

# Incredible Journeys

## ACTIVITY OVERVIEW

**STEM Focus Area:** Animals

**Facilitator Learning Goal:** Youth will learn about challenges animals face during their migrations.

**Youth Learning Targets:**

- “I can learn about the challenges animals face during their migrations.”
- “I help migrating animals overcome challenges.”

## LEARNING ENVIRONMENT

**Activity Duration:** 45 minutes

**Class Size:** Any size

**Minimum Group Size:** 2

**Type of Space:** Indoor and Outdoor

**Age of Youth:** All ages

**Guiding Question:** What is the question to explore OR the problem or challenge to solve?

What challenges do animals face when they migrate? How can people help migrating animals?

**Through this activity, youth will:**

- Predict and hypothesize how a man-made obstacle might be solved for migrating animals
- Observe the challenges animals face when migrating
- Investigate, analyze and infer how humans might eliminate to reduce obstacles for migrating animals

## Facilitator Prep

Facilitators will need to print out “Migration, It’s a Risky Journey” from [www.birdday.org](http://www.birdday.org) (<http://www.birdday.org/pdf/migrationgame.pdf>) game cards and set them up in space before the activity begins. Some cards require dice to be rolled or lengths of yarn to be tied around a youth’s ankle. These items will need to be stationed by those game cards.

**Literacy Connection:** Great books to get youth support learning about (*available on Amazon*).

- Going Home: The Mystery of Animal Migration by Marianne Berkes
- Great Migrations: Amazing Animal Journeys
- Migration: Incredible Animal Journeys by Mike Unwin
- The Peregrine’s Journey: A Story of Migration by Madeleine Dunphy

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**DoS:**

- ✓ Predict and hypothesize
- Develop and use models
- Measure materials
- ✓ Observe

- ✓ Investigate
- Record observations
- ✓ Analyze and infer
- Share and communicate data
- Interpret data
- Test and revise
- ✓ Draw conclusions and relationships
- ✓ Have voice and agency, make decisions and guide their own learning

## PREPARATION

### Materials

Printed out copy of the game “Migration, It’s a Risky Journey” from [www.birdday.org](http://www.birdday.org/pdf/migrationgame.pdf) (<http://www.birdday.org/pdf/migrationgame.pdf>), 5 pairs of dice, lengths of yarn (enough to tie around an ankle), challenge cards, computer & projector, paper, pencils

### Room

To play the migration game you will need a large space to post the cards or stations (26 spots). These cards can be taped on the wall, so a space like a gym or library would be good. The game can also be played outside as long as wind is taken into account and station cards are secured down. The rest of the lesson can take place in any space so long as youth can divide into small groups for discussions.

### Content

Migration is the seasonal movement of animals from one region to another. Most migration is a relatively long-distance movement. Migration involves four concepts: persistent straight movement, relocation of an individual beyond it’s normal daily activities, seasonal back and forth of a population between two areas and movement that leads to redistribution.

Migration can either be *obligate* – meaning individuals must migrate, or it can be *facultative* – meaning individuals can choose to migrate.

#### Common Misconceptions:

- Migration is only done by birds – many animals migrate including mammals, reptiles, fish and insects.
- Migration is only done by animals migrating from northern (or cold) areas to southern (or warm) areas.
- Animals migrate because of temperatures – many animals in Africa migrate to follow the water during wet and dry seasons.

### Inquiry:

Your primary goal as facilitator is to encourage youth to explore the challenges and risks animals face when migrating. You can prompt those discussions with questions like the following:

- Are all the challenges caused by humans?
- What are some of the challenges that we could fix?
- How might we solve some of the challenges animals face when migrating?
- Are birds the only animals affected by these challenges?

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#### DoS:

- ✓ Organization: I practiced the activity/technology, prepared materials/extras/place to record youth ideas, completed an activity (including timings).
- ✓ Materials: Materials are appropriate for teaching the learning goals; youth will be able to use them and will think they are appealing.
- ✓ Space Utilization: The space is set up appropriately for the activity and there will be no safety issues or distractions.

- ✓ Relevance: I have researched why the content matters to youth's everyday lives.
- ✓ Content Learning: I have become familiar with the content.
- ✓ Inquiry: I have become familiar with how authentic, age-appropriate inquiry practices look in this activity.

## INTRODUCTION TO ACTIVITY (15 MINUTES)

Play the game "Migration, It's A Risky Journey" from [www.birdday.org](http://www.birdday.org/pdf/migrationgame.pdf) (<http://www.birdday.org/pdf/migrationgame.pdf>)

After the game, discuss the challenges that the birds faced on their journey – power lines, pollution, weather, habitat destruction, limited resources (food), etc.

