



Tornadoes

4th Grade Science Class

Overview	The students should understand how a tornado is created, where they are most likely to happen and safety regulations one should do in case of one happening.
Objective	After students are done with the lab procedure and have listened to the lecture the students will: <ul style="list-style-type: none">○ Participate in a fake tornado drill and explain to me where we would go if we were at school.○ Students will then write down in paragraph form on where they would go for safety where they live, the students will then submit it to me on Crocodoc¹ as well as another student for review.○ Students will also be able to define vocabulary words relating to tornado terms.
Standards ²	4.1.4- Describe how people all over the world have taken part in scientific investigation for many centuries. 4.1.5- Demonstrate how measuring instruments, such as microscopes, telescopes, and cameras, can be used to gather accurate information for making scientific comparisons of objects and events. Note that measuring instruments, such as rulers, can also be used for designing and constructing things that will work properly. 4.1.7- Discuss and give examples of how technology, such as computers and medicines, has improved the lives of many people, although the benefits are not equally available to all. 4.1.8- Recognize and explain that any invention may lead to other inventions.

¹ <http://www.crocodoc.com>

² <http://indianastandardsresources.org/standard.asp?Subject=sci&Grade=4&Standard=1>

Material	Textbook Two empty water bottles for each table Computer Tape Water
Procedure ³	<ol style="list-style-type: none"> 1. Before beginning this lab activity, students should have the following background information: <ul style="list-style-type: none"> ❖ Weather is nature and nobody can control what weather they want it to be. ❖ Tornadoes as well as other weather storms such as tsunamis, hurricanes and earthquakes are all dangerous and should seek safety when one is coming. 2. Ask students if they have ever encountered a tornado, or seen one on television/movies. 3. Explain the concept of how tornadoes are formed. <ul style="list-style-type: none"> ❖ Warm, moist air and cold, dry air masses meet it creates instability in the atmosphere. ❖ A change in wind direction as well as an increase in wind creates an invisible horizontal spinning effect in the lower atmosphere. ❖ Rising air creates this horizontal spinning effect to vertical. ❖ An area of rotation 2-6 miles wide now creates a tornado. 4. Direct students to fill one empty water bottle with $\frac{3}{4}$ of water then put the other water bottle on top of it so the two are connected at the mouth pieces. 5. Tape the mouth pieces together so no water can leak out. 6. Advise each student to experiment with making a tornado while moving the water bottles in their hand in a spinning motion. 7. This creates a tornado and I will explain where tornadoes are most likely to occur.

³ <http://www.weatherwizkids.com/weather-tornado.htm>

	<ol style="list-style-type: none"> 8. Let the students experiment with the tornado activity for 10 minutes or less so they understand the concept. 9. Review the safety precautions students should take when they are at school and at home. 10. Review the alarms the television/radio and the siren outside sound like in case of dangerous weather. 11. The student will then go to Crocodoc.com and upload their paragraphs they have written on the computer. 12. The paragraphs will be sent to my account on Crocodoc as well as other students for evaluation of grammatical errors and review. 13. The students will evaluate the paragraphs on Crocodoc as well as myself and correct errors or print it out and give me a hard copy if everything is perfect.
<p>Evaluation</p>	<p>To know what the students learned from this activity and lecture, I will have them take a vocabulary quiz on the tornado terms I used and have the students participate in a false tornado drill so they understand where they go to reach safety in the school.</p>