Collapse all

Biology, Part 2

ATTENTION

Grading at the end of the semester can take 7 school days!
Submit your **last assignment two weeks** before your school's semester ends.

Laboratory Science

This is a laboratory science course; all assignments are mandatory. Each unit will have a written assignment plus a lab. You need to complete each lab as directed and submit your lab write-up, plus complete the written assignment.

You do NOT have to purchase a lab kit; things you will need for the labs are common household items. NO specialist equipment is required. Here is a **List of Supplies** that you will NEED for the course.

In order to ensure that students are gaining the proper learning experience from our lab course, Biology labs require the following:

1. All labs must be turned in using the documents provided on each lab page. These are found at the bottom of each lab page. These documents MUST be converted to pdfs before submission.
2. Photos of your labs are required in order to receive a grade. (All photos need to be in .jpeg format and will be inserted into the document.) Labs that do not have proper photo evidence will receive no credit. Refer to the lab instructions for the specific photos you must include. If a photo must show you, your entire face must be clearly visible.
3. When providing a diagram or drawing for labs, they need to be hand drawn, not computer generated.
4. In order to keep within the SVHS Academic Integrity Policy, photos, diagrams or drawings taken from the internet or generated by AI are NOT allowed for any lab.

How to Write a Lab Report

How to Take This Course

Complete all the quizzes and the assignment in each unit. Once the quizzes for a unit are complete, you will have access to the unit test. We recommend you complete the unit assignment before you attempt the unit test; the assignment will help you prepare. You will have access to the final after you have been enrolled in the course for at least 30 days and when all unit tests are completed, and your assignments are graded.

Allow a minimum of 3-4 school days for an assignment to be graded, longer at the end of a semester. Read the full course instructions to understand how the course is weighted.

Course Instructions

How This Course Works & Suggested Timeline

Submitting Your Assignments

Ask The Teacher

Meet your teacher for this course and ask a question.

Need help with the course? We offer online tutoring; find more details about it here.

MANDATORY QUIZ — Completion

You are required to take this quiz before you start the course. To prepare, read the course instructions and the "submitting your assignments" document, watch the video on the how this course works page and review the suggested timeline.

Learning Objectives & Standards Met By This Course

Unit 1: Change Through Time

In this unit, you will:

- Explore how fossils and other evidence help scientists understand the history of life on Earth.
- Learn about early ideas on life's origins and how those ideas have changed with new discoveries.
- Understand how natural selection drives evolution and examine the scientific evidence that supports it.
- Investigate the processes that lead to the formation of new species (speciation).
- Discover how scientists classify living organisms and build family trees (cladograms) to show evolutionary relationships.
- Conduct hands-on labs to analyze evolutionary traits and explore how physical adaptations—like bird beaks—support survival.

Unit 1 includes two lab assignments, with a pre-lab lesson provided to help you prepare. Be sure to complete all Unit 1 lessons and assignments before moving on to Unit 2.

1.1 The Record of Life

Quiz 1.1 — Completion

1.2 Origins: The Early Ideas

Quiz 1.2 — Completion

1.3 Natural Selection and the Scientific Evidence for Evolution

Quiz 1.3 — Completion

1.4 Mechanisms and Speciation

Quiz 1.4 — Completion

1.5 Classification: Exploring Life's Family Tree

Quiz 1.5 — Completion

1.6 Prelab: Evolution and Adaptations

Quiz 1.6 — Completion

Unit 1 Lab #1: DNA Doesn't Lie: Charting Evolution with Cladograms — Completion

Unit 1 Lab #2: Feeding for Fitness: Exploring Beak Adaptations — Completion

Unit 1 Test

Not available unless: The activity **Quiz 1.1** is marked complete ... Show more

Unit 2: Viruses, Bacteria, Protists, and Fungi

In this unit, you will:

- Investigate viruses—what they are, how they spread, and how the body and science defend against them.
- Explore the structure and function of bacteria, their role in ecosystems, and their impact on human health.
- Learn about the wide variety of protists and how they blur the lines between animal, plant, and fungal traits.
- Understand the characteristics of fungi and how they grow, feed, and reproduce through spores.
- Examine lesser-known groups like slime molds, water molds, and downy mildews that challenge traditional classification.
- Complete hands-on labs to study fungal structures and investigate the movement and behavior of protists.

Unit 2 includes two lab assignments, with a pre-lab lesson provided to help you prepare. Be sure to complete all Unit 2 lessons and assignments before moving on to Unit 3.

