

Birds of Vermont Museum



School Scavenger Hunt IV

Name _____

Grade _____

FIRST FLOOR

Wetland Diorama:

The larger diorama shows both migrating and breeding birds in the marshes, shores, and open waters of the Lake Champlain Basin during the springtime while the smaller diorama depicts birds in their fall plumage near the Dead Creek Wildlife Area.

S7-8:39 Evolution and Natural Selection

1. Find the maps on the fact cards below the displays. Note the various ranges of *year-round*, *breeding*, and *wintering* sites. Why might birds be found living in two or three different locations during the course of each year?

2. How might you define *seasonal migration*? Explain how a range map might help us understand and track a species' seasonal migration route.

S7-8:38 Classification of Organisms

Observe the variety of beaks and bills, legs, and feet for the birds displayed here. Try to imagine each bird obtaining its food and how its beak or bill, legs and feet are adapted for locating or consuming certain plants or animals.

3. Complete the chart for the Wetland Diorama birds listed below. The chart continues (with Spring Wetland birds) on the next page:

<i>Name of Bird</i>	<i>Food Source</i>	<i>Feeding Behavior</i>	<i>Describe Bill</i>	<i>Describe Legs/Feet</i>
<i>Fall:</i> #11 Hudsonian Godwit	Water insects, grubs, worms, plant tubers	Probes in mud with bill		
<i>Fall:</i> #13 Buff-breasted Sandpiper		Stabs at soft-bodied prey; forages on ground	Short, pointy bill	

<i>Name of Bird</i>	<i>Food Source</i>	<i>Feeding Behavior</i>	<i>Describe Bill</i>	<i>Describe Legs/Feet</i>
<i>Spring:</i> #7 Black Tern		Grabs bugs in mid-flight or picks bugs off plants or water surface		
<i>Spring:</i> #8 American Bittern			Long, thick tapered bill	Short legs; long, strong clawed toes
<i>Spring:</i> #11 Great Blue Heron	Fish, frogs, birds, insects			
<i>Spring:</i> #33 Blue-winged Teal		Bill skims water; stretches neck below surface		

S7-8:39 Evolution and Natural Selection

4. Based on your observations and your completed chart, what might be the adaptive advantages a bird's bill, legs, and feet provide in obtaining its particular diet? Give specific examples to support your response.

Thought Question:

5. Think about the birds of the Champlain Basin that are featured on your chart. Take a moment to reflect on the importance of species diversity, species survival, and healthy ecosystems. Write your thoughts below.

Endangered and Extinct Birds of North America:

S7-8:36 Equilibrium in an Ecosystem; S7-8:39 Evolution and Natural Selection

6. Environmental threats or consequences from human activity have contributed to the rapid decrease of population numbers for the endangered or extinct birds represented here. Describe two human-related causes of species' decline.

i.

ii.

7. In what way have humans made positive steps toward reversing the loss of both California Condor and Whooping Crane populations?

Thought Question:

8. How can we strive to keep the occurrence of toxic and disruptive environmental impacts on birds (and other wildlife) at a minimum, both locally and globally?

* Students research specific incidences of human activity or industrial practices showing detrimental outcomes to birds and wildlife, either directly or indirectly.

* Students educate citizens by preparing public awareness materials.

* Students propose practical solutions and “present” them to town officials, environmental groups, and industry leaders with multiple viewpoints addressed.

Viewing Window:

S7-8:38 Classification of Organisms

With a partner, observe all activity at the bird feeders. Use the different resources provided (books, posters) to identify individual and pairs of birds present.

