ATMOSPHERIC SCIENCE WITH DR LEIGH ORF

TALKING POINTS

1. **What is a tornado?** (See Introduction to the article)

2. **What is the name of the scale used to rate tornadoes? And what does an EF-4 or EF-5 tornado mean?** (See Introduction to the article)

3. **What is tornadogenesis?** (See Introduction to the article)

4. **Approximately how many tornadoes occur in the US each year?** (See *Why does the US experience more tornadoes than anywhere else in the world?*)

5. **What is the name of the supercomputer Leigh used to simulate the first ever EF-5 tornado?** (See *How do supercomputers help with researching tornadoes?*)

6. **What do we know is needed for all tornadoes?** (See Introduction to the article)

7. **What are the advantages of thunderstorm models over storm chasing?** (See *Why is it important to create simulations of thunderstorms?*)

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

AN ATMOSPHERIC PRESSURE EXPERIMENT

Under certain conditions, when an area of low pressure forms in the atmosphere over a very warm ocean, this area or centre can develop into a hurricane. To understand how changes in air pressure work, why not try this simple experiment? It does involve fire, so make sure an adult is present. You will need:

A glass jar (big enough to hold a candle inside)
A candle (and a match)
A shallow pan

Fill the pan with a little bit of water (not too deep), then light the candle (with an adult present). Place the glass jar over the candle, making sure the bottom of the jar doesn't touch the flame. You'll notice that the flame will start to get weaker as it uses up the oxygen. Eventually the flame will go out, and a vacuum will have been created. The vacuum will cause a change in air pressure. What do you notice happening to the water?

You can find this experiment on Sciencing: https://sciencing.com/atmosphere-experiments-kids-8758927.html

MORE RESOURCES ONLINE

1. The National Oceanic and Atmospheric Administration has a website dedicated to predicting storms. Have a play around with it and see where storms are currently being predicted: https://www.spc.noaa.gov/

2. Weather Wiz Kids has loads of information about all kinds of things relating to atmospheric science. Click on the link below to find topics of interest related to tornadoes. There are some amazing facts, as well as in-depth description of the Enhanced Fujita scale: https://www.weatherwizkids.com/weather-tornado.htm

3. Leigh Orf has a collection of jaw-dropping videos and other educational material related to his research on tornadoes and thunderstorms: http://orf.media/education