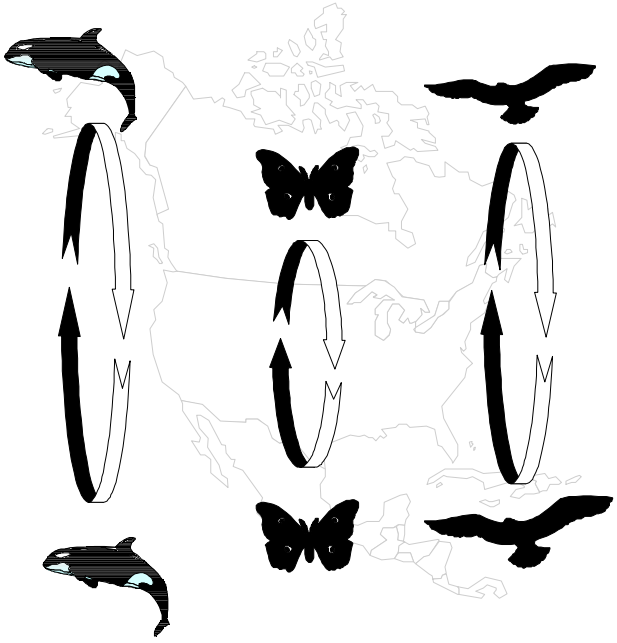
ANIMAL MIGRATION



CFE 3210V

OPEN CAPTIONED
NATIONAL GEOGRAPHIC SOCIETY
1993
Grade Levels: 4-8
22 minutes
1 Instructional Graphic Enclosed

DESCRIPTION

Why do animals migrate? They migrate to find food, to escape seasonal changes, and to breed. Whales swim from the Arctic to give birth in warm Mexican waters. Bats migrate each spring to specific caves. Wildebeests constantly migrate to find food. Monarch butterflies take several generations to complete a seasonal migration. Whether daily, seasonal, annual, or only twice, migration remains a spectacular and mysterious event.

INSTRUCTIONAL GOALS

- To identify a variety of migratory animals and patterns.
- To emphasize the magnificence of instinct in nature.
- To demonstrate the role migration plays in the reproduction of some species.
- To examine the life cycles of some animals that migrate.
- To compare migratory patterns.

BEFORE SHOWING

1. Read the CAPTION SCRIPT to determine unfamiliar vocabulary and language concepts.
2. Define *migrate*.
3. Prepare a simple world map and place near the screen for easily pointing out specific areas.

DURING SHOWING

1. View the video more than once, with one showing uninterrupted.
2. After the segment about each animal, pause and locate the origin and destination of each migration on a world map.
3. Pause after the scene in which bats fly north. Note the forms of locomotion used in migration.

AFTER SHOWING

Discussion Items and Questions

1. Define *instinct*. Debate which have stronger instincts, animals or humans. Present evidence to support answers.
    a. Find examples of human instinct at work from articles in newspapers and magazines.
    b. Share stories of communication between animals and humans in potentially dangerous confrontations.
    c. Give three examples of maternal instincts in humans. Give three for animals.
2. Discuss which fact in the video was the most incredible.
    a. Explain why this was especially interesting.
    b. Share how this fact is unique.
3. Research how many miles equal 10,000 km, the distance gray whales migrate.
    a. Given their migratory time of three months, compute how many miles per hour gray whales travel.
    b. Estimate the length of time humans need to travel that distance by foot.
4. The video refers to landmarks that sandhill cranes use in migrating. Discuss what these might be.
    a. Exchange personal stories about being lost. Relate solutions and evaluate alternative ones.
    b. Name landmarks around the community. What would happen if these landmarks disappeared or changed?
5. Notice that most of the animals shown in the video migrate north to south. Explain reasons for each migration.
6. Decide what reference headings might be helpful in finding more information about other migratory animals.
    a. Generate ideas where more information could be found. Consider a variety of media including computers and encyclopedias.

b. Create a list of organizations or groups that are knowledgeable about migration.

7. List several reasons salmon might turn red in their quest to swim upstream and spawn.
8. Consider if human beings have predators.
   a. What are humans' natural defenses excluding use of guns or weapons?
   b. How does technology help to ensure human safety as a species? How does it hurt us?
   c. Where are humans located on the food chain? Why is this so?
9. Introduce the term *migrant worker* in relation to humans. Discuss what kinds of work require movement from one place to another.
10. The examples of migratory animals in this video are shown in large groups. Discuss the advantages of traveling together.
11. Consider how humans can interfere with the natural course of animal migration. Include ideas on hunting, vacationing, and industry.

