

Katie Preswich

Nicci Wadsworth—Fall, 2003

## Predator Or Prey?

### *Lesson One*

#### **Abstract:**

- To help students understand the concept of predator/prey by researching specific examples of birds.

#### **Grade Level: 4**

#### **Instructional Time: 2 full class periods—60 minutes each**

#### **Science Benchmark:**

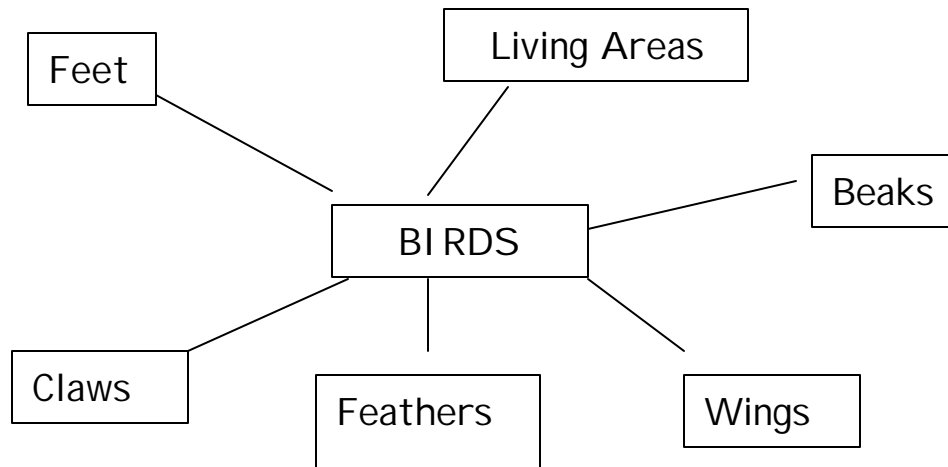
Utah has diverse plant and animal life that is adapted to and interacts in areas that can be described as wetlands, forests, and deserts. The characteristics of the wetlands, forests, and deserts influence which plants and animals survive best there. Living and nonliving things in these areas are classified based on physical features.

#### **Utah State Core Standards & Objectives:**

- Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.
  - Describe some animals (birds) found in Utah's Great Salt Lake environment.
  - Describe some of the interactions between animals of the Great Salt Lake environment (e.g., woodpecker eats insects that live on trees of a forest, brine shrimp of the Great Salt Lake eat algae and birds feed on brine shrimp).

### Prior Knowledge Assessment:

- Students will participate in a concept map/webbing activity to determine different characteristics of birds. For an example, look below! Then, students will engage in a class discussion about predators and prey among birds (see focus questions below).



- Throughout the prior knowledge assessment, teachers should carefully observe student knowledge regarding birds. Specifically, teachers should make note of the knowledge displayed through the webbing activity (checking for understanding). This knowledge will determine the extent of research necessary. As an educator, you may need to enhance this activity to further challenge students or you may need to simplify it for students with disabilities. Students will be able to display their knowledge of birds to the class and especially the teacher through communication skills.
- After the webbing activity, teachers should emphasize the importance of birds in the world. Explain to students that during the next few days, they will be conducting some research of birds specific to the Great Salt Lake.

- Then, ask students some focus questions:
  - Why are birds important to the Great Salt Lake?
  - What is a predator?
  - What is prey?
  - Why are both predators and prey an important part of our world?
- Define predator & prey for students (see list of terms).
- These activities will allow students to make inferences and predictions about certain terms (i.e.—predator and prey) and about the lifestyles and characteristics of birds that live on or around the Great Salt Lake.
- Relationship between two lessons:
  - What might the beak of a bird look like if it is a predator?
  - What do you think predators eat?
  - How do you think predators capture their food?
  - What special adaptations do you think predators need to hunt?
  - What might the beak of a bird look like if it is prey?
  - What do you think prey eat?
  - How do you think prey capture their food?

**Background Information Needed:**

This lesson does not require a whole lot of background information on the teacher's part.

However, here are some “must haves” for this lesson.

