

## OSPREY MIGRATION LESSON PLAN

OBJECTIVES – Students will:

1. Make observations about osprey migration from the East Coast to Central and South America.
2. Plot and analyze Osprey migration data.

MATERIALS:

Activity 1: Manual plotting of osprey migration data

- \*metric ruler and calculator
- \*migration map (world map with longitude and latitude)
- \*migration data table
- \*student sheet with directions

Activity 2: Plotting osprey migration data using Google Earth

- \*migration data table
- \*computers with internet access and Google Earth
- \*student sheet with directions

STANDARDS:

NYS Intermediate Level Science

\*General Skills

1. Safely and accurately use a metric ruler.
2. Use appropriate units for measured or calculated values.
3. Recognize and analyze patterns and trends.

\*Physical Science Process Skill #1

Given the latitude and longitude of a location, indicate its position on a map and determine the latitude and longitude of a given location on a map

\*Living Environment Standard 4: Key Idea 5

Organisms maintain a dynamic equilibrium that sustains life: All organisms must be able to obtain and use resources, grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment. Organisms respond to internal or environmental stimuli.

\*Performance Indicator 5.1: Compare the way a variety of living specimens carry out basic life functions and maintain dynamic equilibrium.

Major Understandings:

- 5.1a Animals and plants have a great variety of body plans and internal structures that contribute to their ability to maintain a balanced condition.
- 5.1b An organism's overall body plan and its environment determine the way that the organism carries out the life processes.
- 5.1c All organisms require energy to survive. The amount of energy needed and the

method for obtaining this energy vary among cells. Some cells use oxygen to release the energy stored in food.

5.1d The methods for obtaining nutrients vary among organisms. Producers, such as green plants, use light energy to make their food. Consumers, such as animals, take in energy-rich foods.

5.1g The survival of an organism depends on its ability to sense and respond to its external environment.

#### PROCEDURE:

1. Motivation/Do Now: Show the students images of Ospreys in flight. For each image students should record at least two observations. (See attachment for osprey images)

2. Mini-Lesson:

a. Discuss osprey adaptations for flight and hunting.

b. Discuss the reasons that birds, including osprey, migrate. Include and highlight the Living Environment key understandings listed above.

c. Distribute the world map and osprey migration data. Discuss the geography of the migration route for the osprey Mr. Hannah including continents, countries, cities, etc. and review longitude and latitude.

3. Activities:

See Attachments for student sheets with directions, data tables, and map for Activity 1.

Activity 1: Mapping Mr. Hannah's migration manually.

Activity 2: Mapping Mr. Hannah's migration using Google Earth.

4. Summary/Conclusion:

a. What surprised you the most about the osprey migration?

b. What did you find most interesting about osprey migration?

5. Going Further/Extensions:

a. What questions do you now have about osprey migration that weren't answered in this lesson? Use the osprey information sources to answer your questions and learn more about ospreys.

b. Select two different types of bodies of water that Mr. Hannah visited. Research the details of these aquatic ecosystems including the different types of fish Mr. Hannah might catch in these locations.

Osprey Information Sources on the Internet:

The Cornell Lab of Ornithology

<http://www.allaboutbirds.org/guide/Osprey>

The Raptor Center at the University of  
Minnesota

[www.raptor.cvm.umn.edu](http://www.raptor.cvm.umn.edu)

Osprey Project at Rutland Water, United  
Kingdom

[www.ospreys.org.uk](http://www.ospreys.org.uk)

Osprey camera at Blackwater Reservoir,  
Maryland

[www.friendsofblackwater.org/osprey.html](http://www.friendsofblackwater.org/osprey.html)

Highland Foundation for Wildlife, osprey  
management in Scotland

[www.roydennis.org](http://www.roydennis.org)

Osprey nest camera at Loch Garten, Scotland

[www.rspb.org.uk/webcams/](http://www.rspb.org.uk/webcams/)