

CTY Course Syllabus - Zoology (ANSC)

Sunday, Day 0	Topics: Introductions	Activities/Materials
4:30 – 5:30	Introductions Course Overview	Icebreaker: Animal Charades Notecards

Week 1, Day 1	Topics: What is Science?	Activities/Materials
July 21 Morning (9:00-12:00)	Goals and Expectations Course Objectives/Syllabus Pre-assessment What is Science?	Individual ‘Smart Goals’ Group poster projects Fields of Science Scientific Method
Afternoon (1:00-3:00)	Procedures/Lab Safety Lab: Experimental Design Lab Write-up	Lab walk thru, safety demos, lab tools <i>Euglena</i> Demonstration (Phototaxis)
Evening (7:00-9:00)	Characteristics of Life	Essay or Poem Finish Lab Write-up

Week 1, Day 2	Topics: Cell Biology	Activities/Materials
July 22 Morning (9:00-12:00)	Review Evening Assignment Biological Classification Invertebrate & Vertebrate Life Cell Biology & Organelles	Discussion/Evaluation Handouts Poster Diagram: Animal Classes Chalk Talk: Cell Questions
Afternoon (1:00-3:00)	Cell Biology Review Microscopy and The Cell Lab: View Cells & Tissues Cell Reproduction Cell Communication	View Microscopes Slides of Cells/Tissues Schematic – Mitosis & Meiosis Microscope slides
Evening (7:00-9:00)	Finish Cell Analogy Cell Quiz	SA/V Activity Finish Cell Lab

Week 1, Day 3	Topics: Invertebrates	Activities/Materials
July 23 Morning (9:00-12:00)	Protozoa Evolution of Metazoans Levels of Organization & Body Plans Primitive Animals: Sponges, Anemones, Corals, Jellyfish	Vocabulary Review View Microscope Slides Dissection: Jellyfish Planet Earth – Coral Reefs Discussion & Journal Writing

Week 1, Day 3	Topics: Invertebrates	Activities/Materials
Afternoon (1:00-3:00)	Diploblastic/Triploblastic Acoelomate/Pseudocoelomate/ Eucoelomate Protostome/Deuterostome Parasitology	Research in Parasitology Lifestyle Locomotion Prevalence Animal vs. Plant Parasites Beneficial Parasites Parasitology Paper
Evening (7:00-9:00)	Review class material Intro to Dissection: Owl Pellets	Primitive Animals Quiz Concept Map: Body Plans

Week 1, Day 4	Topics: Invertebrates	Activities/Materials
July 24 Morning (9:00-12:00)	Review Owl Pellet Molluscs – Snails, Bivalves, Squid, Octopus, Cuttlefish Annelids – Earthworms, Leeches	Dissection: Squid Discussion: Giant Squid Dissection: Earthworm
Afternoon (1:00-3:00)	Arthropods – Trilobites, Arachnids, Crustaceans Lab: Arthropod Behavior	Walking field trip: Spider behavior observations Analysis and Discussion Formal Lab Report Geometry of Spider Webs
Evening (7:00-9:00)	Mollusk & Annelid Quiz	Lab: Virtual Neurophysiology of Leeches

Week 1, Day 5	Topics: Field Trip	Activities/Materials
July 25 Morning (9:00-12:00)	Visit Lehigh Valley Zoo	Creek Study
Afternoon (1:00-3:00)	Visit Lehigh Valley Zoo	Visit Lehigh Valley Zoo
Evening (7:00-9:00)	No Class	No Class

Sunday, Study Hall	Topics: Invertebrates	Activities/Materials
Evening (7:00-9:00)	Zoo observations: Animals & Adaptations	Discussion of notes/activities Project: Animals & Adaptations, on animal of choice (Cont. July 30)

Week 2, Day 6	Topics: Invertebrates	Activities/Materials
July 28 Morning (9:00-12:00)	Review: Crustaceans Arthropods – Insects, Myriapoda	Dissection: Crayfish Dissection: Lubber Grasshopper Comparison: Crayfish & Grasshopper
Afternoon (1:00-3:00)	Arthropod Lab Write-up	Insect Ecology Project Research & Poster Design
July 27 Evening (7:00-9:00)	Arthropod Quiz	Animal Ecology Project--PPT Insect Ecology Project--Poster

