Weather Extremes

Name: Date:

Test your knowledge: Match the words with the descriptions.

Tornado	a prolonged period of excessively hot weather, often accompanied by high humidity
Blizzard	a large tropical storm system with strong winds and heavy rain
Hurricane	an overflow of water that submerges land which is usually dry
Heatwave	a severe snowstorm characterized by strong winds and low visibility
Flood	a mature tropical cyclone that develops in the western part of the North Pacific Ocean
Drought	a prolonged period of abnormally low rainfall, leading to a shortage of water
Typhoon	a weather condition where balls or lumps of ice fall from the sky
Hailstorm	a rapidly rotating column of air extending from a thunderstorm to the ground

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Weather extremes in detail

Now take a closer look at a weather extreme and answer the related questions.

Tornado

A tornado is a rapidly rotating column of air that extends from a thunderstorm to the ground. This violent weather phenomenon is caused when warm, moist air collides with cold, dry air, leading to instability in the atmosphere. This can result in the formation of supercell thunderstorms, which are capable of generating tornadoes.

Tornadoes occur most frequently in the central and southeastern regions of the United States, an area known as Tornado Alley. This region includes states such as Texas, Oklahoma, Kansas, and Nebraska. Although Tornado Alley is most famous for tornado activity, tornadoes can also occur in other parts of the world, including Canada, much of Europe, Australia, and parts of South America.

In the United States, tornadoes are quite common, with an average of about 1,200 tornadoes occurring each year. They can happen at any time of the year, but they are most prevalent during the spring and summer months when atmospheric conditions are most conducive to their formation.

Tornadoes pose significant dangers to people, animals, and the environment. The destructive winds can cause severe injuries and fatalities due to flying debris and collapsing structures. They can also displace or kill animals and damage ecosystems, uprooting trees and destroying vegetation.

To protect oneself from a tornado, it is essential to have a preparedness plan. Staying informed through weather updates on a NOAA Weather Radio or local news is crucial. If a tornado warning is issued, individuals should seek shelter in a basement or an interior room on the lowest floor of a sturdy building, avoiding windows. Having an emergency kit with water, food, medications, and essential supplies for at least 72 hours is advisable. Additionally, using mattresses, heavy blankets, or helmets can help shield against debris.

By following these safety precautions, individuals can enhance their chances of staying safe during a tornado.

For each statement, choose if it is true or false.

A tornado is a rapidly rotating column of air that extends from a thunderstorm to the ground.

○ True ○ False

Tornadoes are most prevalent during the fall and winter months.

○ True ○ False

Tornado Alley includes states such as Texas, Oklahoma, Kansas, and Nebraska.

○ True ○ False

Tornadoes are only found in the central and southeastern regions of the United States.

○ True ○ False

The destructive winds of a tornado can cause severe injuries and fatalities.

○ True ○ False

A preparedness plan for tornadoes should include using mattresses and heavy blankets for protection.

○ True ○ False

A tornado can displace animals and damage ecosystems.

○ True ○ False

Tornadoes are most commonly formed by regular thunderstorms.

○ True ○ False

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A Tornado's Trail: Joplin's Decade of Recovery

On May 22, 2011, at 5:34 p.m., the city of Joplin, Missouri was struck by one of the most devastating tornadoes in U.S. history. The EF5 tornado, with winds exceeding 200 mph, carved a path of destruction through the city, resulting in the loss of 158 lives and causing injuries to over 1,150 others. The damage was monumental; nearly 8,000 buildings were damaged, with over 4,000 homes completely destroyed. The tornado's fury left Joplin's infrastructure in ruins, with power outages affecting 20,000 residents and water service lines severely compromised.

A destroyed area in the tornado's damage path on May 23. Source: KOMUnews on Wikipedia

In the immediate aftermath, the social and economic landscape of Joplin dramatically shifted. The federal government, led by President Barack Obama, prioritized recovery efforts with FEMA deploying hundreds of personnel to aid in rebuilding. Insurance claims skyrocketed, totaling over $2 billion, highlighting the financial strain on both the community and the insurance industry. The event spurred significant changes in building codes, aiming to ensure better structural resilience against future storms.

As the city embarked on its journey of recovery, the community demonstrated remarkable resilience. By 2018, Joplin saw the reopening of most businesses and the establishment of new ventures, contributing to its economic revival. The disaster also prompted innovations like FEMA's Waffle House Index, a measure of disaster recovery progress. The tornado's impact reverberated through the decade, shaping Joplin's identity and fostering a spirit of unity and perseverance in its residents.

Reflecting on the decade following the tornado, historians note the profound social changes. The disaster illuminated the importance of community solidarity, as residents banded together to rebuild their city. It also underscored the need for robust disaster preparedness strategies, influencing policy changes at local and national levels. Joplin's recovery story is not just about rebuilding structures but also about strengthening the fabric of its community.

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Weather extremes in the news

Carefully read the newspaper article about the extreme weather event on the previous page. Then conduct your own research: Can you find a similar event with the same weather extreme? This page can help you with your research: https://www.loveexploring.com/gallerylist/84422/dramatic-weather-events-from-1900-to-today
Then note the similarities and differences between the two events in the table.

Similarities	Differences

What do you notice when looking at the list of weather extremes? What do you think the future development will look like?