

LITCHFIELD PUBLIC SCHOOLS
Core Curriculum Scope and Sequence
Horticulture

| | CT Frameworks/ Standards | Content and Skill Objectives Students will be able to: | Assessments | Resources |
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| Seed & Plant Tissue 3 weeks | | <p>Students will describe the function of 6 major tissue types found in plants.</p> <p>Students will describe 3 differences between Monocots v. Dicot.</p> <p>Students will be able to label and describe the function of the Endosperm and Embryo.</p> <p>Students will describe the proper technique for seed propagation.</p> <p>Students will describe various germination codes needed to successfully propagate native plants from seeds.</p> | | <p>Use of various slides to view typical tissue structure.</p> <p>Use of New England Wildflower books by Bill Cullina which provide detailed instruction on 7 different germination codes.</p> <p>Soil, trays, pots and seeds from New England Wildflower or obtained the previous fall.</p> |
| Leaf Anatomy & Physiology 3 weeks | | <p>Students will describe how a leaf is built for light and CO₂ absorption.</p> <p>Students will describe how a leaf is built for water conservation</p> <p>Students will describe some unusual and specialized Leaf modifications.</p> <p>Students will be able to label <i>epidermis, palisade, spongy layer,</i></p> | | <p>Use of typical dicot leaf slide to observe arrangement of tissue.</p> <p>Observe peeled impressions of upper and lower epidermis to count stomates.</p> |

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| | | <p><i>stomates and guard cells</i> from a typical cross section of a dicot leaf.</p> <p>Students will recognize leaf arrangement, leaf type, and leaf margin.</p> <p>Students will describe the function of stomates and their typical placement</p> <p>Students will identify a typical cross section of a pine needle</p> <p>Students will recognize symptoms of ozone poisoning in white pine needles</p> | | Observe pressed herbarium specimens to evaluate external dendrology features |
| Root Anatomy 1 week | | <p>Students will describe how roots are built for anchorage, absorption, and storage.</p> <p>Students will describe the 2 major root types 'fibrous' and 'tap' and differences in potting at Litchfield Hills Nursery.</p> <p>Students will describe functions of regions of roots--- root hairs, cap, zones of elongation and specialization.</p> | | |
| Stem Anatomy 3 weeks | | <p>Students will describe the major functions of woody stems.</p> <p>Students will identify Xylem & Phloem from microscopic drawings.</p> <p>Students will distinguish between hardwood & softwood when viewing</p> | | |

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| | | microscopic drawings. Students will be able to label vessels, rays, vascular and cork cambium. | | |
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|---|---------------------------------|--|--------------------|------------------|
| Soil 2 weeks | | <p>Students will describe the value of soil organic matter.</p> <p>Students will be able to determine textural class of soil by using the textural triangle.</p> <p>Students will list macronutrients and their function for plants</p> <p>Students will describe the typical components of soil.</p> <p>Students will describe a typical Greenhouse soil.</p> | | |
| Flower Types & Anatomy 2 weeks | | <p>Students will be able to label reproductive structures of a typical flower.</p> <p>Students will recognize that “Composite” flowers are made of many individual flowers called ray and disk flowers.</p> | | |

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| | | <p>Students will describe various pollination strategies.</p> <p>Students will describe how flowers will prevent self-pollination.</p> | | |
| <p>Plant Taxonomy 2 weeks</p> | | <p>Students will recognize simple evolution of plants: Non-vascular → Vascular Spore--> Seed Mosses...nonvascular, spore Ferns and allies.. vascular, spore Conifer...Vascular, cones Flowering.. Vascular flowers</p> | | |
| <p>Ecological Landscaping 4 – 5 weeks</p> | | <p>Students will explain ecological reasons for using native plants in landscaping.</p> <p>Students will identify several non native invasive plants from our region.</p> <p>Students will describe their competitive advantages.</p> <p>Students will describe how NNI adversely affect biodiversity.</p> | | |
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