

# DRY ICE SUMMMER STORM

*Dry ice is cold (-79 degrees Celsius) and cool! Observe it in solid form and sublimating. Observe it make metal sizzle, jump and rattle. Kids experience cool demonstrations like "The Big Burp", potions that ooze gas clouds, a bubble shower of opaque carbon dioxide and a big fog cemetery movie effect.*

## **SUMMARY:**

Students will be introduced to the concept of matter, and the properties and characteristics of its three most common manifestations: solids, liquids and gases. Using water as an example, they will learn how, why, and in which progression matter usually transforms from one state to another. Students will then learn of a lesser known phenomenon called "sublimation," whereby a solid turns directly into a gas without ever becoming a liquid. Then, they will see it in action with dry ice!

## **EDUCATIONAL VALUE:**

Children will be shown what happens to dry ice when it is exposed to an object at room temperature, and will observe its amazing cooling ability. With the concept of sublimation explained, the class will explore the phenomenon's end product: carbon dioxide. The children will then enjoy the lighter side of carbon dioxide and dry ice, watching it pop a cork off a flask and blow smoky bubbles! In the presentation's exciting conclusion, students will see for themselves how dry ice makes for a great prop in scary scenes in movies! This class offers children a solid introduction to the three states of matter and their properties. They will learn how and why matter changes between the different states, and will have a good understanding of elementary physical principles. The children will be able and eager to tell any inquiring adult all about carbon dioxide—in its solid or gaseous state! Perhaps most importantly, this lesson relates the material to the students' lives and school curriculum: they will leave with an understanding of the science behind the water cycle, carbonation, and even Hollywood special effects!

## **TAKE-HOME MESSAGE:**

- 1 There are three states of matter.
- 2 Adding heat can change solid to liquid, and liquid to gas.
- 3 Removing heat can change gas to liquid, and liquid to solid.

## **TAKE-HOME PRODUCT:**

Thermocolor Cup



Thermocolor Cup

## **NORTH CAROLINA ESSENTIAL STANDARDS:**

- 2.P.2 Understand properties of solids and liquids and the changes they undergo.
- 3.P.2 Understand the structure and properties of matter before and after they undergo a change.
- 3.P.3 Recognize how energy can be transferred from one object to another.