



First Steps of the Cloud Dance

Embodying Cloud Types Through Movement

This lesson plan provides a comprehensive overview of how to integrate movement into learning about cloud types, making the experience both educational and enjoyable for young students.

Purpose

Learners will learn to identify and describe the three main types of clouds—cirrus, cumulus, and stratus—by embodying their characteristics through guided dance movements. This activity combines physical movement with cloud science to reinforce Learners' understanding of cloud types in a fun and engaging way.

Grade Level

K-5

Time

30-45 minutes

Materials

- ☐ Open space for movement
- ☐ [Do You Know That Clouds Have Names?](#)
- ☐ [GLOBE Cloud Chart](#)
- ☐ (Optional) [Cloud Dance demonstration video](#) [6:50, cloud dance segment is 1:00]
- ☐ (Optional) Visual Aids of Clouds: Consider using visuals alongside the descriptions, like drawings or photos of each cloud type, to help the Learners connect the words with what they see in the sky.
- ☐ (Optional) Play music to accompany the dance (soft instrumental or nature sounds that mimic weather) to help set the atmosphere.

Safety

Make sure you have ample space for the learners to spread out

- Clear the area of obstacles: Move furniture, bags, or other items out of the way.

- Designate boundaries: Use tape, cones, or markers to outline a safe dancing space for each participant.
- Encourage spacing: Ask learners to stretch their arms out to check their personal space and avoid overlap.

Learning Objectives

By the end of this lesson, Learners will be able to:

1. Identify Cloud Types: Recognize and name the three main types of clouds—cirrus, cumulus, and stratus—based on their visual characteristics and movements.
2. Describe Characteristics: Describe the appearance and typical altitudes of each cloud type, using age-appropriate language and vocabulary, such as “fluffy” for cumulus clouds and “wispy” for cirrus clouds.
3. Demonstrate Understanding Through Movement: Embody the unique characteristics of each cloud type through guided dance movements, reinforcing their understanding of cloud shapes and behaviors.
4. Engage in Reflection: Articulate personal experiences and observations related to the cloud types, connecting physical movements to scientific concepts in a group discussion.
5. Apply Knowledge in Extensions: Utilize learned concepts in extension activities to identify and describe additional cloud types and associated weather phenomena, enhancing comprehension of cloud dynamics.

Standards

- NGSS.K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.
- NGSS.K-ESS3-2: Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.
- NGSS.2-ESS2-1: Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
- NGSS.MS-ESS2-5: Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.
- CCSS.ELA-LITERACY.RL.K-2.10: Actively engage in group reading activities with purpose and understanding.
- CCSS.ELA-LITERACY.RL.K-4.7: Use illustrations and details in a story to describe its key ideas.
- Physical Education Standard 1: Demonstrates competency in a variety of motor skills and movement patterns.

Introduction (5–10 minutes)

This introduction encourages interaction, sets a collaborative tone, and prepares Learners for the movement aspect of the lesson while emphasizing the learning objectives. Begin by introducing Learners to the three main types of clouds using visuals or a read-aloud from the book "Do You Know That Clouds Have Names?" Explain the basic characteristics of cirrus, cumulus, and stratus cloud types, focusing on their appearance.

