



### **Learning Objectives**

Identify various plant forms, connecting the specimen with a published name.

Compare and contrast the various Angiosperm Phylogeny Group (APG) systems, and discuss why APG III has the most recent plant classifications.

Diagram various plant species based upon different plant taxonomy classification systems.

### **3. Distinguish structures and functions of plant cells.**

#### **Learning Objectives**

Diagram a plant cell's components: Nucleus, Chloroplasts, Vacuole, Cell membrane, Cell Wall, Mitochondria, Endoplasmic Reticulum and Ribosomes.

Explain the various structures within a plant cell and their functions.

### **4. Summarize different plant life cycles.**

#### **Learning Objectives**

Outline the various parts of a flowering plant, and explain the function of each part.

Discuss the differences between haploid and diploid generations in the plant life cycle.

### **5. Explain grapevine structure and form.**

#### **Learning Objectives**

Identify and list various parts of a grapevine including: roots, shoots and perennial wood, leaves, flowers and berries.

Point out healthy buds, primary bud loss and secondary bud loss.

Give examples of how vineyard layout can impact grapevine structure and form.

### **6. Describe photosynthesis and respiration.**

#### **Learning Objectives**

Explain why with a woody plant, flowering affects the energy consumption of the plant.

Discuss why temperature affects a vine's ability to go through photosynthesis.

Evaluate the varying levels of water needs of vines and how that impacts respiration.

### **7. Summarize how sources and sinks work with grapevine growth.**

#### **Learning Objectives**

Identify which sources of the grapevine hold carbon compounds and minerals.

Diagram how carbon compounds and minerals are transported from sources to sinks in the vine.

Explain how seasons affect the strength of vine sinks.

Define a sink and a source in regards to vine management.

### **8. Identify the vine dormant season.**

#### **Learning Objectives**

Explain how leaf drop is triggered and why it happens.

Discuss how carbohydrate production and storage changes during the dormancy season.

### **9. Classify plant nutrients and explain their role in grapevines.**

#### **Learning Objectives**

Explain how excess nitrogen can affect shoot growth and fruit quality.

Explain each nutrient's function for the growth of the grapevine.

Distinguish between different nutrient deficiencies in vine growth.

Create a plan for nutrient application.

### **10. Describe**

## **12. Explain plant ecology, variability and evolution.**

### **Learning Objectives**

Determine how climate affects plant variability and plant abundance.

Give examples of how other species interact with vineyards and their benefits and drawbacks.

Describe the evolution of grapevine development.

### **SCC Accessibility Statement**

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