Peregrine Falcons, Raptors, & Other Urban Wildlife

Project Timeline: January – June 2004

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Special Thanks to our Technology Coordinator,
Annette Bigger

The Peregrine Falcon Project:
Teachers Involved in the Project

Roberta Kenny: When I was growing up, there were always birds in my home. My grandfather and uncle were pigeon flyers. Their passion gave me a great respect for all birds. When I was told of this project. I was thrilled that my students would have the opportunity to learn about peregrine falcons and wildlife. As the project unfolded it was amazing to see the enthusiasm and eagerness of both students and colleagues to learn more and more about birds.

I was astounded to see the research and informational reports that my students produced. The whole project was a great success and became a labor of love for all.

Michelle Longo-Sare: I had some experience with birds as a child growing up in Hoboken. My father was a Hudson County pigeon flyer. At the age of 7, I was allowed to have my own coop and care for my own birds. As a child, I heard many stories about birds from my father and other pigeon flyers. Some stories were of the deadly enemy of the pigeon, the hawks and falcons. I had seen first hand, as a child, what a hawk could do to a pigeon. So I approached this project with caution, but willing to be open minded and see if I could come to respect birds of prey. What I discovered was that my love for birds extended to all birds, and I was able to express my love and enthusiasm for birds, to both my students and colleagues. The results were magical and the project went far beyond my wildest imagination. I was lead teacher in the Peregrine Project. My colleagues named me the **"Bird Lady**".

Debra Richman- My contact with birds was limited to my early years when I had two parakeets. When we were offered this project, I was cautious because I felt to do a good job it would entail a tremendous amount of work and research. We would be breaking new ground in creating lessons and teaching something never before taught to second graders. The project did entail much work and research, but the payoff was astounding. The second graders were enthusiastic and willing to research and learn everything they could about birds-- **I mean everything** about birds, raptors, and peregrine falcons. It was a wonderful experience for the students, my colleagues, and myself.

The Peregrine Project began in early January 2004 and ended in late June 2004. At varying points you will notice date markers showing the approximate dates of the lessons. The lessons on the peregrine falcons occurred about two to three times a week, baring interruptions such as assemblies, special programs, and test preparation for standardized testing.

Phase 1
What to do and how to begin???

In the beginning - Preparation and Start-up

New Jersey Core Curriculum Content Standards addressed in this section:

Reading: 3.1, 3.1a1; 3.1a2; 3.1b2; 3.1c1; 3.1f3; 3.1f5; 3.1g1; 3.1g2; 3.1g3; 3.1g4
Writing: 3.2, 3.2a1; 3.2a3; 3.2a3; 3.2a4; 3.2a7; 3.2a9; 3.210; 3.2b1; 3.2b4
Speaking: 3.3
Listening: 3.4
Viewing: 3.5

What we did: We created a classroom library of books on birds for the students to use for research, as well as for their enjoyment. They also used the *100 Book Challenge* baskets of books.

What we used: We decided to begin by using familiar resources such as Encarta Encyclopedia, Encyclopedia Britannica, the Internet, and finding all available informational bird books in the school.

What we produced: Topics either shared in class or in presentation were reports on:

- Ducks
- Geese
- Pigeons
- Homing Pigeons
- Starlings
- Crows
- Sparrows
- Peregrine Falcons

These reports were voluntary. Students did reports and presented their reports to the class for extra credit. It was the students' choice to stay in during lunch while working on the project.

One project Mrs. Longo-Sare was particularly proud of was the report entitled "Birds." This report included collaboration between five-second grade students. With this report, students were encouraged to work cooperatively and share the responsibility of the report and research a particular area on birds. The areas in the bird project were a general description of birds, paleontology, human interest in birds, bird's commercial value, anatomy and physiology, the mechanism of the birds' wing, bird's feet, the digestive system, reproduction, bird behavior, and distribution. This particular component of the project, which was mostly generated by the students, launched phase 1. *(If interested in the report entitled "Birds," please contact the Conserve Wildlife Foundation of NJ at 609-984-0621 for a copy.)*

The First Display
Peregrine Falcons and other Urban Wildlife

A pictorial display located in the hall for all to view was created with the Peregrine Falcon as the centerpiece surrounded by its prey, other urban birds. The display also showed the external parts of the bird, bird anatomy, types of feathers, perching mechanisms, various beaks, adaptation in feet, bird nests, and anatomy of the egg with the formations of the bird embryo.

The Second Display
Peregrine Falcons and other Raptors

CCCS covered with note taking are: 3.141; 3.1a2; 3.1f1; 3.2a1; 3.2a2; 3.2a6; 3.2a8; 3.2a9; 3.2c1; 3.2c2

This display is located in the hall, again, with the peregrine falcon as the centerpiece. Surrounding the peregrine are other raptors including owls, eagles, hawks, and other falcons. This display shows the stages of infancy of the developing peregrine chick to young adulthood. This was selected as a preview to what the students were to observe on the Peregrine Web Cam. The display included the following:

- A chart of the many types of hawks
- Flight patterns the raptors use in pursuing their prey,
- Actual size of raptor eggs
- How raptors fly
- The raptors wings and feathers
- Actual photos of raptors eating and capturing their prey
- The skeletal system and muscle system of raptors
- Large view of the feet and talons of the raptors
- Migration patterns of raptors
- Raptor history
- Falconry
- Current articles about raptors

During the course of projects, students were required to keep a notebook and take notes of pertinent facts. The notebook consisted of charts of birds, bird diagrams, raptors, peregrine falcon characteristics, appearance of falcons, endangered species related to birds, and the cause of the decline of raptors, DDT.
Journals were used for note-taking, reviewing of facts, as a study guide for the Post Test, and proofreading. Students reviewed the day's notes and checked for errors.

Two Different Styles: Viva la Difference

While one of the second grade teachers kept more charts in the room, the other second grade used a flip chart with tabs for easy access for topics, which the children used to also review facts by themselves. Charts, flip charts, Hall Display of peregrines were used as a review of previous lessons at least one to two times a week.

Lesson 1a- Birds We Know

CCCS: 3.2A6; 3.2A1; 3.3; 3.4; 3.5

Objective: Students will be able to generate the first part of a KWL chart, which is what the children already know about birds. By having children discuss what they **know** and recording it on the chart. Students will be able to complete the second part of the KWL by listing things they **want** to know about birds.

Materials: chart paper, marker

Suggested Time: 30 minutes

Procedures: Teacher will prepare a KWL chart on paper. Children will tell what they know about birds and teacher will write it on the poster. Children will discuss what they want to learn about birds and teacher will write it on the poster.

Lesson 1b- Birds Not Found in the City

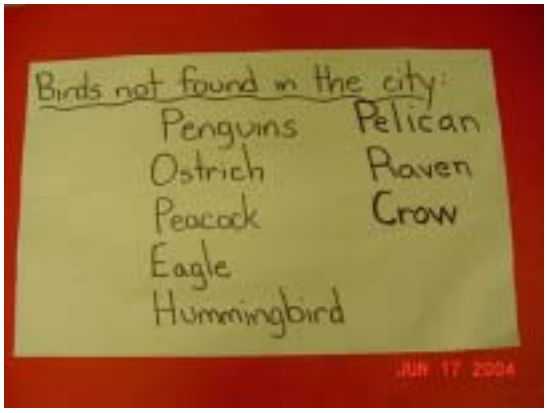
CCCS: 3.2a6; 3.2a1; 3.3; 3.4; 3.5

Objective: Students will be able to generate the first part of a KWL chart, which is what they already know about birds not found in the city.

