

Junior Master Gardenerssm Level 1 Teacher/Leader Guide

Correlations: Georgia Performance Standards 4th Grade

Plant Growth and Development				
Activity	4th Grade Science	4th Grade English LA	4th Grade Math	4th Grade Social Studies
1. Hamburger Plant? - To become aware of dependence on plants as the originator of most food sources	S4L1			
2. Benefits Mobile - To be aware of the dependence all people have on plants	S4L1			
3. Know & Show Sombrero - To show an understanding of the benefits of plants to people	S4L1			
4. Choo-Choo Song - To associate a variety of plants with their food products by learning a song	S4L1			
5. The Medicine Plant - To recognize the medicinal properties of the aloe vera plant				
1. Leaves & Seeds Sort Info Chart - To be able to classify leaves and seeds as monocots & dicots				
1. Plant Parts Rap - To gain understanding of the main parts of a plant and role each performs				
2. Touch & Tell - To use information learned about plant parts to identify plant materials by touch				
3. Plant Parts We Eat - To identify the various plant parts that are used for food	S4L1			
4. Seed Science - To use the scientific method to determine the effect on plant growth of removing the cotyledons from seeds	S4CS8			
5. Flower Dissect - To identify the different parts of a flower				
1. P.L.A.N.T. Needs - To become familiar with plants' needs				
2. What's Not the Same? - To become familiar with variables and constants				
3. Plant People - To show an understanding of plant needs through creative arts				
4. Picture Yourself a Plant - To show an understanding of plant needs through creative arts				
1. Coconut Float - To illustrate the different ways seeds are dispersed				
2. Plant Performance - To develop an understanding of		ELA4W2		

plant needs through creative writing				
3. Topiary - To create living, growing works of art				
4. Power Seeds - To observe the force seeds exhibit in the germination process	S4L1			
1. Oxygen Factory - To illustrate the process of photosynthesis	S4L1			
2. Gas Gobblers - To demonstrate the interdependence people and animals share with plants through the exchange of oxygen and carbon dioxide	S4L1			
3. Spinning Seeds - To determine the effect of geotropism on plants				
1. Paper Pot - To create recyclable pots and propagate plants by seed				
2. Gallon Greenhouse - To show an understanding of the environment needed to propagate plants				
3. Propagation Demonstration - To demonstrate how to propagate plants by direct seeding, stem cuttings, leaf cuttings, root cuttings, division, and layering				

Soils and Water

Activity	4th Grade Science	4th Grade English LA	4th Grade Math	4th Grade Social Studies
1. Touchy Feely - To understand soil texture and the properties of different soil types and soil particles				
2. Mud Pies - To feel the difference in soil textures				
3. Shake, Rattle, and Roll - To identify amounts of soil particles that make up a soil's texture				
4. Candy Aggregate - To create an edible model illustrating that soil is made up of many different components				
1. Nutrient Variable - To use scientific method to study the effects of fertilizer on plant growth	S4CS7			
2. The Numbers on the Bag Song - to gain an understanding of how nutrients in fertilizer help plants				
3. Bumps Below - To become familiar with plants that produce their own nitrogen				
1. Building Bins & Compost Sandwiches - To build a composting bin for creating organic matter to amend soil	S4L1			
2. Composting Critter Page - To identify organisms that are a part of the composting process.	S4L1			
3. Compost Sandwich Composition - To compose a paragraph to support the claim that it is important to	S4L1	ELA4LSV2		

compost				
1. Earth Apple - To become familiar with plants' needs				
2. Cloud Maker - To demonstrate the process of condensation	S4E3			
3. Cycle Song - To gain understanding of the water cycle through music	S4E3			
4. Apple Rings & Banana Chips - To measure the amount of water in fruit				
1. Out of the Spout - To develop an understanding of how water moves through different soil textures				
2. Where Did It Go? - To demonstrate that water can be held in air spaces in the soil				
3. Water Flows, Soil Goes - To demonstrate the effects of water erosion on bare soil				