Are all the challenges caused by humans? What are some of the challenges that we could fix? How might we solve some of the challenges birds face when migrating? Are birds the only animals affected by these challenges?

### DoS:

- ✓ Space Utilization: I will use the space informally avoiding the lecture hall format.
- ✓ Purposeful Activities: This intro section gets youth on track for the learning goal.
- ✓ Content Learning: If age appropriate, I will accurately present content.
- ✓ Inquiry: In this or another section of the activity, youth carry out one or more inquiry practices.
- ✓ Relationships: I will make each youth feel welcome.
- ✓ Relevance: In this or another section, I will guide the youth in a sustained discussion of how the activity relates to their everyday lives.
- ✓ Youth Voice: In this or another section, I will allow youth the opportunity to make decisions about their learning experiences.

## ACTIVITY ENGAGEMENT (15 MINUTES)

Split groups into small groups (2-4) and provide each group with a challenge card for a migrating animal. Challenge youth to solve the issue the animal is facing on their migration route. Tell them their solution might be to build something, invent something, draft legislation, or even create a community awareness campaign to educate the public.

Challenge 1: You are a herd of caribou that is migrating across the tundra of Canada. This year, you discover a busy highway cutting your migration path in half. If you were to try and cross the highway, your herd would suffer greatly from the collision with moving vehicles. How could humans, who really need this highway to move supplies, such as food, to communities in the remote north, help your herd avoid the traffic?

Challenge 2: You're a humpback whale migrating from your northern feeding waters to the warm southern oceans to birth your young. This year on the trip back north, you find your favorite food – krill – on your journey, you get tangled in an abandoned fishing net. How could humans help you avoid fishing nets that are designed to be difficult to see underwater?

Challenge 3: You are a monarch butterfly making a one way trip south to Mexico. You won't make a return journey so it's important that you find milkweed to lay eggs on during your journey so your species' migration can continue on. This year, while flying through Iowa you can't find any milkweed! What could humans do to help you?

Challenge 4: You are orioles flying south for the winter. Because you prefer the cover of darkness, you migrate at night. You use the night sky to navigate on your journey, however when you enter a city, the night sky becomes impossible to see because humans have so many lights on. What can humans do to help you find your way?

### DoS:

- ✓ Space Utilization: I will use the space informally avoiding the lecture hall format.
- ✓ Participation: All youth will have access to the activity.

- ✓ Purposeful Activities: This core section helps youth to move toward the learning goal.
- ✓ Engagement: This activity has youth physically engaged with their hands and their minds.
- ✓ Inquiry: In this or another section of the activity, youth carry out one or more inquiry practices.
- ✓ Reflection: If appropriate, I will ask youth questions during the core activity that will help them make sense of what they are learning.
- ✓ Relationships: I will take steps to share my enthusiasm and create a nurturing, safe learning environment.
- ✓ Relevance: In this or another section, I will guide the youth in a sustained discussion of how the activity relates to their everyday lives.
- ✓ Youth Voice: In this or another section, I will allow youth the opportunity to make decisions about their learning experiences.

## FINAL REFLECTION AND RELEVANCE (15 MINUTES)

As a large group, have each group share what the challenge was and what solution they thought of. Can anyone else think of another solution?

Are there any examples we can think of in the real world that solved some migrating challenges?

Watch the video Whooshh Innovations' "Salmon Cannon" Gives Fish a Boost Over Dams  
(<https://www.youtube.com/watch?v=2z3ZyGlgUkA>)

What are the benefits of the salmon cannon? Are there any risks? Are there any solutions we could implement as a school? (examples: adding feeding stations, nest boxes, water stations, turning off unnecessary lights at night, keep pets inside, add stickers to windows)

What are ways we can help animals overcome challenges on their migration routes? How could we advocate for animals who face challenges because of humans?

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### DoS:

- ✓ Space Utilization: Again, I will use the space informally.
- ✓ Participation: I will prompt youth who do not have access to the activity to participate.
- ✓ Purposeful Activities: The closing section helps youth to reach the learning goal.
- ✓ Content Learning: I will help youth make connections between different ideas. I will create opportunities for youth to ask questions/provide ideas that show a deeper level of understanding.
- ✓ Inquiry: In this or another section of the activity, youth carry out one or more inquiry practices.
- ✓ Reflection. I will provide youth with a sustained opportunity to make sense of their learning.
- ✓ Relevance: In this or another section, I will guide the youth in a sustained discussion of how the activity relates to their everyday lives.
- ✓ Youth Voice: In this or another section, I will allow youth the opportunity to make decisions about their learning experiences.