1. Teachers should know what the terms predator and prey mean. Teachers should feel comfortable talking about predators and prey and should be able to define terms using their own words.
2. Teachers should also be knowledgeable of nicknames for predator and prey. For bird life, **predators** are commonly known as “**birds of prey**” and **prey** are commonly known as “**scavengers.**”
3. Teachers should conduct some research about birds found at the Great Salt Lake. Here are some of the resources we used:
  - [http://www.enature.com/guides/select\\_Birds.asp](http://www.enature.com/guides/select_Birds.asp)
  - <http://www.buteo.com/>
  - Behle, William H. The Bird Life of Great Salt Lake. University of Utah Press. Salt Lake City: 1958.
  - Czerny, Peter G. The great, Great Salt Lake. Brigham Young University Press. Provo: 1976.
  - Millard, Alan. The Great Salt Lake Guidebook. Horizons Publisher and Distributors, Inc. Bountiful: 2000.
  - Miller, David E. Great Salt Lake: Past and Present. Salt Lake City: 1949.
  - Stum, Marlin and Miller, Dan. Visions of Antelope Island and Great Salt Lake. Utah State University Press. Logan: 1999.

**List of Terms:**

1. Predator (Birds of Prey)- An animal that hunts and kills other animals for its food.
2. Prey (Scavengers)- An animal that is hunted or eaten by another animal.

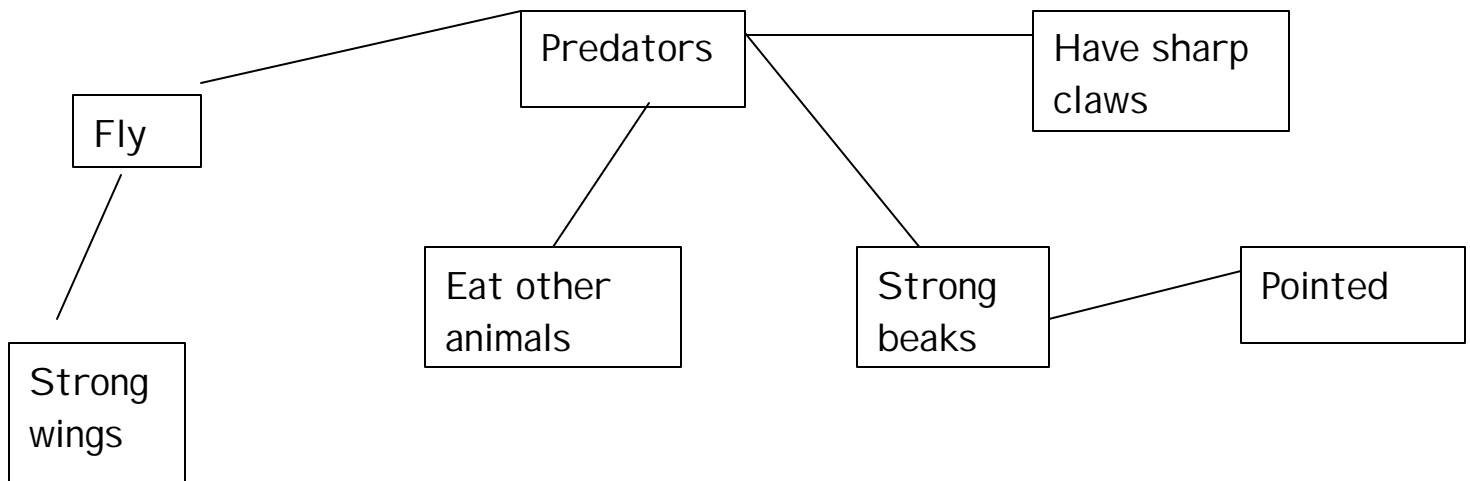
3. Extinct- No longer in existence; lost or especially having died out leaving no living representatives.

**Materials:**

- Birds of Prey student sheet
- Computer Access (must have Internet)
- [http://www.enature.com/guides/select\\_Birds.asp](http://www.enature.com/guides/select_Birds.asp)
- <http://www.buteo.com/>

**Procedures:**

1. Have students make a list of key words or ideas about predator/prey characteristics, with the teacher as a scribe. For example, see below.



