

Middle School Wetland Ecology

Description of Classes

Inside/Outside
3 – 3 ½ hours

During this hand-on field study, students will be briefed on the different types of wetlands, three factors that make a wetland and how to explore and gather data in the wetland. Field and lab studies will include water quality testing, macro invertebrate collection and identification, soil survey and plant identification. Students will determine the water quality of the wetland by analyzing and interpreting the data collected in the field. Macro invertebrates and the biotic and abiotic factors affecting their health will be the highlighted during the lesson. Each group will receive data gathering tools - Data logger, Soil probe, Collection Nets, Collection Buckets. The blackland prairie and wetland ecosystems will also be discussed with direct observation of the ecotone between them. Emphasis will be given to research, observation and data collection.



6th Grade TEKS (this is only a brief overview of what TEKS are covered)

- The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. (1)
- Plan and implement comparative and descriptive investigations by making observations, asking well-defined questions and using appropriate equipment and technology (2.A)
- The student knows how to use a variety of tools and safety equipment to conduct science inquiry. (4)
- Use appropriate tools to collect, record and analyze information, including journals/notebook, Petri dishes, collection containers, thermometers, collecting nets, document reader, and pipettes. (4.A)
- Organisms and environments. Organisms within taxonomic groups have similar characteristics which allow them to interact with the living and nonliving parts of their ecosystem. (12)
- Describe biotic and abiotic parts of an ecosystem in which organisms interact. (12.)

7th Grade TEKS

- The student, for at least 40% of the instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. (1)
- Plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology. (2.A)

- Use appropriate tools to collect, record and analyze information, including hand lens, Petri dishes, document reader, thermometers, **water test kits, temperature and pH probes**, collecting nets, journals/notebooks and collection containers. (4.A)
- Demonstrate and explain the cycling of matter within living systems such as in the decay of biomass. (5.B)
- Identify that organic compounds contain carbon and other elements such as hydrogen, oxygen, phosphorus, nitrogen, or sulfur. (6.A)
- Observe and describe how different environments, including microhabitats in schoolyards and biomes, support different varieties of organisms. (10.A)
- Examine organisms or their structures such as insects (11.A)

8th Grade TEKS

- The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. (1)
- Use appropriate tools to collect, record and analyze information, including collection nets, collection containers, Petri dishes, document reader, pipettes, water test kits, thermometers, hand lens, and temperature and pH probes. (4.A)
- The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. (11)
- The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. (11.A)
- Investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures or soil composition (11.B)

