

Oakwood City School District Botany Science Standards

One goal of science education is to help students become scientifically literate citizens able to use science as a way of knowing about the natural and material world. All students should have sufficient understanding of scientific knowledge and scientific processes to enable them to distinguish what is science from what is not science and to make informed decisions about career choices, health maintenance, quality of life, community and other decisions that impact both themselves and others.

Botany is a high school level course, which satisfies the Ohio Core science graduation requirements of Ohio Revised Code Section 3313.603. This section of Ohio law requires three units of science. Each course should include inquiry-based laboratory experience that engages students in asking valid scientific questions and gathering and analyzing information.

In this course, students will investigate the world of plants. Topics include plant anatomy, plant physiology, seeded and seedless plants, adaptations, development, reproduction, fluid and nutrient transport, and plant behaviors. This course is designed for students who wish to continue in their studies of life science, and is preparatory for introductory college botany.

Students will engage in investigations to understand and explain the behavior of plants in a variety of scenarios that incorporate scientific reasoning, analysis, communication skills and real-world applications.

Botany Standards

Plant Structure and Function

- A. Identify the major anatomical structures of a plant and define their basic functions.
- B. Identify seedless plants and describe their adaptations to the environment.

Transporting Water and Nutrients

- A. Describe the process of transporting fluids and nutrients in plants.
- B. Describe the process whereby plants receive nutrition from the environment.

Plant Reproduction

- A. Identify seed plants and describe their adaptations to the environment.
- B. Describe the specific reproductive and developmental adaptations of flowering plants.

Plant Processes

- A. Describe the processes whereby plant systems have internal communication
- B. Describe the processes by which plants carry out daily activities

Plant Adaptations

- A. Describe the ways in which plants are adapting to our changing global climate.
- B. Describe the impact on plant physiology that herbivory and climate have/will have.