2. Tell students predators that are birds are called “birds of prey” and prey are often called “scavengers.”
3. Hold up a poster of birds. Point to a bird and ask students to classify it as a “bird of prey” or “scavenger.”

4. Tell students they will be given the opportunity to research some birds of prey and scavengers to learn more about animals needing other animals to survive.
5. Break students into groups of 2-3. Allow students to conduct independent research on the Internet to develop a better understanding of “birds of prey” and “scavengers” that exist at the Great Salt Lake. Here students will be able to use classification skills to separate birds into two categories: Predators (Birds of Prey) & Prey (Scavengers).

Groups of students will research the following “birds of prey”:

- Great Blue Heron
- Great Egret
- American White Pelican
- Golden Eagle
- Red-tailed Hawk

Students will research the following “scavengers”:

- Eared Grebe
- American Widgeon
- Blue Grouse
- Ring-Necked Pheasant
- California Gull

6. Direct students to the following websites:

- a. [http://www.enature.com/guides/select\\_Birds.asp](http://www.enature.com/guides/select_Birds.asp)
- b. <http://www.buteo.com/>

7. As they're doing their research, have students complete the student sheet (see attached).
8. Have students participate in a jigsaw activity. In this activity, students will share information about the specific bird they researched. Information can be drawn from the student worksheet and emphasizes student communication skills.
9. Discuss the research results in class, and ask the following questions to help students analyze predator/prey relationships in their own environments:
  - What did each of the birds of prey have in common?
  - Which bird of prey do you think would have the most difficult time adapting to our neighborhood? Why?
  - What types of prey are living in our neighborhood?
  - What did each of the scavenger birds have in common?
  - Which scavenger would have the most difficult time adapting to our neighborhood? Why?
  - What types of scavenger birds are living in our neighborhood?

### **Assessment**

- Introduce students to the word “extinct.”
  - Ask students what the word means.
  - Provide a definition of the word.
    - Extinct- No longer in existence; lost or especially having died out leaving no living representatives.

- Students will be asked to write a short response in their science journals regarding this activity. Students should include the following in their journal:
  - A statement that tells the purpose of the research. Students express one thing they wanted to learn about birds and the Great Salt Lake.
  - Students provide a short summary of the activities they participated in. This should include the webbing activities, the researching activity, and the jigsaw activity.
  - Students provide a short response to two of the following questions in their science journals:
    - Why is it important to have both scavengers and birds of prey in the world?
    - What would happen if scavengers were extinct? Birds of prey?
    - Describe one characteristic of a “bird of prey” and draw a picture illustrating the characteristic.
    - Describe one characteristic of a “scavenger” and draw a picture illustrating the characteristic.
- Journals will be graded based on the following rubric (see attached).

\*Note: This lesson was adapted from <http://www.sciencenetlinks.com/lessons.cfm?DocID=82>  
All credit due to Science NetLinks, as no author was specified.



## Birds of Prey

Great Blue Heron

Physical characteristics (wingspan, color, size, beak, etc...):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---



## Birds of Prey

Great Egret

Physical characteristics (wingspan, color, size, beak, etc):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---



## Birds of Prey

American White Pelican

Physical characteristics (wingspan, color, size, beak, etc...):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---



**Birds of Prey**

Golden Eagle

Physical characteristics (wingspan, color, size, etc...):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---



## Birds of Prey

Red-tailed Hawk

Physical characteristics (wingspan, color, size, etc...):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---



## Scavengers

Eared Grebe

Physical characteristics (wingspan, color, size, etc...):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---



## Scavengers

### American Widgeon

Physical characteristics (wingspan, color, size, etc...):

---

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---

---

---



## Scavengers

Blue Grouse

Physical characteristics (wingspan, color, size, etc...):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---



## Scavengers

### Ring-Necked Pheasant

Physical characteristics (wingspan, color, size, etc...):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---