Materials: chart paper, marker

Suggested Time: 30 minutes

Procedures: Teacher will prepare a KWL chart on paper. Children will tell what they know about birds not found in the city and teacher will write it on the poster.



Lesson 2- Differences in Bird's Beaks

Taken from:
http://www.chariho.k12.ri.us/faculty/kkvre/units/birds/vertebrate.html
Ashway Elementary School, Chariho Regional School District

CCCS: 3.4; 3.5; 5.1; 5.4

Objective: Students will be able to recognize how bird's attributes are useful in its survival. Students will make observations about beaks and why they are important in eating.

Materials: small paper cups, straws, Swedish Fish, spoons, pans, tweezers, oatmeal, gummy worms, pliers, popcorn, hot air popcorn popper

Suggested Time: 45 minutes

Procedures: Teacher sets up 4 stations. The children will use different tools representing bird's beaks at each station. The students will see how the beak fits the food best.

Station 1: Place small paper cups filled with water. The students will sip the water through straws.

Station 2: Set up a pan with Swedish Fish swimming in water. The students will use a spoon to catch the fish to eat.

Station 3: Students will use tweezers to dig through oatmeal (dirt) to catch gummy worms.

Station 4: Students will try to catch "flying insects" by using pliers to catch popcorn popped from a hot-air popcorn popper.

When the rotations are complete, students match a picture of a bird whose beak fits the food at each station. Have a class discussion on how they matched the pictures of birds to the food.

Lesson 3- Identifying Parts of a Bird

CCCS: 3.2a8; 3.2a6; 3.5a2; 3.1; 3.3; 3.5

Objective: Students will be able to identify parts of a bird. Students will label the parts of a bird.

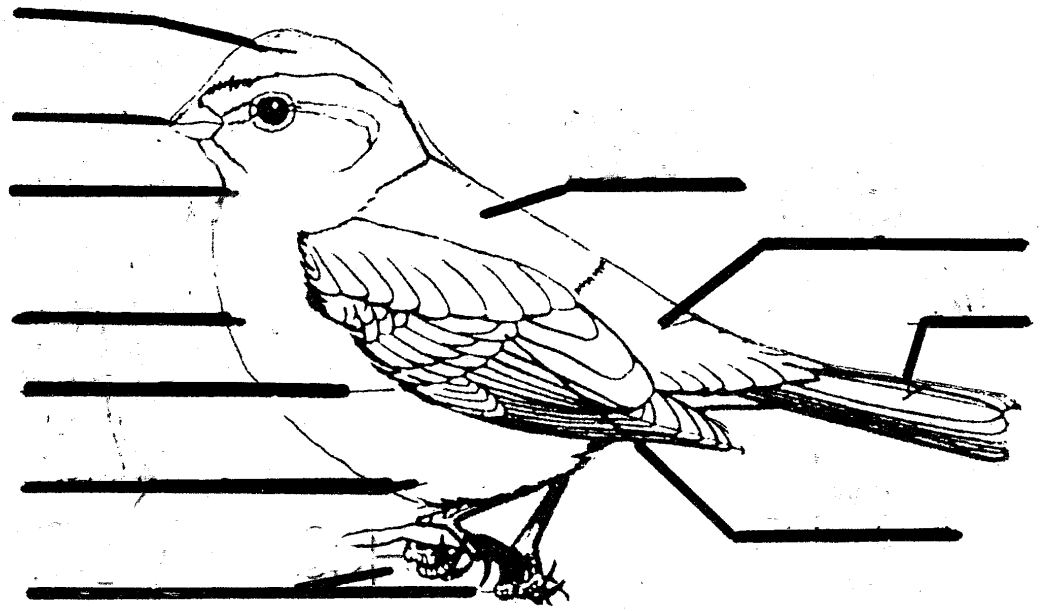
Materials: Unlabeled Bird, Labeled Bird, and Pencil

Suggested Time: 30 minutes

Procedures: Ask students to name parts of a bird. Write the body parts on chart paper. Have students volunteer to label the parts on the diagram.

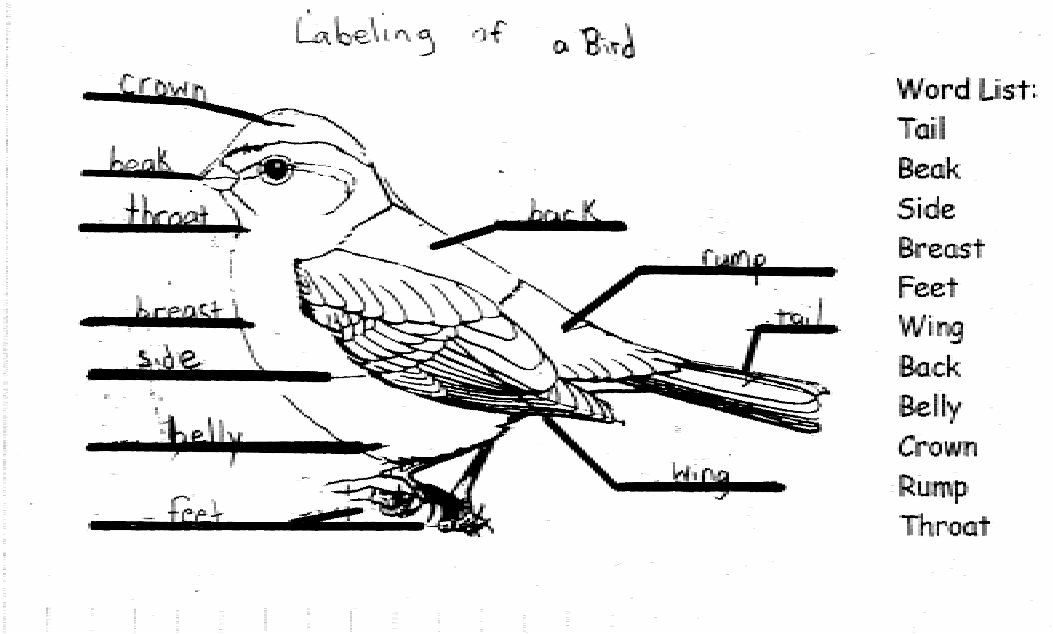
NAME: _____

LABEL THE BIRD



Word List:
Tail
Beak
Side
Breast
Feet
Wing
Back
Belly
Crown
Rump
Throat

Answer Key


Labeling of a Bird
crown
beak
throat
back
rump
breast
tail
side
belly
wing
feet
Word List:
Tail
Beak
Side
Breast
Feet
Wing
Back
Belly
Crown
Rump
Throat

Lesson 4 - Is It This or That?