1. Engage Learners: Begin by gathering Learners in a circle and asking them to share any experiences they've had with clouds. Prompt them with questions like:
 - "What clouds have you seen in the sky today?"
 - "Can anyone describe what a cloud looks like?" This will help assess prior knowledge and spark curiosity about the lesson.
2. Introduce the Cloud Types: Present visuals of the three main types of clouds—cirrus, cumulus, and stratus. You can use the GLOBE Cloud Chart, pictures, drawings, or even a short video clip, like [What Are the Different Types of Clouds?](#), to provide a visual context.
3. Read Aloud: Read excerpts from the book "Do You Know That Clouds Have Names?" or another suitable resource to introduce the characteristics of the clouds in a fun and engaging way.
4. Discuss Characteristics: Explain the basic characteristics of each cloud type, focusing on their appearance.
 - **Cirrus Type Clouds:** Cirrus clouds, often called "mares' tails," are high-altitude clouds that appear thin, wispy, and feathery. These clouds form in the upper troposphere, where fast-moving winds stretch them into long, thin streamers. Their delicate, wavy structure comes from these strong winds pushing the ice crystals within the cloud horizontally across the sky. "Stretchy" or "wavy" may be helpful terms for Learners to better visualize their appearance.
 - **Cumulus Type Clouds:** Cumulus clouds are large, puffy clouds that often look like floating cotton balls or heads of cauliflower. Their bases are typically flat, while the tops form rounded towers that make them appear heaped or piled up, which is what "cumulus" means. These clouds are made of water droplets and have sharp, defined edges. To help Learners visualize them, describing cumulus clouds as "fluffy" or comparing them to cotton candy can be helpful.
 - **Stratus Type Clouds:** Stratus clouds are uniform clouds that spread across the sky like a gray, flat blanket. They often resemble fog, only higher up, and cover large portions of the sky in a smooth, even layer. The term "stratus" means "strewn," fitting for their spread-out, flat appearance. For Learners, describing stratus clouds as looking like a "gray blanket" or even a "mustache" across the sky may make their appearance easier to imagine.
5. For younger Learner, you may use simple language and relatable comparisons, such as:
 - **Cirrus:** These are the thin, wavy clouds high in the sky, like feathers floating by.
 - **Cumulus:** These look like big, fluffy cotton balls that seem to be floating in the air.
 - **Stratus:** These clouds form a flat blanket over the sky, like a gray, soft cover.

6. Set the Stage for Movement: Explain that they will learn more about these cloud types through movement, transforming their understanding into a fun dance that mimics each cloud's unique characteristics.

Activity: Cloud Dance (15–20 minutes)

This dance makes cloud types memorable and fun, encouraging Learners to visualize each type with unique gestures. It also builds in some quick, simple science vocabulary to help reinforce the different cloud shapes! Check out [Do You Know that Clouds Have Names?](#) for more information.

- **Cirrus Clouds**
 - **Description:** Explain that cirrus clouds form high up in the sky, appearing thin, wispy, and feather-like and that They stretch out in long streamers across the sky, moved by high-speed winds.
 - **Movement:** Encourage Learners to stretch and extend their arms and fingers in gentle, wavy motions, gliding their arms slowly side to side to mimic the light, windy movement of cirrus clouds like an air dancer.
 - **Visual Cue:** Have them imagine they're stretching and waving like the “mares’ tails” in the sky or like long, thin streamers being pushed by the wind.
- **Cumulus Clouds**
 - **Description:** Explain that cumulus clouds as big, puffy clouds, resembling cotton balls or heads of cauliflower. They're often bright and fluffy, like cotton candy.
 - **Movement:** Guide Learners to form fists or loose "cloud shapes" with their hands, and then roll their hands in front of them while moving them up and down slowly, to show how cumulus clouds puff up and float along.
 - **Visual Cue:** Have them pretend they are big fluffy clouds floating happily in the sky.
- **Stratus Clouds**
 - **Description:** Explain that stratus clouds cover the sky like a thick, gray blanket, creating a flat, even layer. These clouds can appear like a mustache stretched across the sky.
 - **Movement:** Ask Learners to stretch and extend their arms out horizontally, holding them steady and level to show the flat, spread-out look of stratus clouds. They can sway gently to represent the steady, overcast sky and illustrating the broad, uniform spread of stratus clouds.
 - **Visual Cue:** Have them imagine they are a soft blanket covering the ground.

Once Learners are comfortable with each movement, start the “cloud dance” by calling out one of the cloud names, like “Cirrus!” or “Stratus!” Give them a few seconds to get into that cloud’s movement, then switch to another cloud type. Continue calling out names in different sequences, and watch them “float,” “puff,” or “blanket” the sky in their unique cloud moves. This will reinforce each cloud's characteristics and keep everyone engaged in a fun, active way.

Discussion (5–10 minutes)

After completing the Cloud Dance, gather the Learners in a circle to discuss their experiences and solidify their understanding of cloud types. These questions encourage Learners to differentiate each cloud type based on their unique characteristics. Here's a framework for leading the discussion:

- **Opening Question**
 - Start by asking, "Which cloud type did you enjoy dancing the most? Why?"
 - This question invites Learners to reflect on their favorite movement and helps connect their emotions to learning.
- **Memory Connection**
 - "How did our movements help you remember the different clouds?"
 - Encourage Learners to share specific gestures or motions that stood out to them. This reinforces the kinesthetic learning aspect, helping them link each movement with the cloud type.
- **Cloud Characteristics**
 - Prompt them with questions like:
 - "What did you notice about the shape of each cloud type?"
 - "What makes cirrus type clouds different from cumulus type clouds?"

