



Discussion Guide for

WEATHER: THE CHAOS WHICH SURROUNDS US

OBJECTIVES

After viewing this program, students will be able to:

- Describe the forces that cause motion in the atmosphere.
- Discuss the unique combination of variables that come together to create severe weather conditions, such as tornadoes, hurricanes, and lightning.
- Explain how the different parts of the Earth's surface, such as the oceans or deserts, affects the temperature of surrounding environments.
- List the different types of cloud formations.
- Explain how wind is created.
- Define the Coriolis Effect.
- Discuss how air masses differ according to where they form.
- Define a front and explain in depth how they form.

This program is part of the AIMS Interactive Science Essentials Series. This twenty-four part series covers four subject areas.- Earth Science, Biology, Physics, and Chemistry. There are six programs in each subject area. The individual programs are divided into randomly accessible sections. A glossary provides written definitions of terms used in the program, and in most cases will run a section of the video where the word is used in context.

A script of the narration is accessible, as well as a bulletin board containing a general introduction to the subject. A quiz allows the student to test their knowledge and the results are recorded for you. In the teacher's section you can view each student's test responses and edit or create your own quiz and test questions.

OVERVIEW

Weather: The Chaos Which Surrounds Us is part five of the Earth Science Essentials series which examines modern day earth science. The program describes the general forces behind the weather with dramatic live action storm footage and 3-D animation. After introducing students to the flow of energy in the atmosphere that leads to weather patterns, the program goes on to detail how a variety of violent weather phenomenon, such as thunderstorms, lightning, tornadoes, and hurricanes, develop.

TEACHER'S PREPARATION

- Before the student uses the program set up the computer so that they can easily reach the mouse and the keyboard.
- Load the CD-ROM into the computer so that it is ready for the student to begin using.
- While students are able to work at their own pace, some students may benefit from using the program more than once.

SUGGESTED DISCUSSION QUESTIONS

1. What are some of the forces that power the motion of the Earth's atmosphere?
2. How does the Earth's rotation on its axis affect the weather? Be specific.
3. How do various surfaces, such as the ocean or desert, affect the temperatures of surrounding environments?
4. How do clouds contribute to the uneven heating and cooling of the Earth's surface and atmosphere?
5. How is wind formed?
6. Air not only moves horizontally, but also moves vertically. How is this vertical movement critical to the formation of severe weather phenomena?
7. What does the anvil top of a thundercloud indicate?
8. Explain how lightning forms within thunderclouds.
9. What geographical features contribute to the many tornadoes that form along the Mississippi Valley and the Great Plains?
10. Briefly describe how hurricanes form. Where do most hurricanes originate? Why?
11. Are there differences between air masses that originate over land and over water? What are they?

VOCABULARY

air mass	cirrus cloud
Coriolis effect	cyclic flow
flash floods	fronts
hail	hurricanes
inversion	lightning
seasons	squall line
thundercloud	tornadoes
wind	

PROGRAMS DETAILS

LENGTH:

30 minutes

SUBJECT AREAS:

Earth Science

AUDIENCE LEVELS:

Junior- Senior High

ORDER NUMBER:

1-9085SG

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