Week 2, Day 7	Topics: Invertebrate	Activities/Materials
July 29 Morning (9:00-12:00)	Review Protostomes & Deuterostomes Echinoderma Hemicordata	Bug Navigation Lab Class Dissection: Starfish
Afternoon (1:00-3:00)	Exercise in Evolution Natural Selection: Peppered Moths	Invertebrate Game Review
Evening (7:00-9:00)	Echinoderm Quiz	Insect Ecology Project

Week 2, Day 8	Topics: Invert/Vertebrates	Activities/Materials
July 30 Morning (9:00-12:00)	Invertebrate Assessment	Insect Ecology Poster Presentations
Afternoon (1:00-3:00)	Adaptations to Life: Water vs. Land Evolution of Jaws	SHARK WEEK! Discovery Channel Virtual Dive Anatomy of a Shark Ultimate Shark Quiz
Evening (7:00-9:00)	Chondrichthyes Osteichthyes	Perch Dissection

Week 2, Day 9	Topics: Vertebrates	Activities/Materials
July 31 (8:30-4:00)	Visit Philadelphia Zoo	Visit Philadelphia Zoo
Evening (7:00-9:00)	Zoo observations: Animals & Adaptations	Discussion of notes/activities Finish Project: Animals & Adaptations

Week 2, Day 10	Topics: Vertebrates	Activities/Materials
Aug 1 Morning (9:00-12:00)	Phylum Chordata Adaptations & Evolution Amphibia Sauropsida (Reptilia)	Formal Presentations: Animal Ecology Project Lab: Biochemical Evidence for Evolution
Afternoon (1:00-3:00)	Another way to fly Birds Biodiversity & Adaptations	Walking Field Trip – Birding Bird Behavior Ethogram

Sunday, Study Hall	Topics: Vertebrates	Activities/Materials
Evening (7:00-9:00)	Bird Lab Write Up	Diagram Review: Fish, Amphibians, Reptiles, Birds

Week 3, Day 11	Topics: Vertebrates	Activities/Materials
Aug 4 Morning (9:00-12:00)	Prototherian Mammals Therian Mammals Eutheria Marsupial	Dissection: Fetal Pig
Afternoon (1:00-3:00)	Mammals Formal Presentations: Animal Ecology Project	Dissection: Fetal Pig
Evening (7:00-9:00)	Primates Gorillas on the Brink	Free-Write: Primate Evolution

Week 3, Day 12	Topics: Animal Ecology	Activities/Materials
Aug 5 Morning (9:00-12:00)	Formal Presentations: Animal Ecology Project	Lab: Animal Ecosystems Part 1: Artificial Habitats Experimental Design
Afternoon (1:00 – 3:00)	Lab: Animal Ecosystems Lab report	Part 1: Artificial Habitats Experimental Analysis
Evening (7:00-9:00)	Begin Ecosystem Project	Computer/Book Research

Week 3, Day 13	Topics: Conservation Biology	Activities/Materials
Aug 6 Morning (9:00-12:00)	Lab: Animal Ecosystems Part 2: Natural Habitats Experimental Analysis	Field trip: Monocacy Creek Lab report
Afternoon (1:00-3:00)	“Pick your own ending” Veterinary Medicine	Conservation Biology Endangered Species Webquest

Week 3, Day 13	Topics: Conservation Biology	Activities/Materials
Evening (7:00-9:00)	Finish Ecosystem Project “Catch up on your life”	Computer/Book Research

Week 3, Day 14	Topics: Ecosystem Diversity	Activities/Materials
Aug 7 Morning (9:00-12:00)	Presentations – Ecosystem Project Evaluations	Presentations -Ecosystem Project Biology Hang Man Review
Afternoon (1:00-3:00)	Post-Assessment Course Material Wrap-Up	Design Comic Strips “Catch up on your life”
Evening (4:00-6:00)	Making of a Zoology Documentary	

Week 3, Day 15	Topics: Ecosystem Diversity	Activities/Materials
Aug 8 Morning (9:00-12:00)	Zoology Gummy Wars Movie	
Afternoon (1:00-3:00)	Parent Conferences	