Assessment (5-10 min)

This simple review allows you to check comprehension while reinforcing each cloud type in a fun, memorable way. Use this time for an informal assessment by asking Learners to recall each cloud type based on their dance movements:

- **Identify:** Point to each movement (e.g., wisping arms for cirrus) and ask, "Which cloud is this?"
- **Describe:** Have Learners describe one key characteristic of each cloud type based on the movement they used (e.g., "Cirrus type clouds are wispy").

For younger Learners, offer simpler reflection questions or a brief "Cloud Show-and-Tell" where they each share one thing they remember about their favorite cloud.

Extension Activity A: "Name That Cloud!" (20-25 min)

In this extension to the Cloud Dance activity, Learners will play an engaging game called "Name That Cloud!" It reinforces their cloud knowledge and strengthens listening and identification skills. This quick extension builds on the Cloud Dance movements while adding a listening and recall challenge. It's a perfect way to wrap up the lesson! Here's how it works:

1. **Preparation:** Gather the Learners in a circle or in small groups after the Cloud Dance. Tell them we're going to play a fun game called "Name That Cloud!" This will help us remember what we have learned about the clouds and give you a chance to show off your listening skills.

2. Instructions: Explain that you'll describe one of the clouds they learned about. Their job is to listen carefully, identify the cloud based on the description, and then shout out the name of the cloud (or have them raise their hand when they think they know the answer).
3. How to Play:
 - Read a description of a cloud type without naming it. For example:
 - "This cloud is high up in the sky and looks thin and wispy. It reminds me of feathers."
 - "This cloud is big, fluffy, and looks like a cotton ball in the sky."
 - "This cloud forms a blanket across the sky, covering it with a smooth, gray layer."
 - After you give the description, invite the Learners to raise their hands and call out the cloud's name: cirrus, cumulus, or stratus.
4. Group Reflection: After a few rounds, ask Learners which descriptions were easiest to identify and why. This reinforces the characteristics of each cloud type and helps them feel confident in their knowledge.

Extension Activity B: Adding Rain & Lightning Activity (20–25 minutes)

This involves adding Nimbostratus and Cumulonimbus clouds to the Cloud Dance, along with thunder and rain movements. This can make the activity even more dynamic and memorable.

Here's how to incorporate these new cloud types and weather elements:

- Say "You all did a fantastic job naming the cloud types! Now, let's make our cloud dance even more exciting by adding some new clouds and weather elements. We'll learn about nimbostratus clouds, which bring steady rain, and cumulonimbus clouds, which are tall and bring thunderstorms!"
- **Nimbostratus Clouds**
 - **Description:** Nimbostratus clouds are thick, gray clouds that cover the sky and bring steady rain or drizzle.
 - **Movement:** Learners keep their arms wide and slightly bent, moving them up and down in slow, drizzling motions as if rain is falling from a thick, gray sky. For "rain," Learners can wiggle their fingers downward to show rainfall.
 - **Visual cue:** Imagine a gray blanket covering the sky, arms wide to show flatness, and wiggle fingers for rain.
- **Cumulonimbus Clouds**
 - **Description:** Cumulonimbus clouds are tall, towering clouds often associated with thunderstorms, lightning, and heavy rain.
 - **Movement:** Learners crouch down low, then slowly stand, and stretch their arms up as high as possible to mimic the height of cumulonimbus clouds. Once fully extended, they make "thunder" clapping motions by patting their hands together or stomping their feet. For "rain," Learners can wiggle their fingers downward to show rainfall.

- **Visual Cue:** Visualize a tall mountain, start low and stretch high, and clap for thunder while wiggling fingers for rain.

This expanded Cloud Dance now covers a range of clouds and weather elements, engaging Learners in an even more immersive exploration of clouds and weather. Each cloud has a distinct movement and weather action that Learners can remember and enjoy, reinforcing their understanding of cloud characteristics.

Extension Activity C: "Weather Says" (15-20 min)

This "Weather Says" variation of the Cloud Dance transforms the lesson into a fun and fast-paced game. It reinforces Learners' listening skills, quick thinking, and understanding of cloud types while keeping them engaged through playful repetition. It also builds confidence as Learners lead their peers and provides variety by introducing new elements related to weather, making the cloud lesson even more interactive and memorable.

