Tennessee Specific Industry Certification
Horticulture Science Content Area Resource

This Tennessee Specific Industry Certification (TSIC) resource provides additional guidance as you prepare your horticulture science instructional materials. The general knowledge and skills are provided as a guide for developing lessons and lab activities that lead to deeper understanding of content. The list of sample terms are just that, a list of industry-specific terms that will build each student's knowledge base for this content area.

*General knowledge and skills for **Plant Anatomy & Physiology***

- Explain the different components of the plant cell and their role in plant development.
- Describe the external parts of the plant and their role in the plant's life cycle.
- Distinguish between a monocot and dicot plant in relation to identifying characteristic, reproductive. .characteristics, and growth into a mature plant.
- Identify essential compounds of a cell wall.
- Describe plant processes that create and store energy.
- Explain the plant parts and their role in respiration and transportation.
- Explain and identify the differences between a complete and incomplete flower.
- Describe the function of the different layers of bark.
- Identify the nutrients required for cellular respiration.

Sample terms associated with content area:

- Abiotic
- Adventitious roots
- Alternate arrangement
- Anther
- Anthers
- Biotic
- Blade
- Boron
- Callus
- Cambium
- Carbohydrates
- Carbon
- Casparian strip
- Cell walls
- Cellular respiration
- Chlorine
- Chloroplast
- Chlorosis
- Collenchyma
- Completed flower
- Copper
- Corolla
- Cross pollination
- Cuticle
- Cytokinins
- Dermal
- Dermis
- Dicot
- DNA
- Ecosystem
- Egg
- Embryonic exchange
- Endodermis
- Endoplasmic reticulum
- Endosperm
- Epidermal
- Epidermis
- Exodermis
- Fibrous roots
- Filament(s)
- Golgi bodies
- Granum

- Guard cells
- Heartwood
- Hormone
- Lateral bud
- Leaf axil
- Lenticel
- Lipids
- Lumen
- Lysosomes
- Meristematic cells
- Microtubules
- Mitochondria
- Monocot
- Nitrogen
- Non-woody plants
- Nucleic Acids
- Nucleolus
- Opposite arrangement
- Organisms
- Ovary
- Ovary
- Oxygen
- Parenchyma
- Periderm
- Petals
- Petiole
- Phloem
- Photosynthesis
- Pistil
- Pith
- Plastids
- Polar nuclei
- Pollen
- Pollen Tube
- Proteins
- Receptacle
- Receptacle
- Ribonucleic acid (RNA)
- Ribosomes
- Sapwood
- Sclerenchyma
- Seeds
- Self-pollination
- Sepals
- Sheath
- Simple seed
- Sperm
- Stamens
- Sterols
- Stigma
- Stipule
- Stipule
- Stoma
- Stomata
- Stored sugars
- Stroma
- Style
- Synthesis
- Terminal bud
- Thylakoids
- Vascular cambium
- Vascular tissue
- Whorled arrangement
- Xylem
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