2.1 Viral Mysteries: Origins, Outbreaks, and Defenses

Quiz 2.1 — Completion

2.2 Bacteria: Ancient Origins, Modern Impact

Quiz 2.2 — Completion

2.3 The World of Protists

Quiz 2.3 — Completion

2.4 What is a Fungus?

Quiz 2.4 — Completion

2.5 Slime Molds, Water Molds and Downy Mildews

Quiz 2.5 — Completion

2.6 Prelab: Fungi and Protists

Quiz 2.6 — Completion

Unit 2 Lab #1: Fungi: Structure and Spore Dispersal — Completion

Unit 2 Lab #2: Investigating Protists — Completion

Unit 2 Test

Not available unless: The activity **Quiz 2.1** is marked complete ... Show more

Unit 3: Plants

In this unit, you will:

- Explore the diversity of the plant kingdom and how plants are classified.
- Learn how nonvascular plants made the first transition from water to land.
- Understand how vascular tissues like xylem and phloem helped plants grow tall and conquer dry environments.
- Examine how plant cells and tissues contribute to growth, transport, and survival.
- Discover how plant anatomy (roots, stems, leaves, and flowers) supports photosynthesis, reproduction, and adaptation.
- Trace the evolution of plant reproduction from simple spores to complex flowers and seeds.
- Complete hands-on labs to dissect a flowering plant and investigate plant pigments and their role in photosynthesis.

Unit 3 includes two lab assignments, with a pre-lab lesson provided to help you prepare. Be sure to complete all Unit 3 lessons and assignments before moving on to Unit 4.

3.1 Plant Kingdom 101: Exploring Nature's Variety

Quiz 3.1 — Completion

3.2 The Originals: Nonvascular Plants and the First Steps on Land

Quiz 3.2 — Completion

3.3 The Conquest of Land: Evolution of Vascular Plants

Quiz 3.3 — Completion

3.4 From Cells to Growth: Understanding Plant Structure and Behavior

Quiz 3.4 — Completion

3.5 Plant Anatomy and Survival Strategies

Quiz 3.5 — Completion

3.6 The Evolution of Plant Reproduction: From Spores to Flowers

Quiz 3.6 — Completion

3.7 Prelab: Parts and Pigments in Plants

Quiz 3.7 — Completion

Unit 3 Lab #1 Anatomy of a Flowering Plant: Dissection and Analysis — Completion

Unit 3 Lab #2 Biology in Color: Investigating Pigments and Their Roles in Plants — Completion

Unit 3 Test

Not available unless: The activity **Quiz 3.1** is marked complete ... Show more

Unit 4: Invertebrates

In this unit, you will:

- Learn what makes an animal an animal and how invertebrates are different from vertebrates.
- Explore the simplest animals, like sponges and cnidarians, and how they survive without complex organs.
- Discover the diversity of worms, from flatworms to segmented worms, and how their body structures help them move and feed.
- Examine mollusks—soft-bodied animals like snails, clams, and octopuses—and their unique features.
- Investigate arthropods, including insects, spiders, and crustaceans, and what makes them the most successful animal group on Earth.
- Study echinoderms (like sea stars) and invertebrate chordates as evolutionary links to more complex animals.
- Complete hands-on labs to observe and classify invertebrate groups and compare their body structures and adaptations.

Unit 4 includes two lab assignments, with a pre-lab lesson provided to help you prepare. Be sure to complete all Unit 4 lessons and assignments before moving on to Unit 5.

4.1 What Makes You an Animal?

Quiz 4.1 — Completion

4.2 The Simple Life: Sponges and Cnidarians

Quiz 4.2 — Completion

4.3 Wiggling Wonders: Flatworms, Roundworms, and Segmented Worms

Quiz 4.3 — Completion

4.4 Soft Bodies and Mighty Shells: The Mollusks

Quiz 4.4 — Completion

4.5 Armor and Antennae: The Arthropod Army

Quiz 4.5 — Completion

4.6 Star Power: Echinoderms and Invertebrate Chordates

Quiz 4.6 — Completion

4.7 Prelab: Invertebrates

Quiz 4.7 — Completion

Unit 4 Lab #1: Overview of Invertebrates Lab — Completion

Unit 4 Lab #2: Invertebrate Survey Lab — Completion

Unit 4 Test

Not available unless: The activity **Quiz 4.1** is marked complete ... Show more

Unit 5: Vertebrates

In this unit, you will:

- Explore how vertebrates evolved from aquatic ancestors and adapted to life on land.
- Learn how amphibians bridge the gap between water and land with unique life cycles.
- Examine how reptiles survive in dry environments using scaly skin, eggs, and lungs.
- Discover the adaptations that allow birds to fly and regulate their body temperature.
- Study mammals and what makes them unique—like hair, live birth, and complex brains.
- Investigate primates and explore what sets humans apart from other vertebrates.
- Observe how animals behave and adapt to their environments to survive and reproduce.
- Complete hands-on labs to observe animal behavior and examine how fish body forms match their habitats.

