

Lesson # 1

Project: 4-H School Enrichment Educational Series

Project Manual: Science-Horticulture

Grades: 4th-6th

Learning Activity: Safety with manual and power garden tools

Track: Science - Horticulture

Life Skill: Decision Making, Planning and Organization

Character Focus: Responsibility – It is your responsibility to care for and use gardening tools correctly.

Project Skills: Learning about safety procedures and precautions for manual and power garden tools.

Louisiana Content Standards Benchmarks and Grade Level Expectations:

SE-M-A4 understanding that human actions can create risks and consequences in the environment
5th grade - 50. Describe the consequences of several types of human activities on local ecosystems (e.g., polluting streams, regulating hunting, introducing nonnative species)

ELA-4-M5 participating in a variety of roles in group discussions. 5th grade – 40. Evaluate media for various purposes, including: 1. effectiveness of organization and presentation and 2. usefulness and relevance of information

ELA-4-M2 giving and following directions/procedures, 5th grade - 34. Follow procedures (e.g., read, question, write a response, form groups) from detailed oral instructions

Time Allotted: 35-45 minutes

Number of Participants: small or large groups

Key Concepts:

1. Using correct methods and procedures to maintain garden tools will prolong the life of tools and make gardening more efficient.
2. When using a garden tool, it is important to make good decisions about safe use of the tool and to use proper care and cleaning procedures for the tool after finishing a gardening task.

Objective:

1. Participants will identify five garden tools and list one safety procedures for each tool.
2. Participants will demonstrate how to care for and clean one garden tool.

Getting Ready:

1. Read the lesson thoroughly to enhance understanding of the activities.
2. Gather supplies needed.
3. Prepare handouts found at end of this lesson: Handout #1, Safety Tips for Gardening, p.7, Handout #2, Cleaning Gardening Tools, p.8 and Handout #3, Garden Tools Pictures, p.9. Use Resource Sheets #1, #2 #3 pp. 10-12, to assist you as you work through the activities with participants.

What You Need for the Lesson:

1. Enough copies of Handouts 1, 2, and 3 and Resource Sheets 1, 2 and 3 for use with activities.
2. 10-15 pairs of goggles, 10-15 pairs of gloves, paper towels
3. Visuals of gardening tools included in the lesson
4. Motor oil, sand, large plastic container for experiment to make a cleaning solution for tools. Each group of three will need 1 cup of oil, 1 cup of sand and one large plastic container of any kind.
5. Garden tools that need cleaning. If you personally are unable to accommodate the needed tools for cleaning, ask neighbors and possibly other 4-H participants and parents to provide tools that need cleaning.

Lesson Plan:

What You Say:	What You Show or Do:	What Participants Do:
<p>1. Landscape gardening is the process of decorating and developing gardens and grounds. Who can name some of the tools used in the landscaping process? (Possible answers: shovels, hoes, rakes, tree trimmers, etc.) Can anyone give at least three examples of tools used when trimming shrubs, planting flowers or grooming a lawn? (Possible answers: pruners shovel, rake, etc.) When landscaping in the yard, you will need to know safety tips for using the tools to avoid endangering yourself or others. Can someone name at least two rules or tips to ensure safety when using tools in the yard? (Possible answers: Always wear goggles, earplugs to protect your hearing and keep gloves and clothing away from moving parts of machinery; do not use electrical tools in the rain; and keep your eyes on the task at hand. (Experience)</p> <p>2. Those were all great responses. Please form groups of five students in each group. I will hand out a list of safety tips and pictures of tools. (<i>Handout-Garden Safety and Garden Tool Pictures</i>). We will have a competition to determine which group can match the picture of a tool with the safety tip for the tool and then give a brief explanation for the choice. The first group to match all the tools with their safety tips should shout out “safety first!”</p>	<p>1. Ask the question and elicit responses from the group.</p> <p>2. Arrange group size according to number participating. Hand out sets of pictures and safety tips to each group and start the event.</p>	<p>1. Give several answers to the questions asked.</p> <p>2. Form groups and match pictures with safety tips. Shout out “safety first” when they are finished.</p>

What you Say:	What You Show or Do:	What Participants Do:
<p>(Share)</p> <p>3. That was fun. What did you like about this activity? (Possible answers: It showed me that tools could be dangerous, tools are useful if you are safe). How did your group work together? (Possible answers: worked well as a team, didn't listen to each other's ideas, some group members didn't participate)</p> <p>Now let us see how well your group did. Some of you will show a tool, and a partner will tell how each person will take the proper precautions or safety tips just mentioned. We will also discuss the differences among the gardening tools and how you could use more than one safety tip for different tools. This will help everyone be aware of alternatives for taking care of tools and how to become safe tool users.</p> <p>(Experience)</p> <p>4. Now we will discuss how to take better care of tools by using a special cleaning solution. (Handout – <i>Cleaning Garden Tools</i>) Carpenters take good care of their hammers, chefs take care of their knives and automobile mechanics take care of their wrenches. Good gardeners take very good care of their garden tools. We will work in groups. Each group will receive a tool that needs cleaning. After reviewing the <i>Cleaning Garden Tools</i> handout, you will decide what method of cleaning is best for your tool.</p>	<p>3. Call on pairs to show and describe their tools. Add personal information and experience about the gardening tools.</p> <p>4. Divide the groups evenly and hand out <i>Cleaning Garden Tools</i>. Give each group a portion of: motor oil, sand and a large plastic container. Discuss different ways of mixing the materials so students can decide what amount would be most effective. The students will then be asked to perform the cleaning task and list the mixtures and methods that worked best for cleaning the tools.</p>	<p>3. Tell what they liked about the activity. Explain how their group worked together. In pairs, one student will display a tool and the other student will read how the tool is cared for and used safely. This will continue until all tools are presented by groups.</p> <p>4. Work together to clean the equipment and share the outcome.</p>

