

Title: Animal Classification and Taxonomy
Grade Level: 6-12
Subject(s): Science and Technology

Objectives:

- Students will explore the vast array of animals indigenous to Cape Cod.
- Students will understand Linnaeus' system of classification (binomial nomenclature).

Materials Needed:

- List of definitions as follows
 - Kingdom
 - Phylum
 - Class
 - Order
 - Family
 - Genus
 - Species

Activity:

Students can explore the CCSC beach at both high tide and low tide to collect and observe indigenous Cape Cod plants and animals.

Students will then classify the animals using binomial nomenclature.

Some of the animals you may encounter during your visit to Cape Cod include:

- **Amphibians**
 - Bullfrog
 - Spadefoot Toad
 - Wood Frog
 - Fowler's Toad
 - Pickerel Frog
 - Spotted Salamander

- Spring Peeper
- Four-toed Salamander
- Red-Black Salamander
- **Birds**
 - Piping Plover
 - Common Tern
 - Common Crow
 - Great Blue Heron
 - Black Backed Gull
 - Barn Swallow
 - Red Tailed Hawk
- **Reptiles**
 - Eastern Hog Nosed Snake
 - Ring-Necked Snake
 - Gartersnake
 - Watersnake
 - Ribbonsnake
 - Diamondback Terrapin
 - Snapping Turtle
 - Box Turtle
 - Painted Turtle
 - Musk Turtle

Extension:

Students may record data on the chart that follows.

CLASSIFICATION		SKETCH
Kingdom		
Phylum		
Class		
Order		
Family		
Genus		
Species		
CLASSIFICATION		SKETCH
Kingdom		
Phylum		
Class		
Order		
Family		
Genus		
Species		
CLASSIFICATION		SKETCH
Kingdom		
Phylum		
Class		
Order		
Family		
Genus		
Species		

Resources:

<http://www.nps.gov/caco/naturescience/animals.htm>

Standards Addressed:

National Science Education Standards

<http://www.nap.edu/readingroom/books/nse/6a.html>

Massachusetts Science and Technology Frameworks

- Life Science Grades 6-8
 - Learning Standards 1-18
- High School Biology
 - Content Standards 1-6
 - Scientific Inquiry Skills 1-4

Title: Scientific Scavenger Hunt
Grade Level: 6-12
Subject(s): Science and Technology

Objectives:

- Students will explore the vast array of animals and plants indigenous to Cape Cod.

Materials Needed:

- Scavenger Hunt checklist
- Pencil
- Sketchbooks or clipboards and paper

Activity

1. Divide students into cooperative learning groups.
2. Distribute scavenger hunt checklist, pencils and sketchbooks or paper.
3. Send students to different parts of the camp grounds to find the objects on the checklist.

Extension

Students can create a Field Guide to Cape Cod upon their return to the classroom based on the items they collected during their visit.

Standards Addressed:

National Science Education Standards

<http://www.nap.edu/readingroom/books/nse/6a.html>


Massachusetts Science and Technology Frameworks

- Life Science Grades 6-8
 - Learning Standards 1-18
- High School Biology
 - Content Standards 1-6
 - Scientific Inquiry Skills 1-4

CAPE COD SCAVENGER HUNT

DIRECTIONS: Working with the group to which you have been assigned, you will have _____ minutes to find as many of the items on this list. You can collect them in the bag your group has been given. When time is up, return to the meeting spot with your items and see how your group stacks up!

Remember: Please stay out of the dunes to prevent erosion!

ANIMALS	POINTS	
Horseshoe Crab skeleton	10	
A piece of granite	5	
A gull feather	2	
Pine needles from a pitch pine (bundle of 3 needles)	1	
A slipper shell	3	
A crab molt	5	
Berries	1	
Black oak leaves	1	
White oak leaves	1	
Acorns	2	
Barnacles on a rock	3	
A piece of bark	2	
Moss	1	
A bone	5	
A whelk case	3	
POSSIBLE TOTAL	45	

Title: Humans, Animals and the Environment on Cape Cod
Grade Level: 6-12
Subject(s): Science and Technology

Objectives:

- Students will examine the impact of humans on the Cape Cod environment.
- Students will learn about how humans and animals have adapted to and interacted with the environment on Cape Cod.

Materials Needed:

- Human Disturbance Checklist
- Human, Animal & Environment Checklist
- Pencils & clipboards

Activity:

Students will walk the grounds and complete the checklists that follow.

Extension:

Upon returning home, students can complete the same activity in their hometown. Students can compare and contrast their findings at CCSC and at home.

Students can also research the history of human-environment interaction as well as adaptation in different regions of the country or parts of the world.

Standards Addressed:

National Science Education Standards

<http://www.nap.edu/readingroom/books/nse/6a.html>

Massachusetts Science and Technology Frameworks

- Life Science Grades 6-8
 - Learning Standards 1-18
- High School Biology
 - Content Standards 5, 6
 - Scientific Inquiry Skills 1-4

HUMAN DISTURBANCE CHECKLIST

Do you see evidence of:	What do you think the long-term effects of this might be? Why?
Litter	
Human Footprints	
Cars and their exhaust	
Mowing	
Logging	

HUMAN, ANIMAL & ENVIRONMENT INTERACTION CHECKLIST

Describe the evidence you find of the following:

HUMAN – ENVIRONMENT INTERACTION	EVIDENCE
Humans and animals sharing the same environment.	
Wildlife is everywhere on Cape Cod, even if it is too small to see or hear.	
Animals range from large to small on Cape Cod.	
Humans and animals have had to adapt to the environment they share.	

Source: Ecology Education, Inc.

Title: Cape Cod Animal Adaptation
Grade Level: 6-12
Subject(s): Science and Technology

Objectives:

- Students will explore the vast array of animals indigenous to Cape Cod.
- Students will consider how the animals indigenous to Cape Cod have had to adapt to their environment over time.

Materials Needed:

Activity:

Students can explore the CCSC beach at both high tide and low tide as well as the grounds to observe indigenous Cape Cod animals.

Some of the animals you may encounter during your visit to Cape Cod include:

- **Amphibians such as** Bullfrog, Spadefoot Toad, Wood Frog, Fowler's Toad, Pickeral Frog, Spotted Salamander, Spring Peeper, Four-toed Salamander, Red-Black Salamander
- **Birds such as** Piping Plover, Common Tern, Common Crow, Great Blue Heron, Black Backed Gull, Barn Swallow, Red Tailed Hawk
- **Reptiles such as** Eastern Hog Nosed Snake, Ring-Necked Snake, Gartersnake Watersnake, Ribbonsnake, Diamondback Terrapin, Snapping Turtle, Box Turtle, Painted Turtle, Musk Turtle

1. Divide students into cooperative learning groups.
2. Send students to different areas of the camp grounds (e.g.: the beach, the front fields, the woods) to quietly observe animals.
3. Have students record their findings on the worksheet that follows.

Extension:

Students can do research about the animals indigenous to their hometown and learn about the adaptation necessary to live in that geographic area.

ANIMAL ADAPTATIONS

List the animals that you saw during your observation as well as their activities.

ANIMAL	ACTIVITIES	POSSIBLE ADAPTATIONS NEEDED

What environmental factors do you think made these adaptations necessary?