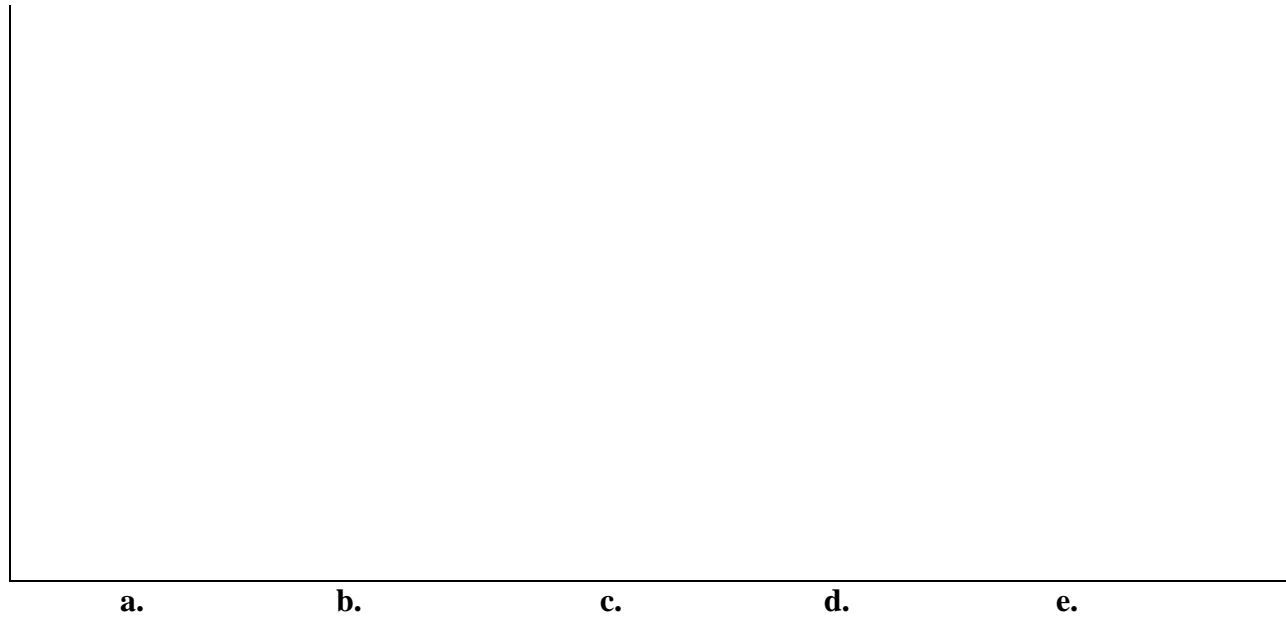
S7-8:2 Predicting and Hypothesizing

Make predictions about which bird species you might find at feeders in Vermont in the current season.

9. a. For a period of two minutes, count and record the *number* of birds for each of *three to five different bird species* on, under, or near the feeders. (Recording the number of individuals from mammalian species is optional)

<i>Species</i> (write name if known)	a.	b.	c.	d.	e.
<i>Number seen</i>					

9.b. Complete the *bar graph* showing your data from the table above. Include a title and correct labels.



10. What can you and your partner *infer* from your graphed data?

UPSTAIRS

Raptor Balcony:

S7-8:34 Energy Flow in an Ecosystem; S7-8:38 Classification of Organisms

11. a) What are raptors?

b) List at least three physical features that distinguish raptors from other birds.

c) Is the Turkey Vulture a raptor? Explain.

12. a) At what trophic level are raptors typically expected to be in a food web?

b) How might different organisms in an ecosystem be affected if populations of raptors suddenly decreased due to human factors including pesticide use and habitat destruction?

Main Gallery: Nesting Birds and Winter Diorama:

In addition to displays of nesting pairs and habitats of a variety of birds found in Vermont, this room encourages you to gaze upward to envision hawks flying overhead. Identifiable by the shape of their tails and the angle of their wings when flying, these birds of prey, as well as other birds, have a flight style that relates closely to their wing shape.

(ex. hawks soar vs. hummingbirds hover).

The habitats depicted in the displays reflect the varied, often rural, and boreal nature of Vermont's ecosystems and include deciduous and/or conifer forests, grasslands and old fields, meadow and forest edges, lakes and rivers, marshland, and human- created structures.

S7-8:38 Classification of Organisms; S7-8:39 Evolution and Natural Selection

13. Observe the variety of nests constructed from materials found in each particular habitat. Sketch examples of nests from four different habitats- identify habitat and bird in your sketches.

A.

B.

C.

D.

Some bird nests appear to be strong and stable while others seem quite flimsy or vulnerable to weather or predators.

Engineering focus question:

14. List several factors that might influence how and where a nest is built.

15. Which nest do you find most intriguing and why? (give showcase #; bird's name)

Speaking of nests, a bird common to our region, and at our feeders, is known for its habit of laying eggs in the nests of other birds. This type of bird, labeled a “brood parasite,” relies on other birds to incubate and raise its young.

16.a) Name this bird.

S7-8:39 Evolution and Natural Selection

b) List five birds that have fallen victim to this particular species.

c) How might this behavior have evolved?

S7-8:38 Classification of Organisms; S7-8:39 Evolution and Natural Selection

17. Examine the heads and beaks of the flycatchers.

a) What unexpected but prominent feature stands out among them all?

b) What is this adaptation likely to be used for?

c) Name two other types of birds that show this feature:

18. Seasonal migration and year-round living result in an abundance of nesting birds in Vermont every spring and summer. Take a moment to reflect on the different species, habitats, nests, and feeding behaviors depicted by the carvings you have observed in this gallery. Share your thoughts below.