Ecology and Environmental Horticulture

Activity	4th Grade Science	4th Grade English LA	4th Grade Math	4th Grade Social Studies
1. Nature Class Web - To create a web to understand the inter-relatedness of life on earth.	S4L1			
2. Food Chain Gang - To play a game represent the inter-relatedness of animals and the environment within the food chain.	S4L1			
3. Polluting Your Planet - To observe the effects of pollution on a model of the earth.	S4L1			
4. Exploding Cactus - To demonstrate how cacti are able to store water.	S4L2			
5. Garden Weather Station - To create weather instruments and monitor weather conditions.	S4E4			
1. The Tree Community - To observe the variety of life supported by a single tree.	S4L1			
2. Gourd Bird House - To grow and build habitats for birds using gourds.				
3. Our Pocket Park - To beautify an outdoor area.				
4. Backyard Buddy - To reward environmentally friendly people.				
5. Visit with a Vet - To understand needs and habitats of animals in your community.	S4L2			
1. On the Move - To understand how pollution can create many indirect negative effects.	S4L1			
2. Both Sides of the Fence - To voice opinions in a debate format.		ELA4LSV1		
3. Weighing Wastes - To measure amount of food			M4M1	

wastes produced at a meal and work to reduce wastes for the future.				
4. Let's Try Organic - To implement organic gardening ideas into a garden setting.				
5. Xeriscape - To build a garden site using water conservation concepts.				
1. Vermi-Composting - To recycle food wastes with vermi-composting.	S4L1			
2. Super Mowing Machine - To utilize creativity to invent a new mowing machine.				
3. Grow Cards - To recycle newspaper to create plantable greeting cards.				
4. Know & Show Recycling Sombrero - To make wearable works of art showing materials that can be recycled.				
1. Plant Pounding - To transfer the likeness of plant parts to fabric.				
2. Let's Dye It - To color eggs or fabrics using dyes created from natural materials.				
3. Nature Windows - To create art using natural materials.				
4. Garden Folk - To build a scarecrow.				
5. Nature Masks - To create wearable art using natural materials.				
6. Mother Nature's Children - To create art using natural materials.				

Insects and Disease

Activity	4th Grade Science	4th Grade English LA	4th Grade Math	4th Grade Social Studies
1. Insect Predictions and Survey - To predict insect characteristics and learn what all insects have in common.				
2. Insect Symmetry - To learn and understand the concept of symmetry.				
3. The Great Cover-Up! - To learn and understand the concept of camouflage.	S4L2			
4. Designer Bugs - To reinforce concepts learned about insects so far: their characteristics and the concepts of symmetry and camouflage: their characteristics and the concepts of symmetry and camouflage.	S4L2			
5. Insect Riddles - To reinforce basic concepts learned about insects so far, and to experiment with creative writing concepts by creating riddles.				

6. Secret Smells Game - To discover how insects communicate using pheromones.				
1. All in the Family: Insect Flash Cards - To learn that insects are organized in groups based on their characteristics. To learn the characteristics common to all insects and the characteristics specific to a few groups of insects, called orders.				
2. Ordering Insects - To learn to sort insects based on similarities and differences, and make a basic insect key.				
3. Metamorphosis Bracelets and Belts - To learn the stages of metamorphosis.				
4. Morpho Puppets - To learn the stages of complete metamorphosis, and teach them to a younger group.				
5. JMG Web Activity: Journey North - To gain familiarity with the Internet as a research tool.				
1. Suck-A-Bug - To make a simple aspirator and use it to collect and observe small insects.	S4CS3			
2. It's a Small World - To create Berlese funnel and use it to collect and observe insects living in the ground and soil.				
3. Classroom Netting - To make an insect net and use it to collect samples of insects by sweeping.				
4. By Land or By Sea - To compare and contrast the types of insects living in different habitats.	S4L2			
5. Classroom Ant Lion Farm - To make a living collection of one type of insect and observe it closely as it builds its home.				
1. Chew on This! - To learn the four types of insect mouthparts and how they are specialized.	S4L2			
2. Schoolyard Survey - To survey the schoolyard for signs of insect damage and to determine the types of insects that caused the damage.				
3. Pollinator Puppet Show - To learn the basic process of insect pollination.	S4L1			
4. The Bartering System - To learn how plants and insects trade services, and to become familiar with the concept of energy exchange.	S4L1			
5. The Lone Bee - To learn about solitary bees and create a bee home for them.				
6. Designer Plants and Insects - To combine previously learned concepts in creating insects and plants that are designed to work together.	S4L1			
1. Garden Friends and Foes - To learn the difference between beneficial and pest insects, and to learn a few examples of each type.				

2. Don't Bug Me! - To identify pest insects of various organisms, and to discover the interrelatedness of all living organisms.	S4L1			
3. Who Goes There? - To learn the basics of Integrated Pest Management (IPM), and to create a classroom IPM charting system.	S4L1			
5. Critter Creations - To learn the four types of beneficial insects and why they are considered beneficial.				
1. Exploratory Fungi - To observe the variety of fungal spores present in the air.				
2. Yeast Bread - To learn how one fungus - yeast - is used in cooking and what purpose it serves.				
3. Lacy Leaves - To observe organic matter (decaying leaves) being decomposed by fungi.	S4L1			
4. Likin' those Lichens - To learn what a lichen is and what a mutually beneficial relationship is.	S4L2			
5. Prescription for Prevention - To learn the components of the disease triangle and the concept of IPM.				
6. There's a Fungus Among Us! - To observe and identify fungi that act as pests in the garden.				

