



# Indiana Academic Standards



For

# Junior Master Gardener

# Grade 8



Activity	English/ Language Arts	Mathematics	Science	Social Studies
1. To Do List – To make observations and record all the ways students come in contact with plants or products containing plant ingredients in their everyday lives	8.4.1; 8.4.2; 8.4.3; 8.5.1	n/a	8.3.6	n/a
2. Scavenge & Score – To demonstrate an understanding that plants are used to make a variety of common products that touch all aspects of our everyday lives	8.2.5; 8.4.4; 8.5.7	8.2.1	8.1.6; 8.3.6	8.3.5
3. Preserving Beauty – To experience correct methods of preserving plants	8.5.5; 8.7.2; 8.7.3; 8.7.12	8.2.1; 8.2.4; 8.5.1	8.1.3; 8.1.4	8.3.5
Mission 1: Option 1. Plant Plastic – To understand how plants and plant products can be used everyday	n/a	n/a	8.7.1	n/a
Mission 1: Option 2. Hanging Stems – To preserve flowers using the hang dry method	n/a	n/a	n/a	n/a
Mission 1: Option 3. Soothing Aloe Jelly – To become familiar with the medicinal properties of certain plants	n/a	n/a	n/a	n/a
1. Museum Collection: Herbarium – To create a collection of specimens of plants of your community	8.4.5; 8.5.1	n/a	8.3.6; 8.4.3; 8.4.8	8.3.8; 8.3.9
2. Indoor Botanical Garden of Art – To create plant sculptures in order to become familiar with terms by which plants are classified	8.1.2; 8.1.3	n/a	8.7.1; 8.7.6	8.3.3
3. Nosy Neighbors, Cold Rooms and Annuals with Attitudes – To solve a problem using an understanding of plant classifications of annual, perennial, deciduous and evergreen plants	8.1.2; 8.1.3; 8.7.2; 8.7.3; 8.7.13	8.2.1; 8.5.3	8.2.2; 8.2.3; 8.7.7	n/a
Mission 2: Option 1. Leaf Book – To become familiar with variations in leaf shapes and leaf margins	n/a	n/a	n/a	n/a
Mission 2: Option 2. Identifying Danger – To be able to identify poisonous plants	8.4.4; 8.5.7	n/a	n/a	n/a
Mission 2: Option 3. Leaf print paintings – To create a learning t-shirt with differing leaf shapes and leaf margins	n/a	n/a	n/a	n/a
1. Collage Casserole – To associate the produce we eat with the plant parts from which they originate	8.2.1; 8.4.4; 8.5.7; 8.6.4; 8.6.5; 8.6.6; 8.6.7	n/a	8.7.7	8.4.7
2. Vanishing Seeds – To study the three main parts of a seed and experiment to observe their function	8.1.3	n/a	8.2.8	n/a
3. Model Blooms – To create a model to demonstrate the different parts of a flower	8.5.4	8.2.1; 8.2.4	8.4.1; 8.4.2; 8.4.7	8.3.5
Mission 3: Option 1. Quick Draw Flowers – To learn the parts of the flower through a card game	n/a	n/a	8.4.2	n/a
Mission 3: Option 2. Patchwork plants – To make a collage using the five parts of a plant	n/a	n/a	8.7.1	n/a
Mission 3: Option 3. 5 Part Meal – To plan a meal that includes all five parts of plants	n/a	n/a	n/a	n/a
1. Variable Investigation – To determine the effect of plant needs on plant growth	8.1.3	8.6.4; 8.7.9	8.1.3; 8.1.8; 8.2.8; 8.4.1; 8.4.2; 8.5.4	n/a
2. Hydroponic Fish Vase – To create a hydroponic environment	n/a	8.7.5; 8.7.7	8.4.6; 8.4.8; 8.7.5	n/a
3. Can You Force a Plant to Bloom? – To manipulate a plant's environmental conditions to force it to grow and bloom out of season	n/a	n/a	8.4.8; 8.7.7	n/a
Mission 4: Option 1. Bean Sprout Garden – To grow bean sprouts using a hydroponic system	n/a	n/a	8.4.8	n/a
Mission 4: Option 2. Homemade Biojar – To make and observe a miniature living biosphere	n/a	n/a	8.4.4; 8.4.5; 8.4.6; 8.4.8	n/a
Mission 4: Option 3. Peculiar Planters – To find a unique, suitable environment to grow plants	n/a	n/a	8.4.8	n/a

