

Clouds and Your Imagination _____

Levels



Grades K-4

Overview:

During this activity, students illustrate clouds, then use their imagination to identify shapes in the clouds they created. This activity should be done on a cloudy day.

Objectives:

The student will make an illustration and interpret it using his/her imagination.

GLEs Addressed:

Science

- [3-4] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.

Whole Picture:

The shape and color of a cloud is a result of atmospheric conditions such as temperature and altitude.

Clouds are formed when water on Earth evaporates and forms water vapor held in the air. As warm air rises, cooling occurs. The cooler the air, the smaller the amount of water vapor it can hold, therefore some of the water vapor is forced to condense onto tiny particles (dust, pollution) floating in the atmosphere. A small drop of water forms around each particle. A cloud is a visible mass of such water in the form of small droplets or ice crystals that are small enough to stay suspended in the atmosphere.

Shape:

- Cirrus clouds are characterized by thin, wispy strands that appear high in the sky, generally between 20,000 and 40,000 feet (6 to 12 kilometers), but may go much higher.
- Cumulus clouds are characterized by puffy, billowing towers of white that can extend for thousands of feet, usually beginning with flat bases ranging from 4,000 to 8,000 feet (1.2 to 2.5 kilometers) in altitude.
- Stratus clouds are characterized by their uniform look, blanketing the sky with white and grey. These flat, featureless clouds are low in altitude (usually 2,000 to 7,000 feet or 2 to .5 kilometers) and obscure the sun. Stratus clouds can reach the ground. When this happens it is called fog.

Color:

Clouds appear white because the water droplets and ice crystals reflect sunlight. Light is composed of a spectrum of colors that when added together appear white to the human eye. Clouds appear grey when the droplets begin to crowd together so sunlight cannot pass through. This can also be an indication the cloud is becoming oversaturated and may produce rain, snow, or hail.

Materials:

- Crayons or markers (optional)
- STUDENT WORKSHEET: "Clouds and Your Imagination"

Activity Procedure:

1. Distribute the STUDENT WORKSHEETS and crayons or markers (optional).
2. Ask if students ever have lain on their backs and looked up at the clouds. Ask them to draw a picture of a cloud-filled sky.
3. Once students have completed their drawings, ask them to share their illustrations with another student. The students should try to imagine shapes in their partner's cloud picture, as if they were looking at actual clouds in the sky.
4. Level 1: Ask students if they can imagine the shapes the other student saw in their illustration.
Level 2: Ask students to list the shapes the other student imagined in their illustration.
5. Ask students to look outside and describe the color (gray, white, etc), shape (puffy, wispy, etc.) and extent (whole sky, part of the sky, none) of the cloud cover. Ask Level 2 students to record this data in the chart at the bottom of their worksheet.

Answers to Student Questions:

Answers to Level 1 and Level 2 student questions will vary.

Name: _____

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Student Worksheet



Have you ever lain on the ground and looked up at the clouds?

1. Draw a picture of a cloud-filled sky in the space below.

2. Not all clouds look alike. It is fun to imagine shapes in clouds. Share your picture with another student. What shape can he/she find in your cloud picture?

Name: _____

Level

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Student Worksheet



Have you ever lain on the ground and looked up at the clouds?

1. Draw a picture of a cloud-filled sky in the space below.

2. Trade pictures with another student and ask him or her to try to imagine shapes in your cloud picture. What did they imagine?

3. Look outside and observe the clouds, then use the words in the word bank to complete the Cloud Data Chart. Use only the words that describe today's clouds.

Word Bank				
wispy	fluffy	thin-layered	streaks	all
part	none	gray	white	black

Cloud Data Chart:

What COLOR are today's clouds?	
Describe the SHAPE of today's clouds.	
How MUCH OF THE SKY do today's clouds cover?	