

Wings of Migration: Exploring Bird Migration Patterns

Learning Objectives

- Understand the fundamental patterns of bird migration
- Identify key migratory routes and their significance
- Analyze environmental factors affecting bird migration
- Develop observation and data collection skills
- Create connections between wildlife behavior and environmental changes

Warm-Up Activity: Bird Migration Basics (15 minutes)

Think about what you know about bird migration and answer these questions:

1. What birds have you observed in different seasons?

2. Why do you think birds migrate?

3. What challenges might birds face during migration?

Migration Mapping Exercise (25 minutes)

Group Investigation:

Using the provided world map, work in groups to:

1. Mark major migration routes with different colored lines
2. Identify key stopover points
3. Note important feeding grounds

[World Map Activity Space]

Bird Species	Migration Route	Distance	Key Stopover Points

Environmental Factors Analysis (20 minutes)

Investigate how different environmental factors affect bird migration:

Weather Patterns

How do these weather conditions affect migration?

- Wind direction:

- Temperature:

- Rainfall:

Geographic Features

How do these features influence migration routes?

- Mountains:

- Coastlines:

- Deserts:

Migration Challenge Simulation (30 minutes)

Role-Playing Exercise:

Your group represents a flock of migratory birds. Navigate through these challenges:

Scenario 1: Weather Front

You encounter a strong storm system. What decisions will you make?

Scenario 2: Food Shortage

Your usual stopover point has limited food resources this year. How do you adapt?

Scenario 3: Human Development

A crucial wetland has been developed into an urban area. What's your solution?

Data Collection and Analysis (45 minutes)

Bird Migration Tracking Project

Field Observations

Date	Species	Count	Direction

Weather Conditions

Temperature: _____ °C
Wind Speed: _____ km/h
Wind Direction: _____
Cloud Cover: _____ %
Precipitation: _____ mm

Migration Technology Investigation (30 minutes)

Modern Tracking Methods

Tracking Method	Advantages	Limitations
Satellite Tracking		
GPS Loggers		
Radio Telemetry		

Conservation Challenges and Solutions (40 minutes)

Current Challenges

- Habitat Loss

Impact:

- Climate Change

Impact:

- Human Development

Impact:

Proposed Solutions

- Habitat Protection

Strategy:

- International Cooperation

Strategy:

- Public Education

Strategy:

Case Study: Arctic Tern Migration (35 minutes)

The Ultimate Migration Journey

The Arctic Tern holds the record for the longest annual migration of any animal:

- Annual Distance: approximately 70,900 kilometers
- Route: Arctic to Antarctic and back
- Duration: 8-9 months of travel

Answer the following questions:

1. What adaptations help Arctic Terns complete this journey?

2. How do they navigate across such vast distances?

3. What challenges do they face during their migration?

Create a Mini-Documentary

Production Guidelines

1. Choose a migratory bird species
2. Research its migration pattern
3. Document challenges and adaptations
4. Include conservation efforts
5. Present findings to the class

Storyboard Planning

Scene 1: Introduction

Scene 2: Migration Route

Scene 3: Challenges

Assessment and Reflection

Self-Assessment Questions

1. What was the most surprising thing you learned about bird migration?

2. How has your understanding of migration changed?

3. What more would you like to learn about this topic?

Learning Outcomes Checklist

- ☐ I can explain why birds migrate
- ☐ I can identify major migration routes
- ☐ I understand migration challenges
- ☐ I can describe conservation solutions

Reflection and Assessment

What Have We Learned?

1. Describe three key factors that influence bird migration patterns:

2. Explain how climate change might affect migration routes:

3. What conservation efforts could help protect migratory birds?

Extension Activities

- Create a bird migration journal to track local species
- Design a bird-friendly garden plan
- Research and present on a specific migratory bird species