## Scavengers

### California Gull

Physical characteristics (wingspan, color, size, etc...):

---

---

---

---

---

---

---

Nesting sites:

---

---

---

---

Typical diet:

---

---

Other interesting facts:

---

---

---

---

---

---

Rubric Made Using:

**RubiStar** ( <http://rubistar.4teachers.org> )

## Lab Report : BIRDS & THE GREAT SALT LAKE

Teacher Name: **Ms. Preswich**

Student Name: \_\_\_\_\_

CATEGORY	4	3	2	1
Question/Purpose	The purpose of the lab or the question to be answered during the lab is clearly identified and stated.	The purpose of the lab or the question to be answered during the lab is identified, but is stated in a somewhat unclear manner.	The purpose of the lab or the question to be answered during the lab is partially identified, and is stated in a somewhat unclear manner.	The purpose of the lab or the question to be answered during the lab is erroneous or irrelevant.
Participation	Used time well in lab and focused attention on the experiment.	Used time pretty well. Stayed focused on the experiment most of the time.	Did the lab but did not appear very interested. Focus was lost on several occasions.	Participation was minimal OR student was hostile about participating.
Summary	Summary describes the skills learned, the information learned and some future applications to real life situations.	Summary describes the information learned and a possible application to a real life situation.	Summary describes the information learned.	No summary is written.
Appearance/Organization	Lab report is neatly handwritten and uses headings and subheadings to visually organize the material.	Lab report is neatly written or typed, but formatting does not help visually organize the material.	Lab report shows effort, but lacks neatness and/or headings/subheadings.	Lab report is handwritten and looks sloppy with cross-outs, multiple erasures and/or tears and creases.

Spelling, Punctuation and Grammar	One or fewer errors in spelling, punctuation and grammar in the report.	Two or three errors in spelling, punctuation and grammar in the report.	Four errors in spelling, punctuation and grammar in the report.	More than 4 errors in spelling, punctuation and grammar in the report.
-----------------------------------	---	---	---	--

Date Created: **Nov 26, 2003 10:13 am (CST)**

## Carnivore or Herbivore?

### Lesson Two

#### **Abstract:**

- To help students understand the concept of carnivore and herbivore by observing the characteristics of the birds of the Great Salt Lake.

#### **Grade Level:** 4<sup>th</sup>

#### **Instructional Time:** 45 min. – 1 hour

#### **Science Benchmark:**

Utah has diverse plant and animal life that is adapted to and interacts in areas that can be described as wetlands, forests, and deserts. The characteristics of the wetlands, forests, and deserts influence which plants and animals survive best there. Living and nonliving things in these areas are classified based on physical features.

#### **Utah State Core Standards & Objectives:**

- Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.
  - Describe some animals (birds) found in Utah's Great Salt Lake environment.
  - Describe some of the interactions between animals of the Great Salt Lake environment (e.g., woodpecker eats insects that live on trees of a forest, brine shrimp of the Great Salt Lake eat algae and birds feed on brine shrimp).

#### **Terminology:**

- PREDATOR: an animal that eats other animals\*
- PREY: an animal that is eaten by other animals\*

- CARNIVORE: an animal that eats meat or other animals\*\*
- HERBIVORE: a plant-eating animal\*\*

\*Denotes vocabulary from previous lesson and will be review in the ‘Prior knowledge assessment’ section of the lesson.

\*\*Denotes new vocabulary that will be introduced in this lesson

**Note to Teachers :**

This lesson should follow the lesson entitled, “Predator or Prey”.

**Possible Art Integration:**

Standard 4: The student will interpret and apply visual arts in relation to cultures, history, and all learning.

Objective 3: Recognize the connections of visual arts to all learning.

- Explain how scientific information can be communicated by visual art.

**Background Information:**

This lesson builds on the prior lesson and the background knowledge from that lesson is very important. Here is some background knowledge for this lesson:

1. Teachers should be familiar with the terminology for this lesson. These terms should be basic terms that will be defined in most text books. A brief description of each is listed above in the terminology section.
2. Teachers should conduct some research about birds found at the Great Salt Lake.

