



WORKING WITH
DATA

BIRD MIGRATION PATTERNS

▶ OBJECTIVES

- ▶ Define migration and relate it to habitat preferences of individual bird species
- ▶ Use citizen science data outputs to interpret trends in bird migration occurrence and timing
- ▶ Name at least two factors that impact changes in animal populations over time

INTRO (ENGAGEMENT)

What birds have you observed in your yard, at school, or a local park?

If you don't know the name, what do they look like?

What species do you notice year round? Are there others that you only see in certain seasons?

Where do you typically see birds? (top of trees, edge of water? In underbrush? Are they alone or in groups?

VIDEO (EXPLORE)

www.fi.edu/birds

What evidence of changes in migration timing were noted in the video?

What is changing about birds' behavior patterns?

What have scientists noticed?

What are the possible explanations?

Why do YOU think this is happening? Is it a problem? Why or why not?

LOOKING AT DATA

- ▶ Go to ebird website
 - ▶ Scroll down to “Explore Data” and select “bar graphs”
 - ▶ Do you see any species with thick green bars stretching across the entire year? Do you see others that are for only one part of the year?
 - ▶ Find a bar chart for a species in your area. What are species that stay all year? What are species that visit for only part of the year? Which season are they present?
 - ▶ Why do you think these seasonal birds are there for that particular time?
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LINE GRAPHS

- ▶ Using the line graph function, create a graph that compares the frequency of two bird species in your area (i.e. cedar waxwing and lazuli buntings)
- ▶ Why do you think the species are present during this particular time?

CHANGES IN MIGRATORY PATTERNS

- ▶ Find 5 species found in our area that are only present during the summer months (breeding season)
- ▶ Return to the “Explore Data” tab and select “line graphs”
- ▶ Select the 5 species, your state name, and set the date range from “1900-1965”.
- ▶ Run the data, and create a “screen shot”
- ▶ Run the data again, but set the date range from 2010- to today’s date.
- ▶ Create another “screen shot”

POSSIBLE EXPLANATIONS (EXPLAIN)

- ▶ Brainstorm with your table group....what environmental factors in your area may be contributing to these trends?
- ▶ Use “All About Birds” website or the “Range and Point Maps” in ebird

ELABORATE / EVALUATE

- ▶ Select bird species of interest and find out where they go when they aren't in your area. Monitor sightings and upload data. What factors might be affecting their migration patterns?
- ▶ Students report their findings of their own bird observations and data collection.