



<p>Course: Conservation Biology Grade: 11 & 12 Designer(s): Stoner/Burchett</p>	<p>Overview of Course (Briefly describe what students should understand and be able to do as a result of engaging in this course): This course is divided into five main sections. In the first section the students will look at mammals. We will discuss the effects of the mammals on our environment, their habitat, and also their importance and history in Pennsylvania. The second unit will investigate the native fish of Pennsylvania. We will look at the laws that govern fishing and boating in Pennsylvania. The third section will look at the birds of Pennsylvania. We will do an in-depth study of 16 birds that are common here in the state. The fourth unit will look at the common trees of Pennsylvania. We will look at 25 common native trees to Pennsylvania. The last unit that we will look at is a combination of orienteering, maps and survival skills. The students will look at a detailed topographical map to determine the best locations for the best resources that are available.</p>
--	---

Overarching Big Ideas, Enduring Understandings, and Essential Questions
 (These “spiral” throughout the entire curriculum.)

Big Idea	Standard(s) Addressed	Enduring Understanding(s)	Essential Question(s)
Mammals	Sci.3.1.12.C1, C2 Sci.3.3.12.A1 Sci.3.4.12.B2 Env.4.1.12.B Env.4.6.12.A, B, C Env.4.7.12.A, B, C	Mammals are just one part of a vast environment that makes up the animal kingdom.	How are mammals similar and different to other animals in the animal kingdom? What role do the mammals play in the environment? How do mammals affect the environment that we live in?
Birds	Sci.3.1.12.C1, C2 Sci.3.3.12.A1 Sci.3.4.12.B2 Env.4.1.12.B, D, E Env.4.6.12.A, B, C Env.4.7.12.A, B	Birds are another important part of our animal kingdom that plays an important role.	How have birds changed throughout history? Where did the birds come from? What role do they play in the animal kingdom?
Fish	Sci.3.1.12.C1, C2, C3 Sci.3.3.12.A1 Sci.3.3.12.A5 Sci.3.3.12.B2 Env.4.1.12.B, C, D, E Env.4.6.12.A, B, C Env.4.7.12.A, B	Fish appear to be the least dynamic in the animal kingdom but they are a vital part of the water systems.	How do fish compare to other animals in the animal kingdom? What role do they play in creating clean water? How have fish evolved throughout time?

Plants	Sci.3.1.12.C1, C2 Sci.3.1.12.A1 Env.4.1.12.D Env.4.6.12.A, C Env.4.7.12.A	Plant life is the key to all life on the earth.	How do the plants make food? What is photosynthesis? What makes a plant different than an animal?
Maps and survival	Sci.3.3.12.A5 Env.4.1.12.B Env.4.6.12.A, C	Maps can be used as a tool for survival in the wild.	What can you do to survive in the wild? What map would be used while in the outdoors? Can maps and survival go hand in hand?

Big Ideas, Enduring Understandings, and Essential Questions Per Unit of Study
(These do NOT “spiral” throughout the entire curriculum, but are specific to each unit.)

Month of Instruction	Title of Unit	Big Idea(s)	Standard(s) Addressed	Enduring Understanding(s)	Essential Question(s)	Common Assessment(s)*	Common Resource(s)* Used
Aug./Sept.	Plants	Herbs Shrubs Trees	Sci.3.1.12.C1, C2 Sci.3.1.12.A1 Env.4.1.12.D Env.4.6.12.A, C Env.4.7.12.A	Plants are the essential organisms that all other life relies on in some way.	What is a plant? How do plants create their own energy? Why do all organisms rely on plants for their continued	Quiz Leaf chart Leaf project book Homework	Field Guide to North American Trees Computer
October	Fish	Fins Scales Gills Swim bladder Operculum	Sci.3.1.12.C1, C2, C3 Sci.3.3.12.A1 Sci.3.3.12.A5 Sci.3.3.12.B2 Env.4.1.12.B, C, D, E Env.4.6.12.A, B, C Env.4.7.12.A, B	Fish have changed very little throughout time. Fish can adapt to different changes that have occurred.	Why do we need fish? How do fish help the environment? How do fish adapt to their environment?	Quiz Fish lab Homework	Pennsylvania fish and Boat Field Guide to North American Fishes. Whales & Dolphins Computer
November	Mammals	Mammal Vertebrate Habitat Furbearer Game	Sci.3.1.12.C1, C2 Sci.3.3.12.A1 Sci.3.4.12.B2 Env.4.1.12.B Env.4.6.12.A, B, C Env.4.7.12.A, B, C	Mammals have evolved to the changes that have occurred in the environment. How does hunting help or harm the population	What is hunting? How do hunting laws contribute to the population of an organism?	Quiz Mammal charts Homework	Field Guide to North American Mammals. Computer, Pennsylvania Game Commission Book

				of mammals in the wild.			
December	Birds	Bird Nest Game bird Gizzard Crop	Sci.3.1.12.C1, C2 Sci.3.3.12.A1 Sci.3.4.12.B2 Env.4.1.12.B, D, E Env.4.6.12.A, B, C Env.4.7.12.A, B	Birds are an important part of our environment. Some birds fly, swim and fly and some birds can do all three.	How do birds help to create plants? Are birds important for our habitat? How have birds changed throughout time?	Quiz Bird chart Lab Homework	<u>Field guide to North American Birds.</u> <u>Pennsylvania Game Commission Book.</u> Computer
January	Maps and Survival	Map Legend Scale Contour line Contour interval Compass Habitat	Sci.3.3.12.A5 Env.4.1.12.B Env.4.6.12.A, C	You need clean water, food and a proper shelter in order to survive in the outdoors. With any outdoor activity, you should be prepared for anything.	What do you need to do in order to survive in the elements? Do you know how to use a compass and read a map instead of relying on technology? Can you pitch a tent, make a fire, and gather food?	Quiz Orienteer a map Homework Group work (lab)	<u>Pennsylvania Gazetteer.</u> Maps, Computer

* Some teachers may need to think about the assessments and resources used in order to determine the Big Ideas, Enduring Understandings, and Essential Questions embedded in their courses. At this point in your curriculum mapping, you might want to ignore the “Common Assessments” and “Common Resources Used” columns. However, you may use them if you wish.