Objectives, Concepts & Skills, and Vocabulary

UNIT	LAB	OBJECTIVES
1: Classifying Life	1: Classification of Living Things and Food Webs	• Use a dichotomous key to classify organisms • Construct food webs for different communities
2: Life's Kingdoms	2: A Closer Look at Microbes	• Grow fungi and bacteria collected from various microhabitats • Prepare wet mounts of microbes • Stain slide preparations of microbes • Observe and identify microbes using a microscope • Investigate and identify pondlife microorganisms
	3: A Closer Look at Plants	• Identify the stages in the plant life cycle • Observe and record changes in plant size and growth pattern throughout the life cycle • Identify the parts of a flower and observe pollination and seed production • Practice removing plant parts to redirect energy to reproduction • Harvest seeds and assess plant and seed development
	4: A Closer Look at Animal Behavior	• Make general observations of pill bugs • Record the activity of pill bugs exposed to similar and different environmental conditions • Design and conduct an experiment to test a hypothesis
3: Comprehensive Inquiry Investigations	5: Culminating Lab	• Describe an ecosystem in terms of the organisms that live there • Collect organisms from ecosystems • Use dichotomous keys to identify organisms • Extract organisms from soil using a Berlese apparatus

CONCEPTS & SKILLS	VOCABULARY
Analytical thinking, making observations, dichotomous key	Taxonomy, prokaryotes, nucleus, eukaryote, unicellular, multicellular, tissue, organs, radial symmetry, bilateral symmetry, cephalization, sexual reproduction, asexual reproduction, fertilization, fission, mitosis, autotrophs, photosynthesis, heterotrophs, Carolus Linnaeus, scientific name, taxons, archaebacteria, eubacteria, dichotomous key, ecosystem, predators, prey, trophic levels, producers, consumers, scavengers, decomposers, food chain, food web, biomes, habitat, community
Analytical thinking, making observations, symbiosis, environments, ecology, bacteria, kingdoms, microscope slide staining and preparation, fungi, consumers and producers, pond microlife, microbiology	Microbes, bacteria, prokaryotes, Anton van Leeuwenhoek, symbiotic, fungi, eukaryotes, heterotrophs, hyphae, cross walls, fruiting body, spores, mycelium, mycologists, saprophytes, parasites, protists, sessile, invertebrates, cyanobacteria, photosynthesis, autotrophs, producers, consumers
Analytical thinking, making observations, plant reproduction, pollination, plant classification, plant structure, seed structure, root structure, germination	Evaporation, cuticle, stomata, vascular tissue, gymnosperms, angiosperms, monocots, dicots, seeds, radicle, seed coat, cotyledons, germination, dormancy, roots, taproot, root cap, leaf, photosynthesis, nodes, axillary bud, vegetative propagation, flower, ovary, stigma, style, pollen, stamens, anther, pollination, self-pollination, cross-pollination
Analytical thinking, making observations and prediction, animal behavior, experimental design, hypothesis, independent and dependent variables, environments and habitats	Behavior, stimulus, response, innate behaviors, learned behaviors, taxis, hypothesis, independent variable, dependent variable
Dichotomous keys, identification of organisms, field collection techniques, habitats, animals, plants, microlife	Ecosystem, population, community, deciduous, evergreen, habitat, Berlese apparatus