Part 1
In this lesson you will explore various websites to learn about lightning. Before you begin, see how much you already know. At the end of the lesson, you will be asked to take at look at your responses to these questions and decide if anything needs to be revised based on your research.

In your own words, respond to the following questions:

1. What causes static electricity?

2. What causes lightning?

3. How is lightning related to static electricity?

Part 2
Perform a webquest, by exploring the following websites to understand more about lightning and static electricity.

- Nature's Own Electric Show http://jfg.girlscouts.org/Why/sciact/electricity/Lightning.htm
- Finding Static Electricity http://www.school-for-champions.com/science/static.htm
- Causing Sparks and Lightning http://www.school-for-champions.com/science/staticspark.htm
- Uses for Static Electricity http://www.school-for-champions.com/science/staticuse.htm

As you explore the websites, answer the questions below.

1. Explain what causes lightning. How does the principle of opposite charges attracting help to produce lightning?

2. Explain the flash you see as lightning. Does the lightning bolt travel down from the cloud or up from the ground?

3. Draw a diagram to illustrate what happens to the electrons in the clouds and on the ground during a lightning storm.

4. What is a simple way to estimate how far away lightning is from you?

5. Name three things you can do during a lightning storm to minimize the risk of injury.

6. Why should you never be in water during a lightning storm?

7. Describe some of the effects static electricity has on matter. Use some examples from your everyday life.

8. Describe how an electroscope works to detect static electricity.

9. Why is it better not to use metals to create static electricity?

10. Describe how Ben Franklin proved that lightning was static electricity.

11. How can static electricity damage a computer?

12. Describe what causes a spark.

13. How is lightning different from a spark?

14. What causes thunder?

15. Name several beneficial uses of static electricity.

16. Describe how static electricity can be used to control air pollution.

Part 3
After completing the Web explorations, revise your responses to the questions in Part 1 by answering the questions below. As part of your answer, explain the changes that you made and why you made them. List any evidence you found in the webquest that prompted you to change your definition.

1. What causes static electricity?

2. What causes lightning?

3. How is lightning related to static electricity?

4. Draw a diagram illustrating the negative and positive charges that occur in a lightning storm.