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1. A Cultivating Contraption – To plan, design and build an invention that serves a need	8.4.7; 8.4.8; 8.5.7; 8.6.1; 8.6.4; 8.6.5; 8.6.6; 8.6.7	8.2.1; 8.4.4; 8.5.5	8.1.6; 8.1.7; 8.1.8; 8.2.6	n/a
2. Survivor Seedlings – To create three dimensional models of seeds and seedlings to survive extreme environmental conditions	8.1.3; 8.7.2; 8.7.3; 8.7.4; 8.7.5; 8.7.12	n/a	8.4.1; 8.4.3; 8.4.8; 8.7.7	n/a
3. Coat Hanger Topiary – To create living, growing works of art	8.5.7; 8.6.4; 8.6.5; 8.6.6; 8.6.7	8.7.1	8.1.6	n/a
Mission 5: Option 1. Super Seed Dispersal – To sketch an original seed with effective dispersal properties	n/a	n/a	8.4.8	n/a
Mission 5: Option 2. Temperature Tantrum – To discover the effects of freezing on plant cells	n/a	n/a	8.4.8	n/a
Mission 5: Option 3. Germ-animation – To view the process of germination through computer animation	n/a	n/a	8.3.5; 8.4.5	n/a
1. Sweat Plants – To observe and measure transpiration in plants	n/a	8.5.3; 8.5.5; 8.7.9	8.1.6; 8.1.8; 8.2.3; 8.2.8	n/a
2. The Tree Murder Mystery – To understand the function of the xylem and phloem in trees and other plants	8.3.5; 8.5.7	n/a	8.1.6; 8.1.8; 8.3.6; 8.4.8	8.3.9
3. No Vain Vegetation – To illustrate the process of photosynthesis	8.1.3; 8.3.1	n/a	8.1.8; 8.3.6	8.4.5
Mission 6: Option 1. Root Shapes – To understand and observe the effects of geotropism on plant roots	n/a	n/a	8.3.5	n/a
Mission 6: Option 2. Adaptive Coats – To learn how plants have adapted to live in areas of high heat and little rainfall	n/a	n/a	8.4.8	n/a
Mission 6: Option 3. Chlorophyll Chromatography	Link not working			
1. Germination Race – To experiment with and determine factors affecting seed germination	8.1.3	8.2.1; 8.2.3	8.1.3; 8.1.4; 8.1.6; 8.2.7; 8.2.8; 8.2.9; 8.4.8	n/a
2. Floor Flowers – To role-play the interactions and process of pollination and fertilization in flowers	8.1.3; 8.5.7	8.2.1; 8.7.7	8.2.6; 8.4.2; 8.4.8	8.3.5; 8.3.9
3. Scraping Spores – To collect spores from fern fronds and propagate new ferns	8.4.4; 8.5.1	n/a	8.1.3; 8.4.8	n/a
Mission 7: Option 1. Paint Brush Pollination – To learn how to hand pollinate plants	n/a	n/a	8.4.3; 8.4.7; 8.7.7	n/a
Mission 7: Option 2. Frankenstein Hybrid – To create and describe an original science fiction hybrid	8.5.7	n/a	8.4.3; 8.4.7	n/a
Mission 7: Option 3. Seed Identification – To learn and practice identifying common vegetable seeds	8.4.4	n/a	8.4.2	n/a
1. Pass-Along Plants – To investigate the history of the local area and share plants with the community through propagation of cuttings	8.4.4; 8.5.1	n/a	8.1.3; 8.4.8	n/a
2. The Six-Week Propagation Venture – To learn how to propagate plants, to create a business plan and to build a profitable business from the sale of these plants	8.5.7	8.2.1; 8.7.7	8.2.6; 8.4.8; 8.5.7	n/a
3. Plant Part Engineers – To use air-layering to successfully propagate plants	8.1.3	n/a	8.4.8	n/a
Mission 8: Option 1. Cut and Clone – To propagate a plant by stem cuttings	n/a	n/a	8.4.8	n/a
Mission 8: Option 2. Veggie Soak – To grow a new plant from kitchen scraps	n/a	n/a	8.4.8	n/a
Mission 8: Option 3. The Forgotten Coffee Can – To propagate a plant by stem cuttings	n/a	n/a	8.4.8	n/a