Applications and Activities

1. Working in groups, complete a summary chart on animal migration. (See INSTRUCTIONAL GRAPHICS.)
   a. Using colored markers, draw arrows on the map from point of origin of migration to the destination for each animal named.
   b. Note how many of the mentioned animals migrate through the local geographical area.
   c. Deduce if most migrations occur north to south or east to west. Discuss the results and why this might happen.
2. Investigate the range of ocean temperatures gray whales experience as they migrate. Determine how whales survive this range.
3. Pretend to be a migratory animal and keep a travel journal. Write monthly, weekly, or daily entries according to the length of the migratory journey.

4. Acquire a pair of binoculars and investigate the best time to watch bird migration in the local area.
    a. Record from and to what direction the birds are flying.
    b. Observe differences in physical features between males and females.
    c. Chart observation times daily and look for patterns.
    d. Pay attention to possible nesting sites.
5. Review the video to find the specific names given to the babies of each of the mentioned animals, such as *calves* and *chicks*.
    a. Associate other animals with the correct names for their offspring.
    b. List names that are used more than once. Find which are used most often. Look for similarities between these animals.
6. Research migratory animals and their migration patterns from other continents. Compare with those in North America.
    a. Organize data and collate to produce a class book.
    b. Include illustrations.
7. For each animal in the video, make a visual chart demonstrating the food chain. Include mammals, birds, fish, and insects.
8. Working as a class, make a collage of migratory animals using pictures from magazines. Place animals which live on land, sea, and air in corresponding areas on the poster.

INSTRUCTIONAL GRAPHICS

One instructional graphic is included with this lesson guide. It may be enlarged and used to create transparencies or copies.

- ANIMAL MIGRATION CHART

WEBSITES

Explore the Internet to discover sites related to this topic. Check the CFV website for related information (http://www.cfv.org).

SUMMARY

Across the globe, throughout the year, animals take amazing journeys on land, water, and air. Some animals migrate in search of food or suitable habitat; others migrate to escape seasonal changes or to give birth.

Mexican free-tailed bats, mostly female, migrate in the spring from Mexico to Texas. Their babies, called *pups*, cling to the walls of caves while the mothers hunt insects. As many as several million mother bats call a single cave their home. The young bats fly quickly and soon return to Mexico. The following spring, the young bats migrate north to have their own babies.

Gray whales also seek appropriate breeding conditions. Originating in the Arctic, these whales eat tiny plankton and small crustaceans on their three-month, 10,000-kilometer journey to the Baja Peninsula in Mexico. Whales lose a third of their body weight during migration. In the springtime, the baby whale calves will be strong enough to go back to the Arctic.

A migratory ocean life form of the tiniest sort is called *plankton*. The plants specifically are called *phytoplankton*. Plankton animals which eat phytoplankton are called *zooplankton*. This microscopic marine life is the lowest level in the food chain. Zooplankton migrate to surface water and eat minuscule plants at night, then migrate to deeper waters again for protection during the day.

Sandhill cranes migrate annually, summer to winter. They begin in the southern United States and move to northern Canada, Alaska, or Siberia. At the Platte River in Nebraska, these birds rest and feed on

the plentiful corn left in the fields. When they finally reach Alaska or Siberia, the females lay their eggs. The baby colts are ready to migrate south again with the adults in the autumn.

On the plains of Serengeti in Africa live the wildebeest. New calves learn to run within a day of birth. Their seasonal migration occurs when the rainy season is finished. In search of food and water, they move north to the Masai Mara. Slow and sick wildebeests are often easy prey for prowling African lions.

Another remarkable migration is that of monarch butterflies. East of the Rockies, they migrate as far south to mountainous Mexico. West of the Rockies, their destination is near the Monterey Bay, California. Here the butterflies find warmth for the winter in eucalyptus and pine trees where they wait until spring. New generations of butterflies find their way each year. As the weather warms, the monarch butterflies fly north to eat and lay eggs on the poisonous milkweed plant, safe from predators.

Sockeye salmon migrate twice in their lives, at the beginning and at the end. As they travel from the Pacific to rivers flowing into it, sockeyes turn bright red, indicating they are ready to spawn. They swim upstream to calm waters where the eggs are ready to be fertilized. Male salmon are exhausted after their excursion and they quickly die. Given another year or so, salmon fry will migrate downstream and repeat the cycle.

CFE 3210 V ANIMAL MIGRATION

ANIMAL MIGRATION CHART

DIRECTIONS: Complete the summary chart with information from the video. Using colored markers, draw arrows on the map from point of origin to destination of migration for each animal named.

Animal	Migrates		Amount of time	Purpose	Color on map
	From (place)	To (place)			
Mexican free-tailed bat					
Gray Whale					
Zooplankton					
Sandhill crane					
Wildebeest					
Monarch butterfly					
Sockeye salmon					