



Science Virtual Learning

7th Grade Science

Tornadoes

April 14, 2020



7th Grade Science

Lesson: April 14

Objective/Learning Target:

I can describe what tornadoes are and how they form.

Warm-Up:

1. Do you think tornado warnings or tornado watches are more serious? Why? (answer on a piece of paper)
2. Use [this Quizziz](#) to see what you already know about tornadoes and other types of severe weather.

Lesson Content:

1. Watch [this video](#) to learn some basics info about tornadoes.
2. Watch [this video](#) to learn from a stormchaser about how tornadoes form.
3. Watch [this video](#) to learn about the two different types of tornadoes & how they are rated.



Lesson Content:

Write down this video takeaway on a piece of paper:

a. What is a tornado?

Tornadoes are one of the most violent and powerful types of weather. They consist of a very fast rotating column of air that usually forms a funnel shape. They can be very dangerous as their high speed winds can break apart buildings, knock down trees, and even toss cars into the air.





Lesson Content:

Write down this video takeaway on a piece of paper:

a. How do tornadoes form?

- A large thunderstorm occurs in a cumulonimbus cloud
- A change in wind direction and wind speed at high altitudes causes the air to swirl horizontally
- Rising air from the ground pushes up on the swirling air and tips it over
- The funnel of swirling air begins to suck up more warm air from the ground
- The funnel grows longer and stretches toward the ground
- When the funnel touches the ground it becomes a tornado

Lesson Content:

Write down these video takeaways on a piece of paper:
2 types of tornadoes & how they are rated (scale)

Types of Tornadoes

Supercell - A supercell is large long-lived thunderstorm. It can produce some of the largest and most violent tornadoes.

Waterspout - A waterspout forms over water. They usually dissipate when they hit land.

Landspout - A landspout is similar to a waterspout, but on land. It is weak and is not associated with a vortex of air from a thunderstorm.

Gustnado - A small tornado formed at a weather front by gusts of wind.

Multiple vortex - A tornado with more than one spinning tube of air.

Tornado Categories

Tornadoes are categorized by their wind speed and the amount of damage they cause using a scale called the "Enhanced Fujita" scale. It is usually abbreviated as the "EF" scale.

Category	Wind Speed	Strength
EF-0	65-85 MPH	Weak
EF-1	86-110 MPH	Weak
EF-2	111-135 MPH	Strong
EF-3	136-165 MPH	Strong
EF-4	166-200 MPH	Violent
EF-5	over 200 MPH	Violent

Lesson Content:

Watch [this video](#) to learn about the difference between a tornado watch and tornado warning.

Write down these video takeaways on a piece of paper:

Tornado Warnings and Watches

Tornadoes can be very dangerous. In order to save lives, the National Oceanic and Atmospheric Administration (NOAA) issues tornado "watches" and "warnings." A tornado "watch" means that weather conditions are favorable for a tornado to be produced. A tornado "warning" means that a tornado is happening right now or is going to happen soon. During a tornado "watch" you should begin preparing for a tornado. When you hear a tornado "warning", it is time to take action.



Time to Practice!

Answer the following questions on a piece of paper:

1. What are the steps for a tornado to form?
2. What action steps should you take during a tornado watch?
3. What action steps should you take during a tornado warning?
4. Which is more serious - a tornado watch or warning?





Practice Answers!

Check your answers for the review questions here:

1. **What are the steps for a tornado to form?**
 - a. A large thunderstorm occurs in a cumulonimbus cloud
 - b. A change in wind direction and wind speed at high altitudes causes the air to swirl horizontally
 - c. Rising air from the ground pushes up on the swirling air and tips it over
 - d. The funnel of swirling air begins to suck up more warm air from the ground
 - e. The funnel grows longer and stretches toward the ground
 - f. When the funnel touches the ground it becomes a tornado

Practice Answers!

2. What action steps should you take during a tornado watch?

- Have a radio or TV nearby so you can receive further updates in a timely manner.
- Grab your mobile devices and a portable backup battery charger.
- Take notice of the weather conditions around you. Clouds swirling in the sky or creating shallow funnels are signs that a tornado may form. Be aware that even if a tornado does not form, severe thunderstorms pose a safety risk.
- Locate all members of your family and your pets.
- Review your plans for emergencies and natural disasters.
- Make sure your emergency supplies are accessible.

3. What action steps should you take during a tornado warning?

- Seek shelter in your pre-designated safe zone immediately. If you are not home or cannot get to your safe zone, protect yourself from flying debris under heavy furniture, such as a sturdy table, and stay clear of windows.
- (if driving) Park your car and go outside. If shelter is unavailable, lie on a low, flat area of ground with your arms over your head.
- Keep your radio, or TV tuned to a local station for updates. It is imperative to have an alternative energy source, such as batteries, in case the power goes out.
- Stay alert for sirens, but do not leave your safe zone or shelter until you receive a signal that the warning is lifted.

4. Which is more serious - a tornado watch or warning?

- A tornado warning



Additional Practice:

1. Use [this Quizziz](#) to test yourself
 - a. You can use flashcards or match mode to study.
2. Click on [this link](#) to use the Extreme Weather Simulator