

## Team Flight: Migration Mysteries

**Activity Summary:** Through brainstorming in teams, students will consider the concept of migration and how birds can accomplish the task. Teams will then research at least one navigational theory, generate questions, and prepare a report in any format the students or teacher chooses on one theory. This activity complements Migration Mapping, as well as the field visits.

**Objective:** Students will learn about the navigational theories behind avian migration through research and inquiry, and teach one another through work in groups.

**Grades:** Middle School

**Subject:** Science, language

**Skills:** research, team-building

**Materials:** access to library and internet for web research and Wings of Wonder site (<http://trfn.clpgh.org/wings>), pencils, paper

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### Activity

Bird migration is a fascinating topic. Scientists generally understand the “why,” “where,” and “when,” but not the “how.” Some birds such as the tiny ruby-throated hummingbird migrate thousands of miles over the Gulf of Mexico non-stop. How do they know where to go? How do they know how to get there? Scientists have a variety of theories, but no definitive answers.

1. Ask the student to work in their field visit teams to brainstorm and list some ways that birds might accomplish migration. Encourage them to be creative and consider varied options, as there are no wrong/right answers in this step.
2. Allow each group to present their favorite answers to the class, and collect possibilities on the board.
3. Discuss the likelihood of each, the challenges, and list any questions generated. Can any of these be investigated?
4. Research to find these answers through a combination of:
  - web research,
  - articles and journals,
  - migration experts\*, and
  - direct observation.

*\*Wings of Wonder participants can access experts via the website.*

5. To conclude, students will present their findings in a format chosen by either the teams or the teacher.

Teacher Notes:

Common navigational theories include:

- Geographical features such as mountain ridges or coastline
- Constellations\*\*
- Electromagnetic fields\*\*
- The sun
- The plane of sunlight during sunset
- Olfactory cues (smells)
- Wind direction
- Instinct

*\*\*Most scientists think that the most important of these cues are magnetism and star patterns.*