

ACTIVITY Great Migration Challenge

OBJECTIVES Students will...

1. list two local migrating bird species
2. describe three challenges that birds face during migration.

DURATION 30 minutes

- MATERIALS**
1. Migration Diary worksheet for each student (see Appendix)
 2. Pencil and clipboard for each student
 3. Signs for each of the 24 Migration Stations, “A” through “X”, (see Appendix)
 4. 7 number spinners
 5. Flagging tape, approximately 50 feet, cut into 2 ½ foot lengths
 6. Migration Stories to share with students, (see Appendix)
 7. Optional: pictures of several birds that migrate through the local area

- SITE SETUP**
1. Select a spacious area for The Great Migration Challenge game, preferably outdoors.
 2. Distribute Station Cards “A” through “X” in order, several feet apart, in a circle around the perimeter of the designated space.
 3. Place additional materials as follows:
 - a. Three numbered spinners in the designated starting location.
 - b. One numbered spinner each at stations H,I,M and O.
 - c. Flagging tape at station F.

Instructional Sequence

ENGAGE THIS AMAZING THING CALLED MIGRATION

1. Explain that twice each year many millions of birds fly hundreds or thousands of miles—over oceans and continents, deserts and mountain ranges—to go from one place to another.

Ask if anyone knows what this is called.
(Migration)

2. Today we will be exploring the mysteries of migration.

EXPLORE GREAT MIGRATION CHALLENGE ACTIVITY

1. Ask for suggestions to explain why some birds and other animals migrate.
2. Acknowledge that animals generally migrate not because they can't tolerate the cold, but because of the lack of food that comes with the cold weather. It is hard for birds to find enough insects and fruit to eat outside during the winter.

In the Classroom

1. Announce that we are now going to play a game in which we are all migrating birds trying to make it to food and safety.
2. Distribute a Migration Diary activity sheet and clipboard to each student.
3. Write these instructions on the board:
 - b. Bring a clipboard and pencil when we go outside
 - c. Bring your Migration Diary
 - d. Write your visit NUMBER next to the station LETTER
 - e. READ the station card and FOLLOW its directions
1. Explain these instructions for the game:
 - a. As it begins to get colder in places south of here, we are about to move into summer. You are all going to be birds about to make the long migration back to Utah from thousands of miles away.
 - b. Everyone must begin the migration from the same place, but you are all going to end up taking a different trip back to Utah.
 - c. There will 24 Migration Stations, with letters from A to X. Each station describes a possible stop along your migration route. You must *read and follow every instruction* on the card located at each station you visit.

At some stops, good things happen to you; at other stops things are not so good. Sorry to say, some of you won't make it.
 - d. One very important thing: You must keep track of each station you visit on your individual Migration Diary.
 - e. Write your name on your Migration Diary. Then, in the column marked "Visit #" you will be record the order in which you visit the stations. When you reach your first station, you must begin by writing a "1" in this column

next to the letter of that station. Guess what you must write in the space next to the second station you visit?

- f. But what if you visit the same station twice? You write the number of that stop next to the letter again. Every time you stop, no matter which station, you keep track by writing the number of your stop next to the letter for that station. So some of you may end up with two or more numbers next to one station letter on your diary.

2. Remind students to bring a Migration Diary activity sheet, pencil and clipboard then escort students to the activity site.

At the Migration Challenge Activity Site

1. Ask an assistant to arrange all students in 3 lines, side by side, at the Starting location while you lay out the Station Cards and spinners, if they are not already arranged. (See the Site Set-up section above for directions for how to prepare for the activity.)
2. Review the two most important rules for the game:
 - a. Write the NUMBER of your visit next to the LETTER for the station
 - b. READ the station card and FOLLOW all of the directions
3. Provide these final instructions:
 - a. To prevent you all from getting broken wings before you even start your migration, we will begin three at a time at the three spinners.
 - b. When you spin a number, you must go that many stations forward from the starting point. From where we are now, spinning a 1 means you move to station A, if you spin a 2 go to station B, and so on.
 - c. Each of you will finish at a different time. When you do finish your journey, you should flock around your teacher to complete your migration diary.
4. Begin the game.
5. While students wait for their classmates to finish, encourage discussion of their experiences and help them fill out the questions at the bottom of their Migration diaries.
6. When the game is complete, return to the classroom.
7. Direct the students to complete the summary questions on their Migration Diaries.

