

# Unit 6 Thunder and Lightning

## 1. Whole class instruction

**Objective:** Students will understand what causes thunder and lightning and what type of weather conditions generally produce thunder and lightning.



### 1.1. Go to Textbook pages 20-21

#### **“Thunder is caused by lightning”**

- ▶ Show students the Mountain Weather video, which features thunder and lightning.
- ▶ Ask students what lightning looks like. When they answer “a giant spark”, point out that sparks can be very hot. The heat from the lightning causes the air to expand, or move, very fast. This is called a shock wave. When this wave of moving air reaches the ground, we hear a noise like a loud clap – this is thunder.
- ▶ Explain that thunder and lightning actually occur at the same time, but that light travels much faster than sound, so we see the lightning before we hear the thunder.

Mountain Weather video  
in the video gallery

Students will  
understand that  
lightning is caused  
by static electricity in  
clouds.

### 1.2. Go to Textbook pages 20-21

#### **“Have you ever seen lightning?”**

- ▶ Discuss students’ experiences of lightning. Draw out the observation that lightning is usually followed by thunder, and occurs when there are large, dark cumulus clouds in the sky.
- ▶ Point to the postcard on page 21 of the textbook. Have students read the postcard text individually or as a group. Point out the picture of lightning on the postcard and discuss the appearance of the lightning and the way it looks like bolts of electricity.
- ▶ Discuss the way that lightning can be attracted to metal and tall objects, which is why you should never stand next to a tree during a lightning storm.

## 2a. Group exploration

### 2.1. Make lightning

- This activity can be combined with a science activity on electricity. Each group will need a balloon and a piece of wool or fake fur (or hair). This activity demonstrates that lightning is made up of static electricity. Students should rub the balloon on the sweater for around one minute. This will build up a charge on the surface of the balloon. Now they should slowly bring a finger towards the balloon and they will feel a shock, and may see a very small spark. That shock is a small amount of static electricity. Explain that this is the same as lightning, but on a much smaller scale.



As air moves around inside clouds, the water droplets are rubbed together, like the balloon on the wool. This makes a negative charge in the bottom of the cloud. This negative charge is attracted to the opposite, positive charge, on the ground and in the top of the cloud – making lightning.

## 2b. Literacy activity

### Unit 6: Ben Franklin and Lightning

- Students may be familiar with Ben Franklin, or may have heard of him. If not, you may like to tell them that he was English by birth (born in Northampton) and is considered one of the founding fathers of the United States. He was also a famous scientist and inventor. He invented the lightning rod and was the first person to demonstrate that lightning was made up of electricity.

### Comprehension workbook 6 Ben Franklin and lightning

## 3. Plenary session

- Review that lightning is made up of static electricity. Review that thunder is caused when lightning heats the air and causes it to expand.

I see a flash  
I think I'm scared,  
I hear a crash  
I'm really really scared!  
As flashes of lightning  
Whizz across the sky  
I'm under the bed, I think I'll cry  
Now I'm wondering,  
Why oh why?  
Does electricity like to fly?

## 4. Further work/homework

- You may like students to write a poem about lightning and/or thunder.