Landscape Horticulture

Activity	4th Grade Science	4th Grade English LA	4th Grade Math	4th Grade Social Studies
1. Rooms - To understand that areas within a space serve a special purpose and to define those areas.				
2. People and Places - To understand that different people use yard space differently.				
3. Money Trees - To understand that trees help to save energy and money.				
4. Site Map - To experience an initial step in the landscape design process.	S4CS4			
1. Nature Wheels - To build a color wheel from items found in nature and understand the relationship of one color to another.				
2. Texture Collection - To understand how the design element, "texture," is used to visually create interest in the landscape.				
3. Same Sides - To understand the element of design, "balance," using symmetrical and asymmetrical visuals.				
4. Does it Fit? - To demonstrate understanding of the design element, "proportion."				

1. Tearing Trees - Learning to identify trees based on their classification and shape.				
2. How Tall is that Tree? - To measure the height of a large tree.			M4P1	
3. Learning Your ABP's - To understand plant classifications.				
4. Great Green Grass - Selection of grasses should be based upon care and maintenance requirements.				
1. Arbor Day - Understanding that trees are an important natural resource and ways people celebrate their friend, the tree.				
2. Do it Right - To demonstrate through creative dramatics the proper way to plant a tree.		ELA4SV2		
3. Seed, Sod, & Plugs - To become familiar with different methods used in establishing a lawn.				
1. An Inch of Water - Understanding lawnscape water use and water conservation and money saving through proper use of irrigation systems.				
2. Pruning Places - To learn reasons why plants are pruned and proper pruning techniques.				
3. More Mulch, More Moist - To study the effects of mulch on conserving water.				
4. Queen Bud - To learn the difference between terminal buds and lateral buds and their effects on plants.				

Fruit and Nuts

Activity	4th Grade Science	4th Grade English LA	4th Grade Math	4th Grade Social Studies
1. Dr. Fruit - To research origins and relevant information about fruit and nuts	S4CS6			
2. Linnaeus' World Wide Names - To understand the origin of Scientific names	S4L1			
3. Botanical Wood Prints - To make a replica of a historical wood press				
4. A Bushel and a Peck - To gain understanding of non-traditional measurements	S4CS2			
5. Fruit and Vegetable Lab - To learn what a fruit is, and to explore the difference between technical definitions and social customs				
1. Snooty Fruit - To identify various fruits and nuts using the sense of smell				
2. Apple-ing Appearance - To create an instrument to evaluate apples by 2 visual characteristics, and contrast results with evaluation based on taste			M4D	

3. Taste Test - To evaluate fruit based on color, texture, taste, and smell				
4. JMG Jam - To make homemade jam using measurements	S4CS3			
5. Johnny's Appleslop - create homemade applesauce introducing folk hero				
1. A Fruit's Life Rhyme - To gain understanding of the life cycle of plants.				
2. Fruit Frenzy - To become familiar with the way fruits and vegetables develop around seeds.				
3. The Zones - To identify the appropriate plants for a particular temperature zone	S4E4			
4. Just Chill - To simulate a winter environment to provide chilling requirement for an apple seed	S4E4			
5. Fruit Factory - To use reference material to choose a fruit or nut tree to plant or transplant	S4CS6	ELA4W3		

Vegetables and Herbs

Activity	4th Grade Science	4th Grade English LA	4th Grade Math	4th Grade Social Studies
1. Home Sweet Home - To understand the criteria for selecting a good garden site and to select an appropriate garden site based on those criteria.				
2. Make Your Pick - To select appropriate crops for planting based on season.				
3. Small and Large - To gain an understanding of space considerations when planting seeds.	S4CS2			
4. Rules are Rules - To establish rules for the garden that make it a safer place to learn.				SS4CG4
5. Schedule It - To establish a schedule where all learners take part in maintaining the watering and weeding of the garden.				
6. Some Like It Hot - To distinguish between warm season and cool season crops.				
1. Cylinder Gardening - To successfully grow vegetables and herbs in containers.	S4CS7			
2. Paper Towel Gardening - To create seed mats and transplant templates which will aid in organizing and laying out the garden.			M4N6a	
3. Tender Transplants - To understand the benefits and practice techniques of transplanting.	S4CS5			
4. Weed Mats - To create a natural form of weed control.				