EXPLAIN GREAT MIGRATION CHALLENGE DEBRIEF

1. Review the students' migratory experiences by asking questions such as the following:
 - a. How many stops did you make on your migration?
 - b. What were some of the problems and dangers you faced as migrating birds?
 - c. Who "died" along the migratory route, and why?
Discuss challenges facing migrating birds that the students have just

experienced.

- d. What were your favorite places along the migratory route, and why?
2. Explain that most birds must make rest stops along their migratory routes. For birds to survive, these rest areas must be safe, provide food and allow birds to rest and prepare for the next part of their journey.
3. As in the migration game, these rest areas were called refuges. They can be any natural area where birds are safe and can find food and shelter.
4. Ask students to name several birds that migrate through their neighborhood. Great Salt Lake is a very important refuge for many migratory birds, such the examples in the following list.

If possible, show several pictures of these species to the students.

American avocet	rough-legged hawk
American white pelican	sandhill crane
black-necked stilt	snowy egret
bald eagle	snowy plover
California gull	tundra swan
Canadian goose	Wilson's phalarope
eared grebe	white-faced ibis
long-billed curlew	

5. Share several Migration Stories, (see Appendix).

EXTENSIONS MIGRATION STUDIES

1. Encourage students to write stories from their experiences in the Great Migration Challenge to share with others.
2. Share information with students about local natural areas where migratory birds can be found.

Appendix

Migration Stories

Migration Diary

Great Migration Challenge Station Cards

Thumbnail Migration Challenge Station Cards

Migration Stories

1. The Pacific Golden Plover is a small ocean bird that flies more than 100 hours without a break during its migration. That is more than four days! During this time, it flies from Alaska to Hawaii!
2. The Arctic Tern nests at the North Pole and winters at the South Pole, covering 22,000 miles each year. Over its lifetime, an Arctic Tern flies the distance to the moon and back!
3. Many raptors and scavengers, including the local Swainson's Hawk, migrate by soaring on hot air thermals. These birds must fly only where they can follow these air currents. When they reach the same narrow strip of land in Central America, called Panama, hundreds and thousands of birds crowd the skies. People who live in this area watch the sky turn dark from all the eagles, hawks and vultures circling overhead. That must be quite a sight!
4. Different birds migrate different distances, and some make stops to rest and find food. So it may take between four weeks to four months for a bird to reach its destination.
5. Migration requires a lot of energy, so birds must eat large amounts of food before, during and after their migratory journeys. Birds that migrate very long distances double their body weight and store most of their energy as fat.

As an example, if a 75 pound student had to gain and store as much fat as a migratory bird he or she would need to gain 8 pounds of fat each day until they tipped the scale at 150 pounds! And if the same student were to exercise as hard as a migrating bird he or she would lose 1.8 pounds per hour, and keep this up for over 100 hours!!

6. Birds can gain a lot of energy from a little food. For example, one Snicker's candy bar has 14 grams of fat and would provide enough energy for a Blackpoll Warbler to fly from New England to South America and half way back again!

A Migration Diary

Name _____

Station	Visit #	What happened here?
A		Power lines!
B		Plenty of food in a field near a river.
C		Get sick from a polluted marsh.
D		A predator!
E		Injured wing escaping from a predator
F		Scientists
G		Fishing line!
H		Schoolyard habitat
I		It's raining, it's pouring.
J		New shopping mall in the way
K		Almost collide with a jet!
L		Arrive at a clean lake.