CCCS: 3.1; 3.2a6; 3.5a2; 3.3; 3.4; 3.5

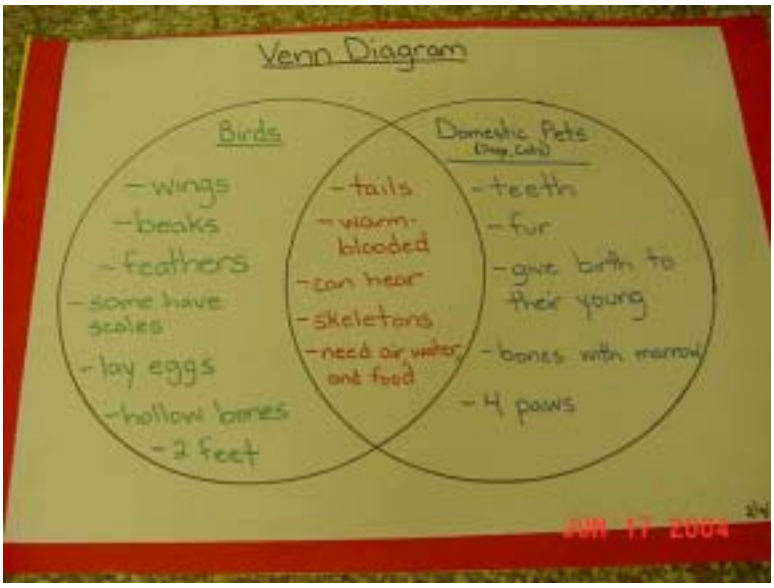
Objective: Students will be able to learn differences and similarities between birds and other animals.

Materials: Venn diagram outline on oak tag and markers. A Venn diagram is symbolized by two intersecting circles showing differences and similarities.
Book entitled Beaks and Feet by Sarah O'Neil.

Suggested Time: 30 minutes

Procedures: Review the purpose of a Venn diagram. Have students tell you facts/characteristics about birds and have them write them in the appropriate circle. Have students list facts/characteristics that are the same for birds and other animals and write them in the middle circle, which connects the two.

Read aloud for the day: Beaks and Feet by Sarah O'Neil.



Lesson 5- Let's Look Back

By this time we are at the beginning of February.

CCCS: See standards from Lessons 1-4

Objective: Students will be able to review lessons 1-4 (Teacher checks for understanding and if confused, teacher has the chance to clarify).

Materials: Charts from Lessons 1-4

Suggested Time: 30 minutes

Procedures: Ask students: What do you remember about birds? Teacher and students refer to charts to solidify their knowledge and understanding of birds.

Pre Test was given after Lesson 5

Pre Test

Name: _____

Date: _____

What Do You Know About the peregrine falcon?

1. What is a “raptor?”

_____

_____

_____

2. What is an “endangered species?”

_____

3. What do peregrine falcons eat?

_____

_____

_____

4. How fast do peregrine falcons fly?

_____

_____

5. Do peregrine falcons live in Jersey City?

_____

6. Do peregrine falcons prefer to build nests in trees or on top of buildings?

_____

7. Are peregrine falcons most active during the day or at night?

_____

_____

8. What do peregrine falcons look like?

_____

_____

9. Is the peregrine falcon an endangered species in New Jersey?

_____

_____

10. Why did the peregrine falcon become endangered?

_____

_____

_____

Pre Test
Answer Key

Peregrine Falcon Questionnaire
Use as pre-test and post-test

1) What is a "raptor?"

A "raptor" is a bird of prey, or a bird that eats mostly fresh meat it gets by hunting. Some raptors eat "carrion" – animals that have died in other ways, such as being hit by a car. Raptors include falcons, hawks, eagles, and owls.

Raptors have three features that make them different from other birds. These include strong grasping feet with sharp talons used to seize prey from the air, a hooked or hook-tipped beak used to kill and consume prey, and a diet that consists of meat.

2) What is an "endangered species?"

An endangered species is a species that is in danger of becoming extinct, or disappearing forever. Endangered species are like fire alarms. They tell us about problems in our home we call Earth. If we listen to their alarm calls, they could help us improve our lives and the health of our planet.

3) What do peregrine falcons eat?

Peregrine falcons eat mostly birds, although young peregrines have been observed catching large flying insects such as dragonflies. They eat birds such as chickadees, goldfinches, starlings, pigeons, ducks, and gulls. While migrating, many peregrines hunt shorebirds.

4) How fast do peregrine falcons fly?

When flying in a straight line, the peregrine falcon can fly up to about 40 to 55 miles per hour. In a dive or "stoop", peregrine falcons can reach speeds of over 200 miles per hour as they attack their prey.

5) Do peregrine falcons live in Jersey City?

Yes, peregrine falcons live in Jersey City. A pair has built a nest on 101 Hudson St., right near the Cornelia F. Bradford School.

6) Do peregrine falcons prefer to build nests in trees or on top of buildings?

Most birds build nests made of sticks and soft material in which they lay and incubate their eggs. Peregrine falcons lay their eggs in "scrapes," which are shallow indentations they scratch out with their talons in the soft earth on the floor of their nests. Peregrine falcons nest on ledges and in small shallow caves located high on cliff walls. They have been known to use the abandoned nests of other birds, and in Alaska they commonly nest on the ground. In the city, peregrine falcons prefer to use the tops of buildings for their nests. They also nest on bridges.

7) Are peregrine falcons most active during the day or at night?

Peregrine falcons are most active during the day. This means that they are 'diurnal' like hawks, not 'nocturnal' like owls.

8) What do peregrine falcons look like?

The peregrine falcon is about the size of a crow. It weighs just over two pounds and has a wingspan of almost 3 feet. It has long, pointed wings. An adult peregrine has a dark bluish-gray back and crown (top of head). It has dark bars or streaks on a pale chest and abdomen (belly). It also has dark cheek patches on the sides of its face. Females and males look exactly the same, but the female is larger. Immature or young peregrine falcons are browner than the adults.

9) Is the peregrine falcon an endangered species in New Jersey?

Yes, the peregrine falcon is listed as an endangered species in New Jersey. It still needs our protection to survive in this state. The peregrine is no longer listed as a federal endangered species.

10) Why did the peregrine falcon become endangered?

The use of the pesticide DDT was a major reason that peregrine falcons started to disappear. In the 1940s, 1950s, and 1960s, DDT was used as a pesticide to kill insect pests. It was sprayed in small amounts, so that it would not affect larger animals. However, some birds ate insects that had been poisoned by DDT. Then other animals ate those birds. In this way, DDT was carried up the “food chain”.

When peregrine falcons began eating birds that had ingested DDT, it caused them to lay eggs that had very thin shells. The shells were so thin that when the peregrine falcons tried to incubate their eggs, the eggs broke under their weight. This happened so often that very few peregrine chicks were hatching and growing up to adulthood. DDT contamination also caused the decline of bald eagles and osprey, other raptors that ate fish contaminated with the poison. When biologists noticed this and other similar problems, they knew that DDT was causing damage to the environment, and as a result, it is now banned. Since DDT was banned in 1972, the numbers of peregine falcons, bald eagles, and osprey have been increasing.