5. Season Extenders - To create an environment for plants.				
1. Garden to the Table - To determine harvest time of various garden vegetables.				
2. Beauty Contest - To rank vegetables based on appearance.			M4D	
3. Seed Bank - To collect seeds from various fruits and vegetables.				
1. The Pyramid - To use the Food Guide Pyramid to plan balanced meals.				
2. Food Safety - To understand and practice food safety rules.				
3. Label Reader - To learn the importance of eating breakfast and how to make healthy food choices by using information found on food labels.				
4. Veggie Taste Test - To evaluate vegetables based on color, texture, taste and smell.				
5. Junk Food Blues - To understand the value of healthful eating habits by learning a song				
1. Garden Veggie Casserole - To create a casserole with vegetables from your garden.			M4N6a	
2. Veggie Pizza - To use the Food Guide Pyramid to plan balanced meals.			M4N6a	
3. Party Confetti Salad - To make a salad using vegetables			M4D1a	
4. Cultural Cooking - To plan, plant, and harvest a theme garden that will grow ingredients for a recipe from a different culture.				
5. Garden Sponge - To grow and harvest a crop of loofa sponges.				
1. Touch and Smell - To identify herbs based on the sense of touch and smell.				
2. Herbal Vinegar - To make and bottle herbal vinegar.				
3. Herb Bath Salts - To prepare herbal bath salts wraps.				
4. Herb Sachets - To create herb sachets from dried herbs.				

Life Skills and Career Exploration

Activity	4th Grade Science	4th Grade English LA	4th Grade Math	4th Grade Social Studies
1. <i>Who are You?</i> - To understand the many roles we have in life and begin to understand that each member is a very unique and special person.				
2. " <i>What are you like?</i> " - To help members examine their feelings, self-concepts, and values as they make choices.				SS4CG4
3. <i>Know Your JMG Friends</i> - Youth will recognize positives in their fellow students.				SS4CG4
4. <i>Good JMG'ers Wanted Posters</i> - Confirm each student's uniqueness by having them take their own fingerprints.				
5. <i>How would you feel?</i> - To understand that how you treat other people is very important.				SS4CG4
6. <i>Feeling Bee</i> - Youth will recognize that others have some of the same feelings they do in certain situations.				
1. <i>Where's My Fruit?</i> - To demonstrate the importance of sharing with your friends.				SS4CG4
2. <i>Let's Build It</i> - To explain the importance of cooperation in a group situation.				SS4CG4
3. <i>JMG Cooperation Roster</i> - To explain the importance of cooperation in a group situation.				SS4CG4
4. <i>Musical Chairs with a Twist</i> - To explain the importance of cooperation and sharing in a group.				SS4CG4
5. <i>Over and Under</i> - To illustrate group cooperation in a competitive situation.				SS4CG4
6. <i>Cooperation Countdown</i> - To demonstrate the importance of cooperation in a group.				SS4CG4
1. <i>Garden Shed</i> - To develop listening/communication skills. Helps with memory tasks.				
2. <i>Who's Who on Our Team?</i> - To identify and practice different modes and methods of communication.				
3. <i>Can You Follow Me?</i> - To identify and practice different methods of communication.				
4. <i>Plant a Seed</i> - To demonstrate the importance of clear verbal communication.				
1. <i>Goal Search</i> - To teach members what a goal is.				
2. <i>Right on Target</i> - To demonstrate the skills needed				

for goal setting and construct personal goals.				
3. The Class/Club Chronicle - To write appropriate short-term personal goals.				
4. Watch Me Grow - To discuss the different types of goals: short-range and long-range.				
1. Making a Machine - To teach group cooperation and the importance of each member's role.				SS4CG4
2. Create a Costume - To stimulate creative thinking and to implement the group decision-making process.				SS4CG4
3. Pass It On! - To help group members get to know each other.				
4. Either/Or - To explain the decision-making process.				
5. Let's Make a Case Out of It - To explain how the decision-making process works with a group decision				
6. It's in the Bag - To understand the importance of gathering information for decision-making and problem solving.				
1. Shared Responsibility - To identify responsibilities to a group and its members				SS4CG4
2. Consequences - To understand self-responsibility; identify actions and related consequences.				
3. Touchdown - To set responsibility goals to work toward. Practice setting goals.				
4. Don't Stamp Me - To learn that stereotypes influence how people act and respond to situations.				
1. Careers and School - To compare and contrast school and the world of work.				
2. Career Teams - To analyze various careers in terms of group or individual involvement.				
3. When I Grow Up - To become aware of the choices they will make when choosing a career.				
4. Dream House - To analyze personal decisions and demonstrate understanding of the purpose and nature of work. Identify the impact of various careers on their world.				
5. All for One - To identify careers that operate independently and those that operate as a team.				