire devils occur when a huge fire heats the air that is above it. The air gets very hot and sucks in air from all around it. When the air rushes in, it draws the fire upward and forms a solid column of spinning fire. As new air rushes in, it provides more oxygen and the fire burns even more intensely. Nothing can survive a fire devil. In fact, it is impossible to put one out.

4. Draw and label diagrams to show how

a) a fire devil begins and

b) then grows larger.

Dust and **wind devils** are mini whirlwinds. They both are most common on dry, hot days in a desert. They begin as hot whirling air. When more air rushes in, they whirl faster and become stronger. Wind devils can flatten out crops in fields and whip leaves from trees. Dust devils can pick up sand and dust as they spin along. Some dust devils can rise as high as $\frac{1}{2}$ mile (1 km).

Hurricanes are as fierce and as destructive as any tornado. They need warmth and moisture to form. Hurricanes only develop at sea over warm water. The winds of a tropical storm must reach a speed of 73 mph (117 km/h) to be called a hurricane. Hurricanes are huge, slow-moving and unstoppable. They cause great devastation wherever they strike, both in loss of human life and damages. A great deal of scientific research has gone into hurricanes so we can be better prepared to deal with them.



5. Use the information in the article and your own ideas to complete the chart.
For each type of wind weather, describe the kind of destruction or damage that each one can do to our environment.

Wind Weather	Type of Destruction or Damage to Our Environment
Blizzard	
Dust Storm	
Dust and Wind Devils	
Fire Devil	
Hailstorm	
Hurricane	
Sand Storm	
Tornado	
Waterspout	
Whirlwind	

6. In your opinion, will we ever be able to tame and control the forces of the wind?
Give reasons for your opinion.

Thinking Beyond the Facts

Try to find out more about severe winds and their effects upon humans and property.
Use magazines, non-fiction library books, and the internet to help you.
Here are some websites to help you get started:

www.nationalgeographic.com

www.weatherwizkids.com/weather-wind.htm