

<b>Grade 4</b>	<b>Lesson: 1-1 Cloud Cover</b>	<b>Reference to English</b>
<b>Standard(s): 1.OA.1</b>	<b>Domain:</b>	
<b>Content Objective(s):</b>	<b>Language Objective(s):</b>	
Identify basic cloud types		
<b>Essential Understanding:</b>	<b>Academic Vocabulary for Word Wall:</b> <b>Listen:</b> <b>Read:</b> <b>Write:</b> <b>Speak:</b>	
<b>Materials:</b> <ul style="list-style-type: none"> <li>• “My Weather Book” (1 per student)</li> <li>• Cotton Balls</li> <li>• Glue</li> <li>• Markers</li> <li>• Water Colors</li> <li>• Silver Glitter or a Silver Marker</li> <li>• Cloud Chart</li> </ul>	<b>Additional Lesson Vocabulary:</b>  <b>Sentence Frames:</b>	
<b>Lesson: Cloud Cover</b>	<b>Instructional Time:</b>	

### Opening: (10 minutes)

- Take students outside and lie on the grass looking up at the sky. Look at the clouds.

T: What do you see? What do they look like? What colors are they? Are they moving or staying still? Do the shapes remind you of anything?

- Have the students record a few observations and draw pictures of some of the clouds in their “My Weather Book.”

### Introduction to New Material (Direct Instruction): (7 minutes)

*What’s in a Cloud?*

T: What makes a cloud? How are they formed?

- Help students remember what they learned about evaporation and condensation in their “Water Cycle Unit.”
- Remind them... Certain conditions must exist for clouds to form – water vapor in the air, temperature change, and particles in the air for the water vapor to condense on. As warm, moist air rises, it begins to cool and condense on dust particles forming water droplets. These water droplets form clouds. They will not fall to Earth because they are too small.

T: We need three things to form a cloud: Water, Dust, Low Pressure.

T: Why do we need water? (The water will evaporate to put water in the air)

T: Why do we need dust? (The water vapor needs particulate to attach in order to condense.)

T: Why do we need low pressure? (The low pressure provides cold air to change the water vapor back into liquid water to form a cloud. Note: We’ll discuss low pressure more later.)

*Cloud Types:*

T: Do all clouds look the same? Do the clouds we observed today look like the ones we see on a rainy day? How do clouds change?

T: Clouds take different shapes depending on the amount of water vapor available and the speed and direction of the moving air. Clouds are classified according to how they are formed.

T: There are three main types of clouds: Stratus, Cumulus, and Cirrus. Let’s look at each type in more detail.

T: As you learn about and discuss each type of cloud, have the students create a sample picture in their “My Weather Book” using cotton balls, glue, and markers.

- Have students record the height at which the clouds are formed.
- Record the weather typically associated with each type of cloud.

*Stratus Clouds:*

T: low, flat, gray clouds that look like sheets covering the sky

T: the closest clouds to the ground

T: form as low as surface level (fog) to about 6,500 feet above the ground

T: can produce rain, drizzle, snow, or mist

- (Note: Use black marker to color the cotton balls to appear gray. Use blue water colors to add rain drops.)

*Cumulus Clouds:*

T: puffy and white-like cotton balls; flat on the bottom and fluffy on top

T: form from 2,000 to 20,000 feet above the ground

T: usually indicate fair weather

T: sometimes they grow very large and become thunderheads

T: As these clouds gather, they create thunder and lightning and produce precipitation in the form of rain and hail.

- (Note: Add lightning with a silver marker or glitter. Use blue water colors to add rain drops.)

*Cirrus Clouds:*

T: thin, curly, wispy clouds (sometimes referred to as mares’ tails)

T: form between 25,000 to 40,000 feet above the ground

T: are so high in the atmosphere that the water droplets freeze into ice crystals

T: often indicate an incoming storm or weather change

*Prefixes:*

T: Stratus, Cumulus, and Cirrus are only the basic types of clouds.

T: Additional types of clouds can be described using the prefixes “alto” and “nimbo” to tell more about these three basic clouds.

T: If the prefix “alto” is used, it means middle, referring to the position of the clouds in their respective areas.

T: If the prefix “nimbo” is used, it means water and these clouds will often bring rain.

- Share the “Cloud Chart” with students to identify additional types of clouds.

Assessment:

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