

**AP Biology**  
**Student Learning Plan**  
**Plants Unit 11 - 15 Days**  
**Math skill: water potential**

Day/Date	Topic/Objectives	Support
Day 1 <i>Plant form – tissues</i> Introduction	<input type="checkbox"/> Describe how disruptions at the molecular and cellular level can affect the health of plants <input type="checkbox"/> Explain the interaction between environmental stimuli and molecular signaling in plants <input type="checkbox"/> Describe the structure and function of plasmadesmata	36.1-36.2
Day 2 <i>Plant form – organs</i>	<input type="checkbox"/> Explain how coordination in roots, stems and leaves provides essential biological functions in plants. <input type="checkbox"/> Describe how the structure of a typical leaf and how that structure relates to the process of photosynthesis	36.3 – 36.5
Day 3 Vascular tissue	You should know: <input type="checkbox"/> the basic organization of the plant body: shoot system (buds, leaves, stems) and root system (roots, root hairs). <input type="checkbox"/> the relationship between apical meristems and primary growth. <input type="checkbox"/> the relationship between lateral meristems and secondary growth. <input type="checkbox"/> the structure and function of tracheids and vessel members in xylem. <input type="checkbox"/> the structure and function of sieve-tube members and companion cells in phloem	
Day 4	plant project/lab day	
Day 5 <i>Transport</i>	<input type="checkbox"/> Explain how cohesion, adhesion, and evaporation produce transpirational pull on water in the xylem of a plant. <input type="checkbox"/> Describe how environmental factors affect the rate of transpiration.	38.1 – 3
Day 6 <i>Vascular tissues</i>	<input type="checkbox"/> Explain the transport functions of xylem and phloem. <input type="checkbox"/> Describe how the pressure flow mechanism explains translocation of organic molecules in phloem. <input type="checkbox"/> Explain the role of hydrogen bonds in cohesion and adhesion of water in the xylem.	38.4 – 6
Day 7 <i>Special plant topics</i>	<input type="checkbox"/> Discuss the ambrosia beetle as an example of nonnative species <input type="checkbox"/> Explain how soil pH, an environmental factor, can affect	

	flower color, a phenotypic trait	
Day 8 lab and catch up day	<input type="checkbox"/> Describe how the structure and function of guard cells and stomates. <input type="checkbox"/> Explain how the turgor mechanism that regulates stomatal opening and closing.	
Day 9 Plant Defenses	<input type="checkbox"/> Explain how day length (photoperiod) triggers flowering. <input type="checkbox"/> Describe basic structure of the flower and the function of each flower part. <input type="checkbox"/> Describe the nonspecific immune responses of plants <input type="checkbox"/> Explain how herbivory response affects plants <input type="checkbox"/> Explain the adaptations in plants that enable them to withstand drought, flooding, and high salt environments. <input type="checkbox"/> List some examples of physical and biochemical adaptations in plants that protect them from herbivores and parasites	<b>40.1-40.4</b>
Day 10 <i>Plant Response</i>	<input type="checkbox"/> Describe the major roles of auxin in plants. <input type="checkbox"/> <i>Sensory systems in plants</i> <input type="checkbox"/> Describe the response of plants to the change in light in long and short day plants <input type="checkbox"/> Explain how photoperiodism in plants leads to differential growth for maximum exposure of leaves for photosynthesis <input type="checkbox"/> Explain how the three stages of the signal transduction pathway act as the mechanism of hormone action: reception, signal transduction, and cellular response.	chapter 41
Day 11 <i>Plant reproduction</i>	<input type="checkbox"/> Describe how fruit ripening serves as an example of positive feedback <input type="checkbox"/> Explain how sexual reproduction in plants increases genetic diversity <input type="checkbox"/> Explain how the hormonal regulation of seed germination exemplifies the three steps of the signal transduction pathway.	42.2 and objectives
Day 12	<input type="checkbox"/> buffer	
Day 13	<input type="checkbox"/> Review	
Day 14	<input type="checkbox"/> test	