The following day an article entitled Urban Birds by Jaime Joyce was read to the students to generate background knowledge. (Read Aloud)
That afternoon, we read A Nest Full of Eggs by Priscilla Belz Jenkins.

Lesson 6: Bird, Bird, Bird: Bird is the Word

CCCS: 3.3; 3.4; 3.5; 3.5a; 3.2; 3.2a1; 3.1f3; 3.1e2

Objective: Students will be able to learn about bird characteristics

Materials: photographs on hall display entitled “Peregrine Falcons and Other Wildlife”, Song *Bird is the Word* as follows:

Well everybody's heard, about the bird! bird bird bird, the bird is the word! bird bird bird, the bird is the word! well everybody's heard, about the bird! bird bird bird, the bird is the word!everybody's heard, about the bird! bird bird bird, the bird is the word! everybody's heard, about the bird! bird bird bird, the bird is the word! don't you know about the bird ? well everybody's heard, about the bird! bird bird bird, the bird is the word! bird bird bird, the bird is the word! yeah! well everybody's heard, about the bird! na-na-na-na-na-na-na-na-na na-na-na-na-na-na-na-na-na everybody's heard, about the bird! na-na-na-na-na-na-na-na-na na-na-na-na-na-na-na-na-na everybody's heard, about the bird! everybody's heard, about the bird! don't you know about the bird?

Suggested Time: 30 minutes

Procedures: We walked through the display reviewing pictures paying particular attention to bird anatomy and recognizing what separates a bird form other winged animals (bats and insects).

Video: *Fly Away Home*
Synopsis: A young girl discovers a group of baby Canadian Geese and becomes their caretaker. The girl discovers that the problem with human intervention is that birds are imprinted with the first creature they view and so they begin to think they are humans instead of geese and have to be taught to fly.

Lesson 7: What a Weekend! Who Me, A Bird?

This lesson occurred toward the end of February.

CCCS: 3.1; 3.2; 3.3; 3.4; 3.5; 3.5a; 4.1; 4.2; 4.3

Objective: Students will be able to view and discuss birds and their nests. Students will be able to think like a bird and act like a bird. (Students were encouraged to observe birds in their local parks on city streets and in flight.) Students will be able to design their own bird's nest.

Materials: pictorial display and live birds in their community; sticks, twigs, pine needles, grass, leaves, mud, etc.

Suggested Time: 30 minutes in class; weekend

Procedures: Students view and observe bird's nests from Peregrine Falcon and Urban Birds display. Have students go home and think and act like a bird for the weekend. Have students observe live birds in their community. Then students will use their newly gained knowledge of birds to create a bird's nest using a variety of materials such as the materials mentioned above. (Note: Keep in mind that the bird's nest they are making needs to be in proportion with the size of the bird's eggs.) Students will write a paragraph about their own nest and state why they chose the materials they did.

Lesson 8: The Voice of a Bird

CCCS: 3.1; 3.2; 3.3; 3.4; 3.5

Objective: Students will be able to practice oral expression and demonstrate their knowledge of bird's nests

Materials: Their own bird's nests

Suggested Time: 30 minutes

Procedures: Students will take turns discussing and describing their nests. They will explain why they chose the materials they did and discuss the process they went through to built it.

Lesson 9: Who Me? A Bird and Now a Mother Bird!!!

CCCS: 1.1; 1.2; 1.3; 3.3; 3.4; 3.5

Objective: Students will be able to review knowledge they have acquired about bird's eggs. Students will create egg replicas out of clay.

Materials: clay (flour/cornstarch mixture to be made before class) or play dough (purchased) that will harden and cardboard approx. 8in by 8in, paints, paintbrushes

** See recipe for clay at the bottom of lesson **

Suggested Time: 45 minutes

Procedures: Give students a clump of clay and have them mold the clay into egg replicas appropriate to the size of their nests. No dinosaur eggs; we are studying birds. After making the egg, place it on the cardboard so they can dry. Once dried, they can be painted.

Clay Recipe: 1 cup flour
1 cup cornstarch
½ cup salt
1-2 cups water
¼ cup vegetable oil

Heat ingredients until it forms a ball, stirring constantly. If mixture thickens too quickly, add more water. If lumpy, put in food processor or blender.

Lesson 10: Bird Art, A Collage

CCCS: 1.1; 1.2; 1.3; 3.3; 3.4; 3.5; 4.1; 4.3

Objective: Students will be able to use a variety of materials to create a bird in flight.

Materials: tag board, various seeds and beans, small, thin pretzel sticks, elbow macaroni, glue, pencils

Suggested Time: 45 minutes

Procedures: Students will view pictures of birds in flight. Have students draw a rough sketch of a bird in flight. Then proceed by applying glue to the surface of the drawing and apply seeds/materials to create the finished product. Students should pay attention to texture when proceeding with their artwork.

Lesson 11: Bird Books and More

CCCS: 3.1; 3.2; 3.3; 3.4; 3.5; 3.2c1; 3.2c2; 3.2b4; 3.2b1; 3.2a11; 3.2a10

Objective: Students will be able to practice oral expression and demonstrate their knowledge of the bird book that they selected.

Materials: bird books, paper and pencil

Suggested Time: 5 consecutive days for 45 minutes with teacher assistance

Procedures: Students will select an informational book on a bird of their choice. They will write an informational report with a table of contents, index, diagrams, labels, and specific facts. *(See a sample on page 38.)* When finished writing, the students will present the informational orally to the class.

Lesson 12: Let's Play Jeopardy!

CCCS: 3.1; 3.3; 3.4; 3.5; 3.5a2

Objective: Students will be able to demonstrate knowledge and understanding of information learned about birds.

Materials: jeopardy board using pocket chart and index cards, questions, markers

Suggested Time: 45 minutes

Procedures: Students will form two teams. Teacher will be the scorekeeper. Take turns having the teams choose a category and a dollar amount. If the team gets the answer correct they get the points. Continue play until all the questions have been read. (Categories: parts of a bird, bird characteristics, vocabulary, types of birds, food)

Phase 2: The Centerpiece
The Meat of the Matter: The Peregrine Falcon

Read aloud: Falcons Nest on Skyscrapers by Priscilla Belz Jenkins.
After read aloud, have students recall important facts and features of the peregrine falcon. This book leads into lesson 13. The words for the glossary were words that appeared in the books that the children were unfamiliar with.

Lesson 13: Glossary of Birds

CCCS: 3.1; 3.1f5; 3.2; 3.3; 3.4; 3.5

Objective: Students will be able to define key vocabulary dealing with the peregrine falcon and other birds.

Materials: dictionaries, index cards, pencils

Suggested Time: 2 days, 45 minutes each

Procedures: Students are randomly given bird vocabulary words on index cards. They are to find the correct definition pertaining to a bird and record it on the card. Students need to practice oral expression by shared their word/definition with the class. Following the exercise, the students will order the cards alphabetically and place them in a pocket chart.

