



## **Thunder!**

**Pre-visit activity** connection to the Energizer Weather and Nature

**Grade level/standards:** **1<sup>st</sup> grade** NGSS 1-PS4-1, CCSS W.1.7, W.1.8, SL.1.1; **3<sup>rd</sup> grade** NGSS 3-ESS2-1, CCSS RI.3.1, RI.3.9, W.3.8, MP.2, MP.4, MP.5, 3.MD.A.2, 3.MD.A.2 **4<sup>th</sup> grade** NGSS 4-PS3-(1-4), CCSS RI.4.1, RI.4.3, W.4.7; **5<sup>th</sup> grade** NGSS 5-ESS2-1, CCSS RI.5.7, MP.4, 5.G.2; **6<sup>th</sup> grade** NGSS 6-ESS2-5, CCSS RST.6-8.1, RST.6-8.9, WHST.6-8.8, MP.2, 6.NS.C.5

**Concepts:** how thunder happens

### **Materials needed:**

Brown paper lunch bag for each child

### **Procedure:**

1. Have each child blow into the brown paper lunch bag and fill it up with air.
2. When the bag expands have them twist the open end and close it with their hand.
3. Talk with the students that they have captured air inside the bag.
4. Have the students on the count of three quickly hit the bag hard with their free hand.
5. Have the students guess why they heard a loud bang.
6. Explain how thunder happens.

### **What's Happening:**

Hitting the bag causes the air inside the bag to compress so quickly that the pressure breaks the bag. The air rushes out and pushes the air outside away from the bag. The air continues to move forward in a wave. When the moving air reaches your ear, you hear a sound. Thunder is produced in a similar way. As lightning strikes, energy is given off that heats the air through which it passes. This heated air quickly expands producing energetic waves of air resulting in a sound called thunder.

### **Book List:**

1. Come On Rain by Karen Hesse

2. Hurricane by David Wiesner
3. Feel the Wind by Arthur Dorros
4. Flash, Crash, Rumble and Roll by Franklyn Branley

**Extension Activities:**

1. Have the students draw a picture of a thunderstorm with lightning and thunder.
2. Discuss thunderstorm safety rules.