

# CFISD Advanced Plant and Soil Science K

## Scope and Sequence

**Course Description:**

Advanced Plant and Soil Science provides a way of learning about the natural world. Students should know how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. In this course, students will analyze such concepts as impact on production of food, fiber and other economic crops; factors within habitats and ecosystems; watershed, weathering, and erosion; along with origin and impact of fossil fuels and alternative energy sources.

- 1 credit, Grades 11-12
- Required prerequisite: Biology, Chemistry and Horticulture Science
- Fees may be required.

**TEKS**

Cluster: Agriculture, Food, and Natural Resources

Endorsement: Business & Industry

- Meets advanced course requirement (Y/N): Y
- Meets foundation requirement for math, science, fine arts, English, LOTE (Y/N-area): Y - science

Industry Certification/Credentials: n/a

Instructional Units	Pacing
<p>1<sup>st</sup> Semester</p> <p><b>Unit 1 – Worlds of Opportunity</b>                      A World without Enough Plants                      Introduction to Plant Science</p> <p><b>Unit 2 – Mineral Soils</b>                      Understanding Soil Properties                      Soil Properties and Quality                      Soil Chemistry                      Soil pH and Salinity</p> <p><b>Unit 3 – Soilless Systems</b>                      Potting Soil and Artificial Growing Media                      Hydroponics</p>	<p>1<sup>st</sup> Grading Period</p>
<p><b>Unit 4 – Anatomy and Physiology</b>                      Cells: Life’s Smallest Units                      Cell Parts and Function                      Root Parts and Function                      Stems Parts and Function                      Leave It to Leaves</p> <p><b>Unit 5 – Taxonomy</b>                      Sorting Out Plants                      Classification Systems                      Plant Names                      Binomial Nomenclature</p>	<p>2<sup>nd</sup> Grading Period</p>

<p>2nd Semester</p> <p><b>Unit 6 – The Growing Environment</b>  Plant Food: Nutrients and Fertilizer  Water Requirements  Light Requirements  Temperature Requirements</p> <p><b>Unit 7 – Plant Reproduction</b>  Plant Genetics  Seed Anatomy and Germination  Pollination, Fertilization, Dispersion  Seed Anatomy and Germination  Plant Multiplication: Asexual Propagation Methods  Evolutionary Ideas  Plant Adaptations</p>	<p>3<sup>rd</sup> Grading Period</p>
<p><b>Unit 8 – Surviving a Harsh Environment</b>  Pesky Bugs and Plants  Plant Pests  Plant Disease</p> <p><b>Unit 9 – Crop Production and Marketing</b>  Tools of Plant Production  Structures and Equipment  Plant Marketing Plants</p>	<p>4<sup>th</sup> Grading Period</p>

Primary Instructional Materials: ICEV Agricultural Science Site by CEV Multimedia Ltd.