Glossary

Bird - A warm-blooded, egg-laying vertebrate distinguished by having a body more or less covered with feathers and four limbs modified as wings

Brood – A family of young birds hatched or cared for at the same time

Chicks - A young bird

Clutch – A hatch of eggs; the number of eggs produced or incubated at the same time

DDT - a colorless, odorless water insoluble crystalline insecticide

Endangered species- Those whose prospects for survivial are in immediate danger because of a loss or change in habitat, over-exploitation, predation, competition, disease, disturbance, or contamination.

Eyases – A nestling hawk or falcon.

Eyries (AKA **Aeries)** - 1: The nest of a bird, such as an eagle, built on a cliff or other high place

Extinct - No longer existing

Fledglings - Young bird having just acquired feathers for flight

Food chain - A community of organisms where each member is eaten in turn by another member

Incubate - To sit on eggs so as to hatch by the warmth of the body; keep under conditions favorable for development

Migration – To move from one place to another; Can sometimes be over a long distance

Nestlings - Young birds that have not abandoned the nest

Ornithologist - A Scientist who studies birds.

Pesticide - A chemical agent used to destroy pests such as insects, included in this group was DDT

Raptor - A bird of prey

Scrapes - Shallow indentations the parent bird scratched out with their talons in the soft earth on the floor of their nest
Stoop - To swoop down, as a bird in pursuing its prey; A descent, as of a bird of prey.

Talons - The claws of a bird

Zoology – The study of animals

Lesson 14: Raptors and Their Features

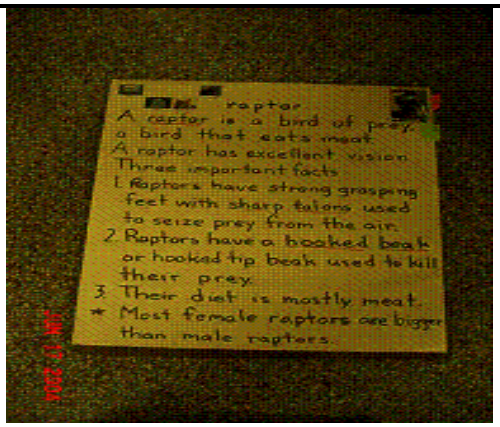
CCCS: 3.1; 3.3; 3.4; 3.5

Objective: Students will be able to list features of raptors that make them different from other birds.

Materials: flip chart, marker

Suggested Time: 45 minutes

Procedures: A video entitled Amazing Animals: Birds of Prey was shown in class. After class, a discussion was lead about important features that separate raptors from other birds. Students recall important facts about raptors and teacher records it on a flip chart.



Read aloud: What Kind of Bird is That? by Mirra Ginsburg
This book teaches that birds were created the way they were supposed to be with a unique purpose in the ecological chain.

Lesson 15: Migrating Again

CCCS: 3.1a2; 3.1; 3.3; 3.4; 3.5

Objective: Students will be able to learn about bird migration and recall facts.

Materials: flip chart, marker, and book: How Do Birds Find Their Way? by Roma Gans

Suggested Time: 45 minutes

Procedures: Teacher reads the book How Do Birds Find Their Way? Ask children to recall information and the teacher records their responses on a chart.

Homework: Write a paragraph about migration. What new information did you learn? When and why do birds fly south?

Lesson 16: Student's View of Migration

This lesson occurred the third week in March.

CCCS: 3.1; 3.2; 3.2a11; 3.3; 3.4; 3.5

Objective: Students will be able to share their writing and practice oral expression and except constructive criticism.

Materials: individual writings, flip chart, display

Suggested Time: 45 minutes

Procedures: Students will take turns sharing their writing on migration. They will give positive comments, as well as constructive criticism on how to improve their writings and incorporate important facts.

Read aloud: The Peregrine Journey: A Story of Migration by Madeleine Dunphy.
This takes about 3 days to complete. After each reading, questions regarding the text were asked with references to the migration track at the beginning of the book. Reference was made to charts and displays.

Lesson 17: What Makes the Peregrine So Special?

CCCS: 3.1; 3.2; 3.3; 3.4; 3.5

Objective: Students will be able to identify special characteristics of the peregrine falcon and describe their appearance.

Materials: flip chart, marker, Peregrine and other Raptor display

Suggested Time: 45 minutes

Procedures: Students will discuss the peregrine falcon characteristics and appearance. Teacher will record responses on board while they write in their notebooks.

Lesson 18: Peregrine Bird Food

This lesson occurred in the beginning of April.

CCCS: 3.1; 3.2; 3.3; 3.4; 3.5

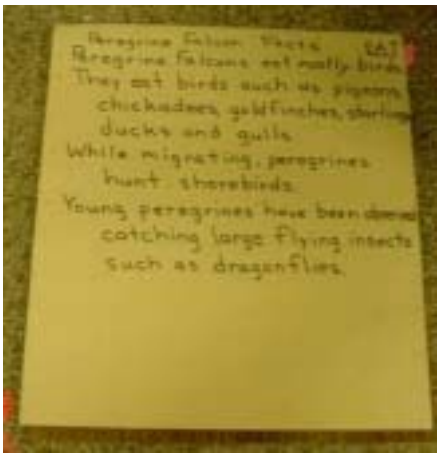
Objective: Students will be able to identify what peregrine falcons eat; Students will be able to match the names of birds falcons eat to their pictures.

Materials: flip chart, marker, Peregrine and other Raptors display (pictures)

Suggested Time: 45 minutes

Procedures: Students will discuss what peregrine falcons eat. Teacher will record responses on board while they write in their notebooks.

Homework: Write 1-2 paragraphs about the peregrine falcon. What does it look like? What does it eat?



Lesson 19: Let's Play Peregrine Jeopardy!

CCCS: 3.1; 3.3; 3.4; 3.5; 3.5a2

Objective: Students will be able to demonstrate knowledge and understanding of information learned about peregrine falcons.

Materials: jeopardy board using pocket chart and index cards, questions, markers

Suggested Time: 45 minutes

Procedures: Read aloud: Kingfisher Young Knowledge: Birds by Nicole Davies

Students will form two teams. Teacher will be the scorekeeper. Take turns having the teams choose a category and a dollar amount. If the team gets the answer correct they get the points. Continue play until all the questions have been read.

Categories: characteristics, diet, nests, and appearance

Phase 3: Look at this!
Baby Peregrine Chicks

This phase is where the children began their peregrine falcon journals. The children observed a pair of peregrine falcons and their chicks on 101 Hudson Street in Jersey City, NJ through a web cam that the Conserve Wildlife Foundation of New Jersey set up on the top of the building. The students recorded and drew pictures of what they observed in their journals. (The recording began April 30th, 2004 and continued until June 25th, 2004)

Web cam address: http://www.njfishandwildlife.com/peregrinecam

Children in the second grade discovered another web cam at 55 Water Street in NYC, NY.
Web cam address: http://falcon.55water.com

The web cam was turned on in the classroom at 9:00am. The children viewed both web cams. When questions or an event occurred during the day, the lesson being taught was stopped to address what occurred on the web cam. For their journals, it was at the student's discretion what he or she felt was important information to record.

