

TEKS

- 5B** Examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium
- 8B** Categorize organisms using a hierarchical classification system based on similarities and differences shared among groups
- 8C** Compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals
- 10B** Describe the interactions that occur among systems that perform the functions of transport, reproduction, and response in plants
- 10C** Analyze the levels of organization in biological systems and relate the levels to each other and to the whole system
- 11B** Investigate and analyze how organisms, populations, and communities respond to external factors
- 12B** Compare variations and adaptations of organisms in different ecosystems

instructional content:

- ✦ Plant Classification
 - Nonvascular
 - Vascular
- ✦ Roots, Stems, and Leaves
 - Structure and function
 - Transport tissue
 - Gas exchange
- ✦ Reproduction
 - Asexual and sexual
 - Structure of flower
 - Seed dispersal mechanisms
- ✦ Response and Adaptations
 - Adaptations for photosynthesis
 - Adaptations for water absorption
 - Adaptations for food storage
 - Tropisms

learning outcomes students will:

- Use all content and scientific process skills learned earlier in the course
- Describe the differences between angiosperms and gymnosperms
- Describe the main functions of roots, stems, and leaves
- Explain the purpose of root hairs
- Differentiate between taproot systems and fibrous root systems
- Describe the mechanisms and pathways for water and mineral uptake in roots
- Differentiate between the functions of xylem and phloem
- Identify the materials that are transported in xylem and phloem
- Compare and contrast herbaceous and woody stems
- Identify features of a stem
- Differentiate between simple and compound leaves
- Label and identify the function of the internal parts of a leaf
- Explain the role of turgor pressure
- Describe the process of transpiration
- Identify the role of the stomata and guard cells in gas exchange
- Describe the process of translocation in plants
- Describe methods of asexual reproduction in plants
- Label the structure of a flower and state the function of each part
- Define the term pollination and distinguish between the terms fertilization and seed dispersal
- Differentiate between self pollination and cross pollination
- Explain the purpose of a fruit
- List and describe four common methods of seed dispersal
- Describe environmental conditions necessary to initiate germination
- Recognize how plant hormones control plant growth
- Define tropism
- Identify three common types of tropisms
- Identify adaptations that help plants survive in various climates and environments



Incorporate scientific process skills during the instruction of all Biology concepts.
Look for this icon at wardsci.com/TEKS for more information on scientific process skills.

Recommended Ward's Science products with item numbers for easy online searching:

science tools:

Boreal 2 Microscope - HM Advanced **242640**
Higher Plant Survey Jar Set **679703**
Lower Plant Survey Jar Set **679702**
Plant Kingdom Riker Mount Collection **671140**
Monocot and Dicot Roots (wm) f & fg **919905**
Monocot and Dicot Roots (cs) qs **919910**
Monocot Root Tip, Root Hairs (wm) qs **917010**
Monocot and Dicot Stems (cs) qs **919914**
Monocot and Dicot Leaves (cs) qs **919920**
Monocot and Dicot Leaf Epidermis (wm) fs & fg **919926**
Mixed Pollen, Twenty Types (wm) **917002**
Economy Stem Section Models **816181**
Dicot Flower Model **811130**

Elodea densa **867503**
Plant Mobile Center **6019319**
Light Kits for the Plant Mobile Center **6019304**
Growlab® Classroom Gardening Center **6617400**
Jiffy Planting Tray **6672608**
Dillen 6 Round Flower Pot Pk/10 **6176406**
Electric Greenhouse **203150**
Ward's Why Cells Shrink and Swell Lab Activity **366207**
Mini Plant Press **100802**
Plant Press **100800**
Botanical Drier Sheets **204600**
Safe-T-Scalpels **140910**
Ward's Student Classroom Dissection Set **149997**

instructional resources:

Wood Rounds Dendrology Set **630880**
Ward's Plant Growth and Life Cycle Lab Activity **368000**
Ward's Hydroponic Plant Study Lab Activity **361229**
Ward's Investigating Transpiration Lab Activity **366079**
Ward's Exploring Growth Movements in Plants Lab Activity **366066**
Ward's Seed Dispersal Lab Activity **366228**
Quantifying Plant Growth Regulators Lab Activity **207704**