Here are some of the resources we used:

- [www.enature.com/guides/select\\_Birds.asp](http://www.enature.com/guides/select_Birds.asp)
- [www.bueto.com/](http://www.bueto.com/)
- Behle, William H. The Bird Life of Great Salt Lake. University of Utah Press. Salt Lake City: 1958
- Czerny, Peter G. The Great Salt Lake. Brigham Young University Press. Provo: 1976
- Millard, Alan. The Great Salt Lake Guidebook. Horizons Publisher and Distributors, Inc. Bountiful: 2000
- Miller, David E. Great Salt Lake: Past and Present. Salt Lake City: 1949
- Strum, Marlin and Miller, Dan. Visions of Antelope Island and Great Salt Lake. Utah State University Press. Logan: 1999

### **Prior Knowledge Assessment:**

- Predator/Prey game. Students will review characteristics of predators and prey through this game. Then they will be able to transfer that knowledge to the question: “Which birds of the Great Salt Lake are herbivores and which birds are carnivores?”
- Predator/Prey Game (this game is designed to review these terms)
  - Prepare labels with the names of all the birds at the Great Salt Lake and their predator or prey. You can find pictures and names of the birds of the Great Salt Lake in the websites and books listed in the background information and also on the attached list, Birds of the Great Salt Lake.
  - Each student will have a label put on their back without knowing what their animal is. They then will go around asking ‘yes’ or ‘no’ questions to find out

who they are. They then will need to group into predator and prey groups. Ask the student what each bird in these groups have in common.

**Lesson:** (the prior knowledge assessment should flow right into the lesson)

- Define carnivore & herbivore with the students.
  - Carnivore- an animal that eats meat or other animals.
  - Herbivore-plant-eating animals
  - Ask the students to organize themselves; using the bird tag they had from before, into herbivore and carnivore groups. Ask the students if there are any similarities between the herbivore and carnivore groups and the predator and prey groups. Then ask what the similarities are.
- Relationship between two lessons:
  - What might the beak of a bird look like if it is a herbivore?
  - What might the beak of a bird look like if it is a carnivore?
  - What other characteristics will a herbivore have?
  - What other characteristics will a carnivore have?
  - Which birds are predators, carnivores or herbivores?
  - Which birds are prey, carnivores or herbivores?

**Activity:**

- 10.** Talk about the characteristics of a bird's beak and why those characteristics are an important part in what a bird eats.
- 11.** Ask the students to create their own beaks of either a herbivore or a carnivore. Let the students be as creative as they can, but remind them that they will have to present the characteristics of their beaks and tell if this animal would be a carnivore or a herbivore.

- 12.** Share beaks with class; discuss what type of an animal it would be, carnivore or herbivore and therefore predator or prey. Reiterate the connection between carnivore, herbivore, predator and prey. Make sure to be prepared to display the student's work.
- 13.** It is important for the students to understand that these models are different from the actual phenomenon. Have the students discuss this and brainstorm why.

### **Assessment**

- This activity will be an assessment. If the students know what a herbivore and a carnivore are, they will be able to create and explain their beak.
- The specific criteria for the assessment will be:
  - If the student is able to describe if the beak they have created is for a herbivore or a carnivore.
  - And if the student can give supporting data as to why they believe it is a herbivore or a carnivore.

### **Materials:**

- Labels for Predators and Prey of the Great Salt Lake, mainly birds. For pictures of the birds of the Great Salt Lake, see the resource books and websites in the background information section.
- Craft materials for the students to create their own beaks. It can be anything, the more odd the better, the students will then be more creative.