When the students discovered the web cam at 55 Water Street, the birds at that nest box were about 3 weeks old so the parents were not near the chicks. On the other hand, the peregrine falcons at 101 Hudson Street stayed close to their chicks since they were younger. We observed that on a really hot day, the parent would shelter their chicks from the sun shielding them with their wings spread out. The adult was very hot as we could observe them panting. The parent did not leave the chicks until the sun moved and the chicks were in the shade. Then, and only then, did the parent leave the chicks. The children expressed that the peregrine falcon parents at 101 Hudson Street were better parents than the ones at 55 Water Street. Eventually, we came to realize that as the chicks grew older, the parents at 101 Hudson Street would leave the chicks at home more often. The children came to the conclusion that maybe the other parents at 55 Water Street was just as responsible as the parents at 101 Hudson Street.

Over the weeks, the children observed the chicks becoming more active with more exercising of their wings. They observed the loss of pinfeathers, which were being replaced by young adult feathers. Then the children observed the chicks becoming larger and jumping out of the nest box. Especially on hot days, there were no birds to be found on the web cam site. Children that viewed the cam after school hours reported to the class that at night the birds stayed in their nest box.

Lesson 20: Researching Peregrine Falcons as an Endangered Species

CCCS: 3.1; 3.3; 3.4; 3.5

Objective: Students will be able to find the answer to: What caused the peregrine falcon to become endangered?

Materials: bird library, current articles, news coverage of banding of peregrine chicks

Suggested Time: 45 minutes

Procedures: Children will work in teams and research the books and materials we read, including materials from the Internet and be able to answer the initial question of: What caused the peregrine falcon to become endangered?

Homework: Write down information and source to be shared with class and recorded the next day.

Lesson 21: Data on Peregrine Falcons, an Endangered Species

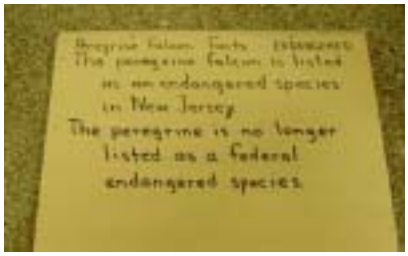
CCCS: 3.1; 3.3; 3.4; 3.5

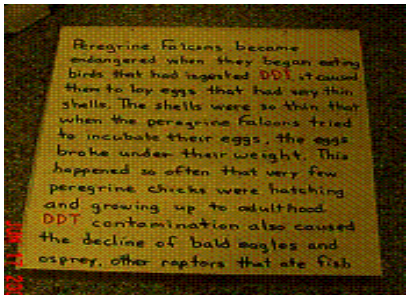
Objective: Students will be able to put together all of the information that they accumulated from their research.

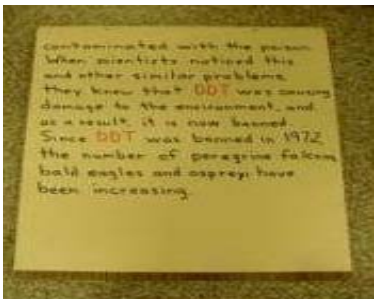
Materials: flip chart, marker, written homework

Suggested Time: 45 minutes

Procedures: Children will share what they found out about peregrine falcons as an endangered species. Teacher will record information on flip chart.







Lesson 22: Informative Writings about the Peregrine Falcon

It is now the beginning of June.

CCCS: 3.1; 3.2a7; 3.2a8; 3.2a9; 3.2a10; 3.2b4; 3.3; 3.4; 3.5

Objective: Students will be able to use information and knowledge gained to write about the peregrine falcon.

Materials: paper, pencil, notebooks for reference

Suggested Time: 45 minutes

Procedures: Children will write a 4-paragraph essay following the given format.

Paragraph 1: Describe the peregrine falcon's appearance.
Paragraph 2: What do peregrine falcon's eat?
Paragraph 3: Peregrine facts
Paragraph 4: Why peregrine falcons became endangered.

Students need to be prepared to share their writing piece with the class over the next 2 days.

Lesson 23: Review for Posttest with Computer Software

Each of the 3 teachers utilized a different program for reviewing for the posttest:
1. Roberta Kenny: Birds and Pets "Venn Diagram"
2. Michelle Longo-Sare: "Green Board" of Diet, Habitat, and Physical Characteristics
3. Debra Richman: Peregrine Falcon "Web"

LESSON PLAN OUTLINE # 1

Teacher Name: Roberta Kenny
Subject: Peregrine Falcons
Technology Used: Computer/Smartboard

Curriculum Objective:
Students will be able to demonstrate knowledge and understanding of Peregrine falcons.

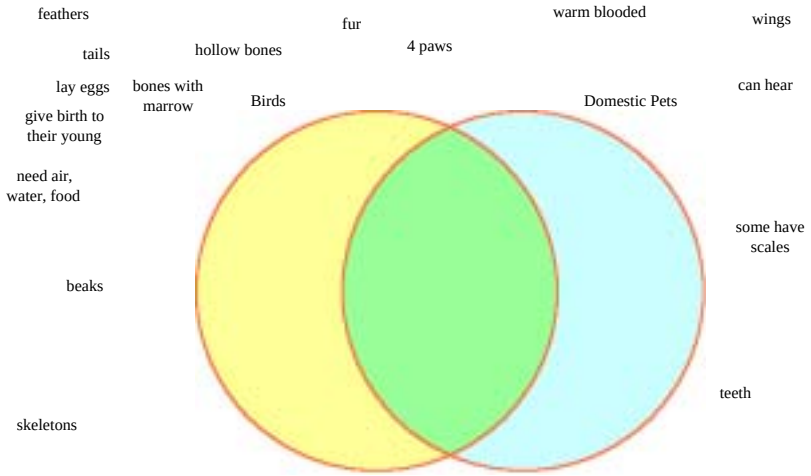
NJCCCS:
Investigate the diversity of animal life (5.5)

Technology Skills Needed:
Kidspiration, click and drag, typing on keyboard

Materials Needed:
Software, SMART board

Assessment:
Reviewing for test on the Peregrine falcon

Lesson Outline:
- Children went on field trip to observe the banding of young Peregrine falcons at 101 Hudson Street.
- Open up the pre- made web of the Peregrine falcon.
- Using the SMART board for the class to see.
- Use a web showing all information learned about the Peregrine falcon.
- Children will be called up to the SMART board to type in the correct answers.
- Click and drag words to complete the Venn diagram.



