

## Clouds

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### Lesson Overview

In this lesson, students will classify shapes and types of clouds according to elevation and their associated weather conditions and patterns.

### Standards Addressed

- SC 2005      6-4.3 Classify shapes and types of clouds according to elevation and their associated weather conditions and patterns.
- SC 2014      6.E.2B.1 Analyze and interpret data from weather conditions (including wind speed and direction, air temperature, humidity, cloud types, and air pressure), weather maps, satellites, and radar to predict local weather patterns and conditions.
- NGSS          MS-ESS2-6 Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

### Disciplinary Literacy Best Practices

Brainstorming

Word Wall\*

Notebooking\*\*

Graphic Organizer (mini poster or flipbook)

Question/Answer Relationships (QAR) – Right There and Think and Search

\*The teacher maintains a Word Wall throughout the year that reflects both previous and current units of study.

\*\*Students use science notebooking daily.

### Lesson Plan

Time Required – One 55 minute class period

Disciplinary Vocabulary – cumulus, cirrus, stratus, fog; the prefixes alto- and nimbus-

Materials Needed:

- (1) pencil per student
- (1) science notebook per student (or other recording device)
- (1) handout per student (found at end of lesson)\*\*\*
- (1) set of markers or colored pencils for every 4 students
- paper for mini-posters and flipbooks
- Science textbook for every pair of students\*\*\*
- Technology needed:
  - access to Internet via iPad, tablet, or computer – at least one device for every pair of students

\*\*\*Note: The McDougal Littel South Carolina Science Grade 6 textbook was used by the teacher who created this lesson. If using a different textbook, try to complete the handout using that text before teaching this lesson. The handout may need to be adjusted.

## Engage

- The teacher will project pictures of clouds for students to discuss what kind of weather they would expect based on their prior observations from everyday lives. (Brainstorming)
- The teacher will discuss with the students the characteristics of the three basic types of clouds: cumulus- puffy, stratus- stretched out, cirrus- wispy.
- The teacher will introduce the word stems *nimbus* and *alto*, their meanings and how they are used in combination with the three basic cloud names. (ex. *Nimbostratus* means stratus clouds that produce precipitation; *altostratus* means stratus clouds that are at a medium altitude, etc.)

## Explore

- Students will read pages in their text book that describe different types of clouds and weather associated with them. Students will also use one or both of two interactive websites (<http://www.weatherwizkids.com/> or <http://wildwildweather.com/>) that provide further information. They will complete the student handout and add it to their science notebooks. (Question/Answer Relationships (QAR) – Right There and Think and Search)
- Students will use the information from their reading and the interactive website to illustrate each of the basic cloud types and three combination clouds using *alto* and *nimbus* by making a mini poster or flip book. Students will also summarize the possible weather associated with each of the cloud types. Students may make a mini poster or a flip book. (Graphic Organizer)

## Explain

- Students will share characteristics of clouds with their group using their mini poster or flip book.
- The teacher will show students pictures of clouds and call on group members to identify the cloud type and the possible weather associated. The teacher will also give students characteristics and types of weather and ask them to identify the cloud type.

Lesson Assessment: Students will create a mini-poster or flipbook that includes the three basic clouds and four combination clouds. They are to describe the way each cloud looks and their elevation and the weather that is associated with each cloud. (Graphic organizer)

### **Teacher Reflections and Biographical Information**

This activity allowed students to process content knowledge for identifying clouds by their description and pictures as well as being able to associate weather phenomena to clouds. The activity allowed students to engage in interpersonal as well as intrapersonal learning. It also allowed students to use literacy skills by reading, summarizing, and verbally explaining. They also were required to use a nonlinguistic representation. Students enjoyed using the interactive cloud matching activity and making the flip books.

Lesson Author: Tammy Floyd, 6<sup>th</sup> grade science teacher at Green Sea Floyds Middle School, Horry County Schools, in Green Sea, SC.

## Clouds

*By the end of our lesson today, you will be able to complete the information on this handout and will add it to your Science notebook. Some answers are “Right There” in your textbook or on the websites. Others will require you to “Think and Search” for the information you need.*

Clouds are classified and named according to:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

The names of the three main types of clouds come from Latin and \_\_\_\_\_

\_\_\_\_\_

Those names are: \_\_\_\_\_

Briefly describe each of the three types of clouds.

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The names of the three main cloud types (cirrus, cumulus, and stratus) may be combined with each other or with a prefix or suffix.

Describe combinations of the three main types that you read about in the text.

If the prefix *alto-* is used, what do you know about the type cloud it is describing?

Example: *altostratus*

What other cloud names use the prefix *alto-* ?

If the suffix *-nimbus* is used, what do you know about the type cloud it is describing?

Example: *cumulonimbus*

What other cloud names use the suffix *-nimbus*?

Weather indicators

Use the chart to list the names and descriptions of clouds according to the kind of weather you might expect when you see them in the sky.

FAIR WEATHER	RAIN and/or STORMS