Station	Visit #	What happened here?
M		Helpful wind!
N		Bad storm!
O		Strong wind!
P		A pet cat!
Q		A tall glass building
R		A BB gun!
S		Helpful wind!
T		A wildlife refuge
U		An unexpected freeze!
V		A flock of sick birds!
W		Resting spot drained for a new building
X		Rest in a wildlife refuge

Questions For When Your Migration Is Over

1. How many stops did you make while you were migrating? _____
2. Did you survive your migration? _____
3. What was one of your favorite stops during your migration? _____

4. What was the scariest thing that happened along your journey? _____

5. Share your own migration experiences with the rest of your flock.

A.

Watch out! Power lines ahead. Don't hit them!
Crawl ahead 5 feet.
Then move ahead to Station C.

B.

Good news! Food is plentiful. Many berries, seeds, grains, and insects are available in this overgrown field near a river. Smack your "beak" 10 times and move ahead 6 stations.

C.

Bad news. You land by a polluted marsh and become sick from the food you eat. Sit down, hold your stomach and count to 30. Groan 10 times. Then move ahead 1 station.

D.

Watch out for the predator—it wants to eat you! Freeze, count to 40, and then sneak ahead 2 stations.

E.

You escape capture by a predator, but slightly sprain your wing in the escape. Get it back in shape. Slowly swing your left arm around 10 times. Move ahead 1 station.

F.

Scientists catch you for research. They put a metal band on your leg and set you free. Tie a piece of flagging around your ankle. Move ahead 3 stations.

G.

You get tangled in fishing line and can't eat.

You are weak from hunger. A wildlife rehabilitator cuts the line and feeds you. Hop on 1 leg in a circle, count to 40, then move ahead 4 stations.

H.

You land at a school where students have created a schoolyard habitat. There is a bird feeder, you eat seeds, fruit, insects, and nectar. Peck or sip 20 times. Spin the number dial, then move ahead that number of stations.

I.

It's raining, it's pouring, and you don't want to fly in this rainstorm. Count to 50 while you wait for the storm to stop, spin the number dial, then move ahead that number of stations.

J.

You can't find last year's resting spot because a new shopping mall has been built there. Walk around in 3 wide circles searching for rest and food. You are still hungry, and only have the strength to move ahead 1 station.

K.

Whew! While flying near a large city, you almost collide with a jet. Go back 2 stations while you recover.

L.

You arrive at a large lake, where there is plenty of clean water, food, and shelter. Rub your stomach 15 times and move ahead 5 stations.

M.

You are able to fly a long distance in one day, because of good winds. Spin the number dial and move ahead that number of stations.

N.

Bad storm! No flying today. BRRRR! You are cold and hungry. Shiver for 10 counts, hold your belly, and go back 1 station.

O.

Strong winds from the wrong direction keep you from migrating. Spin the number dial, and blow back that many stations.

P.

A pet cat catches you and eats you. The game is over for you. SORRY! You died. Die dramatically...then mark your migration chart and go flock to your teacher.

Q.

You just flew into a tall glass building in town. Sit down, hold your head, count to 35, and move ahead 2 stations.

R.

You have just been shot with a BB gun. The game is over for you. SORRY! Mark your migration chart and go flock to your teacher.

S.

Good news!!! A good wind helps you fly.
Move ahead 5 stations.

T.

After flying for several days, you land in a wild-life refuge. Spend time resting and eating food.
Gulp 10 times, take a rest, then move ahead 4 stations.

U.

OOPS! An unexpected freeze causes food to become hard to find. Go back 2 stations as you try to find more food.

V.

Bad luck! You have just joined a large flock of birds that has been exposed to a disease. You get sick and die. SORRY! Die dramatically...then mark your migration chart and go flock to your teacher.

W.

Uh-oh! You lost an important stopover spot when the wetlands were recently drained for a new building. Go back 1 station.

X.

Spend 5 days resting and feeding in another wildlife refuge. Count to 40. Because you are so strong, you can arrive at your destination!!! Mark your migration chart and go flock to your teacher.

Migration Challenge Activity Cards: Thumbnails

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