LESSON PLAN OUTLINE #2

Teacher Name: Michelle Longo-Sare
Subject: Peregrine Falcons
Technology Used: Computer/Smartboard

Curriculum Objective:
Review facts about falcon and describe the Peregrine Falcon

NJCCCS: 5.11, 5.62, 5.121, 5.122, 5.123, 5.62, 5.63, 5.64, 5.65

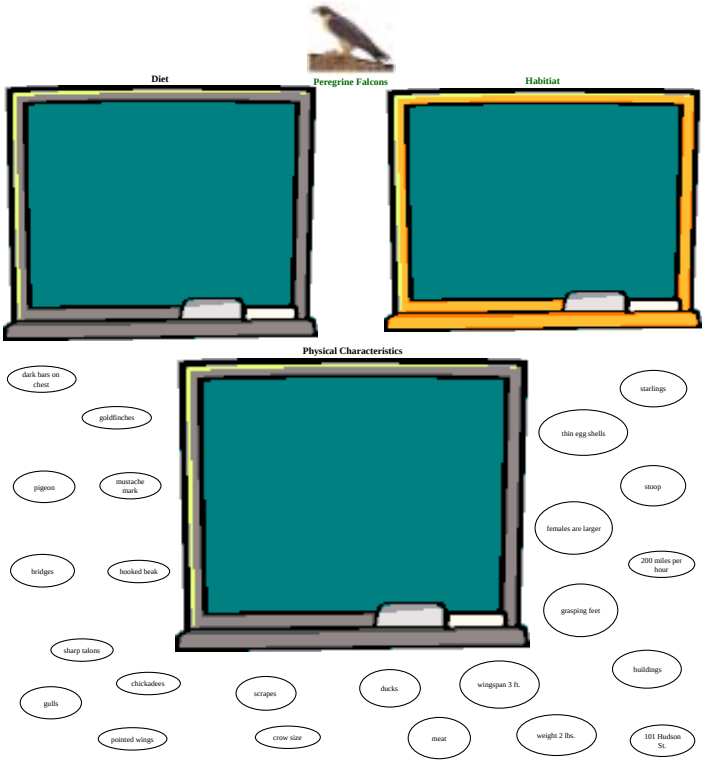
Technology Skills Needed:
Children need to be familiar with Kidspiration and know how to click and drag.

Materials Needed:
Software, SMART board, scissors, glue stick

Assessment:
Quiz at the end of the unit

Lesson Outline:

- Children went on field trip to observe the banding of young Peregrine falcons at 101 Hudson Street.
- Open up the pre- made web of the Peregrine falcon.
- Using the SMART board for the class to see.
- Use a web showing all information learned about the Peregrine falcon.
- Children will be called up to the SMART board to type in the correct answers.
- Click and drag words to complete the diagram.



LESSON PLAN OUTLINE #3

Teacher Name: Debra Richman
Subject: Science- Peregrine Falcons
Technology Used: Kidspiration

Curriculum Objective:
Students will be able demonstrate knowledge and understanding of peregrine falcons.

NJCCCS: investigate the diversity of animal life (5.5)

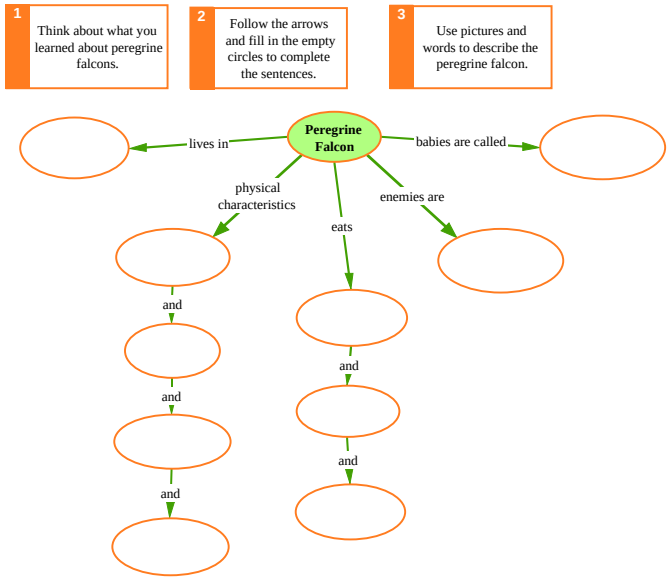
Technology Skills Needed:
Using Kidspiration, typing on keyboard, knowing how to copy and paste pictures into documents

Materials Needed:
Kidspiration software, computers, SMART board

Assessment:
This lesson is review for the test on peregrine falcons.

Lesson Outline:

- Anticipatory Set: Soon a group will come to visit us and show us many different raptors. They are going to bring a red-tailed hawk, a great horned owl, and other beautiful raptors. In order to show them all we learned about raptors, especially the peregrine falcon, I thought it would be a good idea to create a class web.
- Open up the pre-made web/diagram
- Show on the SMART board so the whole class can see.
- Tell the children we will create a web using all of the information we learned about peregrine falcons.
- Call on individual children to type the answers into the web.
- Demonstrate how to add the correct picture to match the words entered on the web.
- Print out a completed copy of the web for each student.



Lesson 24: Final Review

CCCS: 5.11; 5.62; 5.121; 5.123; 5.62; 5.63; 5.64; 5.65

Objective: Students will be able to match facts to different categories on a chart

Materials: print out of Kidspiration final review, scissors, and glue

Suggested Time: 45 minutes

Procedures: Children will cut out ovals with facts and glue them on to the appropriate blackboard.

weight 2 lbs.

101 Hudson St.

dark bars on chest

falcons

hooked beak

mustache mark

owls

pigeon

ducks

starlings

D.D.T.

chickadees

bridges

stoop

scrapes

hawks

food chain

sharp talons

buildings

eagles

vulture

200 miles per hour

pointed wings

crow size

eggs broke from weight

goldfinches

thin egg shells

gulls

meat

wingspan 3 ft.