Unit 5 includes two lab assignments, with a pre-lab lesson provided to help you prepare. Be sure to complete all Unit 5 lessons and assignments before moving on to Unit 6.

5.1 Fintastic Evolution: From Slime to Spine

Quiz 5.1 — Completion

5.2 From Gills to Lungs: Amphibians Take the Leap

Quiz 5.2 — Completion

5.3 Reptiles: Masters of Dry Land

Quiz 5.3 — Completion

5.4 Birds: Taking to the Skies

Quiz 5.4 — Completion

5.5 Mammals: Warm-Blooded Wonders

Quiz 5.5 — Completion

5.6 Primates and Humans: Our Unique Connection

Quiz 5.6 — Completion

5.7 The Mind of the Animal: Behavior and Adaptations

Quiz 5.7 — Completion

5.8 Prelab: Animal Behaviors and Adaptations

Quiz 5.8 — Completion

Unit 5 Lab #1: Animal Behavior Lab: Observing and Classifying Behavior — Completion

Unit 5 Lab #2: Investigating Fish Body Forms and Environmental Adaptations — Completion

Unit 5 Test

Not available unless: The activity **Quiz 5.1** is marked complete ... Show more

Unit 6: Principles of Ecology

In this unit, you will:

- Explore the relationships between organisms and their environments in ecosystems.
- Learn how energy flows through food chains, food webs, and trophic levels.
- Understand how matter cycles through ecosystems using processes like the water, carbon, and nitrogen cycles.
- Compare different biomes and learn how communities of organisms interact and adapt to their surroundings.
- Study how populations grow, shrink, and change based on resources and environmental conditions.
- Discover the importance of biodiversity and how humans impact ecosystems—and what we can do to conserve them.
- Complete hands-on labs to model population changes and investigate how predator-prey relationships can shape ecosystems.

Unit 6 includes two lab assignments, with a pre-lab lesson provided to help you prepare.

6.1 Ecology: The Web of Life

Quiz 6.1 — Completion

6.2 Ecosystems in Action: Energy and Matter

Quiz 6.2 — Completion

6.3 Recycling of Matter

Quiz 6.3 — Completion

6.4 Nature's Neighborhoods: Communities and Biomes

Quiz 6.4 — Completion

6.5 Counting Creatures: Population Patterns

Quiz 6.5 — Completion

6.6 Saving the Planet: Biodiversity and Conservation

Quiz 6.6 — Completion

6.7 Prelab: Populations and Ecological Processes

Quiz 6.7 — Completion

Unit 6 Lab #1: Population Modeling in Action: A Case Study — Completion

Unit 6 Lab #2: Trophic Cascades — Completion

Unit 6 Test

Not available unless: The activity **Quiz 6.1** is marked complete ... Show more

Final Exam

You will have access to the final after you have been enrolled in the course for at least 30 days and when all unit tests are completed, and your assignments are graded.

Warning: You have only ONE attempt at the final. Are you ready to take the final? We highly recommend you take the practice final first, and if you are weak in any area, review the relevant course material again. You have unlimited attempts at the practice final; it will help you to prepare.

Remember, if you want to improve your grade in this course, you need to do that BEFORE you take the final exam.

Good Luck!!

Not available unless: The activity **MANDATORY QUIZ** is marked complete

Course Completion & Requesting a Transcript

Warning - If you are waiting for a resubmitted assignment to be graded, do NOT generate any course completion record until the teacher has graded it.

Transcript - Send a transcript to your school to report the credits you earned. A transcript will list all the courses you have taken with us, including those still in progress.

Course Certificate - This link cannot be accessed until you have completed the final. Upon satisfying this requirement, the link will become active.

Feedback - Before you go, we would appreciate your opinion on the course; please take 1 minute to complete the feedback form. We hope you enjoyed this course!

Course Feedback

Thank you for taking this course! Let us know what you think about it.

Request a Transcript

Notify your school that you have completed your course. Send them a transcript by email or mail. A transcript will list all the courses you have completed and those in progress.

Certificate of Completion

Not available unless: The activity **Final Exam** is marked complete