

LESSON GOALS

The primary goal of study is weather and cloud classification in the Meteorology section of Sixth Grade Earth Science. The study would be useful to assist students in identification of the different types of clouds in the sky. Students have an interest in weather, cloud classification and predicting daily weather from the clouds in the sky.

Title	Schoolyard Investigation – A Walk in the Clouds
Age Group	Middle School
Lesson Duration	1 month
Year	2004
Cost	\$194.67

The curriculum goals in for Meteorology include the following: define humidity, absolute humidity and relative humidity and explain their relationships, explain how weather forecast are made, describe conditions that cause thunderstorms and tornadoes, three climate zones and the three types of clouds and describe the most abundant gases found in the atmosphere.

MATERIALS

Individual supplies

Sunglasses
Notecards
Pen/Pencils
Handouts on Cloud Formations

Classroom supplies

Classroom Chart on Cloud Identification
Classroom Chart on Clouds Identification by Height
Textbook
Earth Science Junior Barometer
Thermometer Jumbo Rain Gauge
Sling Psychrometer Anemometer

QUESTIONS

A. Introductory Questions

- What is weather?
- What are humidity and dew point?
- Why are there clouds in the sky?
- Why are clouds so different from one another?
- Why is the weather different with different shapes clouds?

B. Expected Questions

- What are the names of the different clouds?
- Does the shape of the cloud affect the weather?
- What do you look for in the sky for sleet and snow?

C. Questions to Investigate

- What is the most common cloud formation at GWA in the month of April?
- What weather is created by cloud formation at GWA in the month of April?
- Do other conditions affect weather other than cloud formations in the sky at GWA in the month of April?

PROCEDURE-

A. Sampling Sites

The campus of George Walton Academy would be used to look at cloud formations. Since there are five different classes, five different locations have been selected: Football Field, Baseball Field, Softball Field, Tennis Court and Courtyard. Each area has an unrestricted view and students have access to these areas.

B. Methodology

Student will be given a weather chart to track their cloud formations for the month of April. Students will have access to posters on different cloud formations and handouts on different cloud formations.

Equipment: Students will need their weather chart and sunglasses to make their daily cloud observations. They will have access to the following weather instruments: Aneroid barometer for air pressure, thermometer (Alcohol and mercury) for temperature, anemometer for wind speed, psychrometer for relative humidity and rain gauge for measuring the amount of precipitation.

Data Collection: Data will be collected by students daily. Each class will be assigned to go to their designated area of GWA. They will write down their observation of cloud formation and weather that exists during their observation. The class will discuss their observations at the beginning of the class period to make sure that they are in agreement with the different cloud formations and weather conditions that exist. Data will be analyzed by having each class compile the total together. The grand total will represent the entire campus and surrounding areas. Each type of cloud formation will be represented on a bar graph labeling cloud formation and number of days cloud formation was present.

C. Predictions

If cumulus clouds are the most common cloud at GWA, then it will be the cloud formation most frequently identified.

If cumulus clouds are the most common cloud at GWA, then the weather pattern will be fair weather and thunderstorms.

D. Analysis and Communication

Students will analyze their results by counting the different number of cloud formations collected during one month by class period. They will look for similarities and differences in the clouds. Each class will construct a bar graph to show the results of their class period. Totals from each class will be posted on the board. Student will total the findings of each class and create a bar graph of the total from the entire sixth grade school year investigation answering the question - What is the most common cloud formation found at GWA/Walton County?

RESOURCES

Books: *Weather* by Terry Jennings
Earth's Changing Climate by Roy Gallant
Clouds, Air and Wind by Eric Sloane
The Encyclopedia of our Awesome Earth by Liz White
Shapes in the Sky: A Book about Clouds by Joseph Sherman
Everybody's Weather by Joseph Guer
Weather by William Burroughs
How the Weather Works by Michael Allaby

Video: Weather- Eye Witness

Charts: Chart on Cloud Formation and Chart on Clouds

BUDGET

Clouds and Cloud Formation Charts	\$2.99
Zerox Paper for Charts on Cloud Formation and Weather	\$5.00
Colored Paper (Pack of 500 Sheets)	\$5.99
White Paper (Pack of 500 Sheets)	\$3.99
Thermometer - Indoor/Outdoor	\$16.50 (Fischer)
Alarm Thermometer/ Hygrometer	\$35.00 (Fischer)
Sling Psychrometer	\$55.75 (Fischer)
Junior Barometer	\$25.00 (Fischer)
Jumbo Rain Gauge	\$9.50
Economical Anemometer	\$34.95
Total	\$194.67