females are larger

grasping feet

Raptor

Peregrine Falcon

Flight

Nests

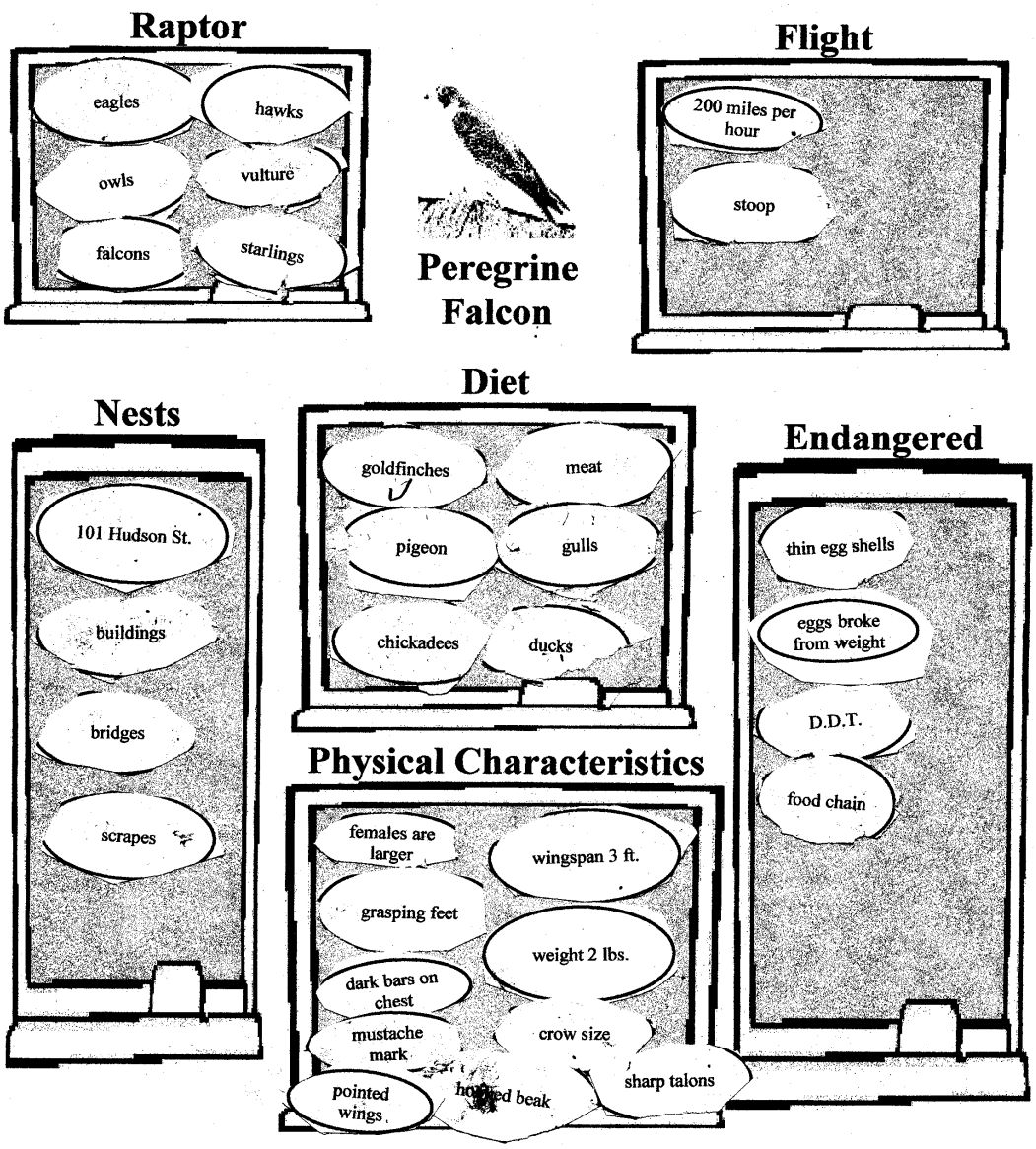
Diet

Endangered

Physical Characteristics

Sample of "Final Review" Activity

Maranda Molina 6/7/04



Posttest was given after Lesson 25.
The posttest is the same as the pretest. (See pretest)

Field Trips

March 26, 2004: Museum of Natural History, New York City, New York
Children were taken to the bird display at the museum. Of course, there was a peregrine falcon display featuring a scrape with chicks on a ledge of a cliff. The parent was shown in flight returning to the scrape. There are also owls and falcons on display for the children to see.

April 22, 2004: Central Park Zoo, New York City, New York
Children observed birds in the aviary. Children's questions Were answered by an attendant at the aviary.

May 21, 2004: "Banding Day" at 101 Hudson Street, Jersey City, New Jersey
Before the field trip began, Keara Giannotti (Conserve Wildlife Foundation of New Jersey) gave children binoculars and instruction on the use of handling binoculars. On this field trip the children were taken to 101 Hudson Street, which is the home of the peregrine falcons that the children were observing on the web cam. A lecture was given by Keara Giannotti, followed by a question and answer session. The children were allowed to view and touch the banded chicks under the supervision of Kathy Clark, State Biologist with the Endangered and Nongame Species Program, who also lectured and answered student questions.

Sample of: Student Informational Report

Peregrine Falcon Informational Report by Denis Sunitsky

Resource Books and Articles

Books Used:

Beaks and Feet by Sarah O'Neil
A Nest Full of Eggs by Priscilla Belz Jenkins
Urban Birds by Jaime Joyce (Magazine article)
How Do Birds Find Their Way? by Roma Gans
Falcons Nest on Skyscrapers by Priscilla Belz Jenkins
Kingfisher: Young Knowledge Birds by Nicole Davies
The Peregrine's Journey: A Story of Migration by Madeleine Dunphy
Birds by Jill Bailey and David Burnie
What Kind of Bird is That? by Mirra Ginsburg

**We use the100 Book Challenge independent reading program in our school. We gathered all the bird books in school for a classroom library.

Video: *Fly Away Home*

Newspaper Articles:

The Islander, May 14, 2004: *Spotted – Birds Flock to 21st Annual World Series Event*
The Record, May 22, 2004: *Falcon's Future Soar in New Jersey.*
The Star Ledger, April 1, 2004: *Free of DDT, Ospreys Fly High.*

Peregrine Falcon Website References

These are the web sites that the students in both second grade classes researched in class or at home. The results of their discoveries were shared with their teachers and classmates. This research was ongoing during the course of the project.

(1/28/04) http://www.zoomschool.com/subjects/birds/Allaboutbirds.html

All About Birds

(1/21/04) http://www.birds.cornell.edu/programs/urbanbirds

Urban Bird Studies- Cornell Lab

(1/21/04)

http://www.enchantedlearning.com/subjects/birds/printouts/Perfalconprintout.shtml

Enchanted Learning

(1/31/04) http://www.peregrine-foundation.ca/education.html

The Canadian Peregrine Foundation

(1/31/04) http://sites.state.pa.us/PA_Exec/PGC/falcon/02banding.htm
Peregrine Falcon Banding and Management

(1/31/04) http://raysweb.net/specialplaces/pages/falcon.html
The Peregrine Falcon: Wildlife, Bird and Endangered Species Page

(1/31/04) http://sites.state.pa.us/PA_Exec/PGC/falcon/profile.htm
Peregrine Falcon Species Profile- Pennsylvania Game Commission

(1/31/04) http://www.pbs.org/falconer/falcons/index.htm
A Falconer's Memoir

(1/31/04) http://endangered.fws.gov/facts2.html
Peregrine Falcon- U.S. Fish & Wildlife Service

(2/7/04) http://wildwnc.org/af/americancrow.html
Animal Facts: American Crow

(3/8/04) http://www.raptorresource.org/facts.htm
Falcon Facts

(3/13/04) http://www.tpwd.state.tx.us/nature/endang/animals/birds/pergrin.htm
Texas Park & Wildlife: Threatened and Endangered Species

(4/2/04) http://www.dnr.state.wi.us/org/land/er/factsheets/birds/falcon.htm
Wisconsin Department of Natural Resources: Peregrine Falcons

(4/4/04) http://magma.nationalgeographic.com/ngm/0207/feature2/
National Geographic Magazine: Bald Eagle

(5/5/04) http://www.hawkcreek.org/virtual/education/babies/images/fullsize/peregrine.jpg
Peregrine Falcon Picture

Other Helpful Resources

The Peregrine Fund
World Center For Birds of Prey
5668 West Flying Hawk Lane
Boise, Idaho 83709
(208) 362-3716
Contact: Ann Peden

Snake River Bird of Prey National Conservation Area
Bureau of Land Management
Lower Snake River District
3948 Development Ave
Boise, Idaho 83705
(208) 384-3300
Contact: Barbara L. Forderhase

Hawk Mountain Sanctuary Association
1700 Hawk Mountain Road
Kempton, PA 19529-9376
(610) 756-6961
Contact: Jeremy

Golden Gate Raptor Observatory
Building 1064, Ft. Cronkhite
Sausalito, CA 94965
(415) 331-0730
Contact: Eric