# BIRDS OF THE GREAT SALT LAKE

Clark's Grebe

Pelicans & Cormorants

American White Pelican

Double-crested Grebes

Pied-billed Grebe

Eared Grebe

Western Grebe

Diver Cormorant

Bitterns & Herons

Great Blue Heron

Great Egret

Snowy Egret

Cattle Egret

Black-crowned Night-Heron

Ibises & Spoonbills

White-faced Ibis

Vultures

Turkey Vulture

Hawks & Falcons

Osprey

Northern Harrier

Cooper's Hawk

Swainson's Hawk

Red-tailed Hawk

Golden Eagle

American Kestrel

Peregrine Falcon

Prairie Falcon

Pheasants, Grouse & Quail

Chukar

Ring-necked Pheasant

California Quail

Swans, Geese & Ducks

Canada Goose

Green-winged Teal

Mallard

Northern Pintail

Blue-winged Teal

Cinnamon Teal

Northern Shoveler

Gadwall

American Widgeon

Canvasback

Redhead

Lesser Scaup

Common Goldeneye

Red-breasted Merganser

Ruddy Duck

Rails & Cranes

Virginia Rail

Sora

American Coot

Sandhill Crane

Owls

Barn Owl

Short-eared Owl

Plovers & Sandpipers

Snowy Plover

Killdeer

Black-necked Stilt

American Avocet

Willet

Spotted Sandpiper

Long-billed Curlew

Sanderling

Western Sandpiper

Least Sandpiper

Long-billed Dowitcher

Common Snipe

Wilson's Phalarope

Red-necked Phalarope

Wilson's Snipe

Gulls, Terns & Alcids

Franklin's Gull

Ring-billed Gull

California Gull

Caspian Tern

Forster's Tern

Least Tern

Black Tern

Hummingbirds

Broad-tailed Hummingbird

Black-chinned Hummingbird

Calliope Hummingbird

Kingfishers

Belted Kingfisher

Woodpeckers

Red-naped Sapsucker

Downey Woodpecker

Northern Flicker

Flycatchers

Willow Flycatcher

Hammond's Flycatcher

Dusky Flycatcher

Gray Flycatcher

Say's Phoebe

Western Kingbird

Eastern Kingbird

Pigeons & Doves

Rock Dove

Band-tailed Pigeon

Mourning Dove

Eared Collared Dove

Shrikes

Loggerhead Shrike

Vireos

Plumbeous Vireo

Warbling Vireo

Jays & Crows

Western Scrub-Jay

Black-billed Magpie

American Crow

Common Raven

Larks

Horned Lark

Swallows

Tree Swallow

Violet-green Swallow

Northern Rough-winged Swallow

Bank Swallow

Cliff Swallow

Barn Swallow

Titmice, Verdin & Bushtit

Black-capped Chickadee

Juniper Titmouse

Nuthatches & Creepers

White-breasted Nuthatch

Wrens

Rock Wren

Canyon Wren

House Wren

Marsh Wren

Dippers

American Dipper

Kinglets

Golden-crowned Kinglet

Ruby-crowned Kinglet

Gnatcatchers

Blue-gray Gnatcatcher

Thrushes

Mountain Bluebird

American Robin

Thrashers

Gray Catbird

Sage Thrasher

Starlings

European Starling

Pitpits

Waxwings & Phainopepla

Cedar Waxwing

Warblers

Orange-crowned Warbler

Virginia's Warbler

Yellow Warbler

Yellow-rumped Warbler

Black-throated Gray Warbler

MacGillivray's Warbler

Common Yellowthroat

Wilson's Warbler

Yellow-breasted Chat

Tanagers

Western Tanager

Blackbirds & Orioles

Bobolink

Red-winged Blackbird

Western Meadowlark

Yellow-headed Blackbird

Brewer's Blackbird

Common Grackle

Brown-headed Cowbird

Bullock's Oriole

Sparrows

Green-tailed Towhee

Spotted Towhee

Chipping Sparrow

Brewer's Sparrow

Vesper Sparrow

Lark Sparrow

Sage Sparrow

Savannah Sparrow

Fox Sparrow

Song Sparrow

Dark-eyed Junco

Grosbeaks & Buntings

Black-headed Grosbeak

Blue Grosbeak

Lazuli Bunting

Finches

House Finch

Pine Siskin

Lesser Goldfinch

American Goldfinch

Weaver Finches

House Sparrow

This list found at:

<http://www.greatsaltlakeaudubon.org/>