- Say "Wow! That was incredible! You all really brought the clouds to life with your movements. Now, let's play a new game called 'Weather Says' using our cloud dance movements. This game will help us practice our listening skills while having a blast! I'll be your 'Weather Forecaster,' but I want to see some of you take turns leading too! Remember, if I say 'Weather says,' you follow the cloud movement. If I just say the cloud name without 'Weather says,' you must stay still. Let's have some fun and get started!"
- Explain the Rules:
 - Weather Forecaster Role
 - The facilitator or a selected Learner will act as Weather Forecaster.
 - Following Commands
 - When the Weather Forecaster says a specific cloud type (e.g., "Weather says, Cirrus cloud!"), Learners should perform the matching cloud dance movement.
 - Staying Still
 - If the Weather Forecaster gives a command without saying "Weather says" first (e.g., "Cumulus cloud!"), Learners must stay still. If a Learner moves without the "Weather says" prompt, they sit down or stand to the side until the next round.
- Gameplay:
 - Start Slow
 - Begin with slow, simple commands to help Learners get familiar with the cloud types and movements.
 - Increase Complexity
 - As Learners get more comfortable, increase the speed of commands, and mix up cloud types to add more challenge.
 - Focus on Attention
 - Encourage Learners to pay close attention to remember each cloud type and its corresponding movement.

- Game Variations:
 - Learner-Led Rounds
 - Allow Learners to take turns being the Weather Forecaster and leading the game.
 - This gives them a chance to practice leadership and reinforces their understanding.
 - New Cloud Types and Weather Phenomena:
 - Introduce additional elements, such as:
 - “Weather says, be a raindrop” (wiggle fingers downwards).
 - “Weather says, make thunder” (clap or stomp).
 - “Weather says, be a lightning bolt” (jump and stretch arms straight up).

Closing and Cool Down (5–10 minutes)

As we wrap up our Cloud Dance lesson, it’s important to take a moment to cool down and reflect on what we’ve learned today. This closing and cool-down session helps reinforce the learning objectives while allowing Learners to transition smoothly from active learning to a quieter, reflective state.

1. Gathering:
 - Ask the Learners to gather in a circle on the floor or in a comfortable seated position.
 - This creates a calm atmosphere and allows everyone to relax after the energetic dance activity.
2. Deep Breathing:
 - Begin with a few deep breaths to help Learner’s transition from movement to calmness. Instruct them to inhale deeply through their noses, filling their bellies with air, and then exhale slowly through their mouths.
 - Repeat this a few times, encouraging them to imagine they are breathing in fresh air from the sky and exhaling any excitement or energy from the dance.
3. Gentle Stretching:
 - Lead the Learners in gentle stretches to help their bodies relax.
 - You can include movements inspired by the clouds they learned about:
 - Cirrus Type Clouds: Stretch arms overhead, reaching up to the sky as if trying to touch the wispy clouds.
 - Cumulus Type Clouds: Bring arms out to the side and puff them up like fluffy clouds, then release them slowly back down.
 - Stratus Type Clouds: Extend arms horizontally, holding them steady as if creating a flat blanket, then gently lower them to the ground.
4. Reflection Questions:
 - Invite the Learners to reflect on the day’s activities by asking a few simple questions:
 - “What was your favorite cloud type to dance like and why?”
 - “How did our movements help you remember the different clouds?”
 - “Can anyone share one thing they learned about clouds today?”
5. Closing Remarks:

- Thank the Learners for their participation and enthusiasm during the Cloud Dance.
 - Reinforce the idea that clouds are all around us and that they can now recognize different types of clouds in the sky thanks to their movements and dance.
6. End with a Story or a Song:
- If time permits, consider closing with a short story about clouds or a fun song related to the weather.
 - This will provide a relaxing end to the lesson while keeping the topic of clouds alive in their minds.

Complementary Resources:

[Advanced Steps of the Cloud Dance](#) – learners will learn to identify and describe the 10 main cloud types while integrating movement with their learning.

[Camp Guide Cloud Dance](#) – an informal version of the Cloud Dance.

[Cloud Triangle](#) – learners construct a cloud triangle focused on the three main types of clouds.

Acknowledgements

This resource was developed by NASA Langley Research Center under NASA Earth Science Education Collaboration (NASA award NNX16AE28A).