

Photo Description



This image shows hundreds of white snow geese resting together in a large, flat field during their journey to find food and raise babies in warmer or colder places depending on the season. Three geese are flying above the group, showing how these birds move together from place to place. Power lines and distant trees help us see how vast the landscape is where these birds gather.

Scientific Phenomena

Anchoring Phenomenon: Bird Migration and Seasonal Movement

Snow geese migrate—they travel long distances twice each year—because Earth's seasons change the availability of food and water. As winter approaches, ponds and wetlands freeze, making it impossible to find food in northern regions. Geese instinctively respond to changing day length and temperature by flying south to areas where water remains unfrozen and food is available. In spring, they return north to breed. This behavior is driven by both internal biological clues (hormonal changes triggered by photoperiod) and external environmental cues (temperature, food scarcity). For first graders, the simple explanation is: "Geese move to different places when it gets too cold or too hot, just like you might wear different clothes in different seasons."

Core Science Concepts

1. Animal Behavior and Survival

- Animals move to find food, water, and shelter to stay alive
- Geese gather in large groups for protection and to share information about safe places

2. Seasonal Changes and Life Cycles

- Seasons change what animals can find to eat and where they can live safely
- Animals adapt their behavior to match seasonal changes (migration is an adaptation)

3. Patterns in Nature

- Geese return to the same areas year after year following the same routes
- Large groups of animals moving together show predictable patterns

4. Habitats and Ecosystems

- Different habitats provide different resources; geese need wetlands with open water and vegetation
- The flat agricultural field shown is used as a temporary rest stop during migration

Pedagogical Tip:

Use the concept of "home" to make migration relatable. Ask students: "Where do you go when it's cold outside? What do you need to stay healthy?" Then connect: "Geese do the same thing! They move to places where it's easier to find food and stay warm (or cool)." This scaffold builds understanding from familiar experiences to animal behavior.

UDL Suggestions:

Representation: Show the photo on a large screen, and point out the three flying geese versus the resting group. Some students may benefit from a simplified map showing "Cold Place (North)" and "Warm Place (South)" with arrows showing movement.

Action & Expression: Allow students to demonstrate migration through movement—have them "fly" across the classroom in a V-formation. This kinesthetic approach helps visual and kinesthetic learners internalize the concept.

Engagement: Connect migration to students' own experiences: "Do your grandparents live far away? Do you visit them at different times of year? Geese do something similar!"

Discussion Questions

1. Why do you think all these geese are resting together on the ground instead of flying right now?

(Bloom's: Understand | DOK: 1)

2. What do you think the geese need to find when they fly to a new place?

(Bloom's: Understand | DOK: 1)

3. How might the geese know when it's time to fly to a different place?

(Bloom's: Analyze | DOK: 2)

4. If all the water in this field froze over like ice, how would the geese survive? What could they do?

(Bloom's: Analyze | DOK: 2)

Extension Activities

1. "Geese Migration Map Walk"

Create a simple classroom pathway with stations labeled "Winter Home," "Rest Stop," and "Summer Home." Students walk the path while you describe why geese stop at each location and what they find there. At each station, students can draw or act out what geese do (rest, eat, drink water).

2. "Design a Safe Resting Place"

Provide art supplies (paper, markers, cotton balls for "grass," blue paper for "water") and ask students to create a safe place where geese can rest during migration. Discuss why their design includes the features they chose (food, water, open space to watch for danger, etc.).

3. "Migration Movement Game"

Play music and have students fly around the classroom like geese. When you pause the music and call out "Rest!" they crouch down like resting geese. When you say "Danger!" they fly to a "safe zone" you've marked. This makes the concept of migration and survival instinct physically memorable.

NGSS Connections

Performance Expectation:

- 1-LS1-1: Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

Disciplinary Core Ideas:

- 1-LS1.A - All organisms have external parts that they use to perform daily functions necessary for survival.
- 1-LS1.B - Animals use their body parts in various ways to see, hear, and smell to help them respond to different inputs.

Crosscutting Concepts:

- Patterns - Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.
- Cause and Effect - Simple cause-and-effect relationships exist in systems as parts relate to the whole and how they interact.

Science Vocabulary

- * Migrate: When animals travel long distances to find food, water, or a safe place to live.
- * Flock: A large group of birds flying or resting together.
- * Habitat: A place where an animal lives and finds food, water, and shelter.
- * Season: A time of year with certain weather patterns (spring, summer, fall, winter).
- * Adaptation: Something about an animal's body or behavior that helps it survive.

External Resources

Children's Books:

- Stranger in the Woods by Carl R. Sams II and Jean Stoick (features migratory birds and seasons)
- Are You My Mother? by P.D. Eastman (themes of animals searching and traveling)
- Swirl by Swirl: Spirals in Nature by Joyce Sidman (patterns in nature, including bird formations)

YouTube Videos:

- "Snow Geese Migration" by National Geographic Kids (2:15) – Shows actual footage of snow geese flying in formation and landing in fields. Appropriate for first graders with teacher narration. <https://www.youtube.com/watch?v=BZB8iBK1Zms>
- "Why Do Birds Migrate?" by SciShow Kids (4:30) – Explains migration in simple, engaging language with clear visuals. Great for introducing the concept. <https://www.youtube.com/watch?v=2MgSHyRb9NM>