



3rd Grade: Meteorologist Me

Course Description: Over the course of three days, our educators will help your students explore everything from the ingredients needed to make thunderstorms to how meteorologists take measurements and use those measurements to make predictions.

Day 1: In this lesson, students will learn about thunderstorms, one of the most common forms of weather we see here in Philadelphia. A big part of building a thunderstorm is convection, the cycle of air heating up and rising and then cooling and falling. Students will get to perform a simple experiment with food coloring and water to observe convection happen right before their eyes.

Demonstration: *Students will have the opportunity to observe what happens when air heats up and cools down by using a camping stove and a mylar balloon. Students will observe what happens to air in the balloon as it heats up over the camping stove and what happens when it cools back down.*

Day 2: In this lesson, students will learn about static electricity and the role that it plays in the creation of lightning and thunder.

Demonstration: *Students will use three hands on stations to try to generate their own static electricity. They will also have the opportunity to observe an actual bolt of lightning in their classroom using a classic physics experiment. A Van Der Graff generator generates lots of static electricity on an aluminum sphere. Those charges are then transferred to a contact point, either the hair of a student or a separate metal sphere.*

Day 3: Students will learn how changes in air pressure are used to predict storms and what “high” and “low” air pressure means. They will then learn about barometers, which are weather instruments used for detecting changes in air pressure.

Demonstration: *Students will have the opportunity to build their own barometer which they can use to try to predict when the next storm is coming. We will also do a demonstration to exhibit the strength of air pressure by crushing a 10-gallon polycarbonate jug using the power of air pressure and a little bit of fire for a fun and educational look into just how strong air can be.*