What You Say:	What You Show or Do:	What Participants Do:
<p>(Share)</p> <p>5. Is everyone finished? The next thing we will do is present the information to the other groups. Does any group feel confident about its solution? This will show how much you know and how much we will learn.</p> <p>(Process)</p> <p>6. You have done a great job of listening and presenting. What did you learn about taking care of gardening tools through this activity? (Possible answers: what tools are already safe and what tools need more precautionary measures, what tools need more maintenance than others)</p> <p>(Generalize)</p> <p>7. What other experiences have you had with gardening tools? (Possible answers: Helping plant our family garden, using garden sheers to cut flowers from a plant, etc.)</p> <p>(Apply)</p> <p>8. How can you use what you have learned now? (Possible answers: Teach lessons to other classmates, serve in community service projects) How can you apply what you have learned in the future? (Possible answers: Create learning groups to learn more on the topics of interest, use information learned to practice environmentally friendly habits.</p> <p>9. Learning how to use and care for tools is the responsibility of</p>	<p>5. Show the groups the correct recipe after they have presented their answers. After they present their responses, select volunteers to read how to take care of tools the proper way and give possible consequences for those who have improper tool techniques.</p> <p>6. Show the students the results of each tool cleaned and ask if they remember the formula for the cleaning procedure. Review the cleaning technique with each group.</p> <p>7. Allow time for discussion and responses.</p> <p>8. Allow time for responses and discussion.</p>	<p>5. Listen and respond to volunteers who present information.</p> <p>6. Observe cleaned tools and discuss outcomes.</p> <p>7. Discuss and respond.</p> <p>8. Response and discuss.</p>

What You Say:	What You Show or Do:	What Participants Do:
<p>9. Learning how to use and care for tools is the responsibility of the person using them. You reflect responsibility when you follow rules of safety when using a tool and for cleaning and caring for the tool. A responsible person will experience success and enjoyment when tools are used for their intended purpose and are carefully cared for. It is your <u>responsibility</u> to care for and use gardening tools correctly. A responsible gardener will use tools to do only what they are designed to do, clean them well after using them and store them in their usual place. This not only helps to lengthen the life of the tools, but also keeps them ready for other family members to use. Preparing the tools for the next person to use them is a <u>caring</u> thing to do. The person who uses the tools after you will notice how careful you were to leave the tools clean and stored properly.</p>		

Ways to Help Members Learn More:

1. Visit a Web site titled HGTV. Com to explore different tools, caring for tools and what tools are useful for when completing a particular project or task.
2. Visit a local hardware store or Home Depot for brochures on gardening tools, descriptions of gardening tools and how to maintain their new conditions.
3. Contact the LSU AgCenter for seminar dates for kids to learn more about gardening tools and landscaping techniques for proper use of tools and tips for cleaning and maintenance.

Resources:

1. See attached sheet “*Garden Safety*,” “*Garden Tools*” and “*Cleaning Garden Tools*.”
2. Call 1-800-252-8772 for free copy of a Homelite Inc.’s “*Safety Tips Handbook*.”
3. Web sites to visit: www.hgtv.com
www.pbskids.org
www.diynot.com

Acknowledgments:

Louisiana Content Standards Benchmarks, and Grade Level Expectations, published by Louisiana State Department of Education

Author: David Bocage, Extension Agent, 4-H, Orleans Parish/Shelia Woerner

Coordinator: Dr. Steve Mullen, Regional Director, LSU AgCenter, Crescent Region

Reviewed by: Dr. David G. Himmelrick, Head, Department of Horticulture, Louisiana State University

Editors: Sarah Williams, Jane Honeycutt



Safety Tips and Information for Gardening

Tools of the Trade

1. Use a wheelbarrow or wagon to transport supplies.
2. Use a shovel for digging. A small hand shovel/trowel can be used for planting jobs that cover a small area.
3. A rake is used for working out dirt clumps, other debris and smoothing out the dirt for leveling and easy planting. A small hand rake can be used for the same purpose, but for smaller areas.
4. A hoe, large or small, is used to break up dirt.
5. Be creative! Adapt or create your tools for your comfort:
 - a. pad the handle for hand comfort
 - b. use knee pads or a foam pad for kneeling
6. Garden clippers should be used only with adult supervision. They are used to clip plant branches, long leaves or edging. Remember to work with clippers carefully and wear gloves for hand protection.
7. Dress properly. Wear long pants, long-sleeved shirts (to avoid injuries from thrown objects like rocks or sticks), close-fitting clothes and no jewelry (to avoid getting anything caught in moving parts), sturdy shoes with slip-resistant rubber soles, eye protection, heavy gloves (protect hands when changing, sharpening or cleaning blades) and hearing protection, such as ear plugs, when using motor-driven equipment.
8. Garden equipment can be dangerous even when it is not in use. Sharp blades can cut if they are mishandled. Remember to think safety when operating and handling any type of outdoor power equipment.
9. Outdoor power equipment should be used by children only with adult supervision.



Handout #2



Cleaning Garden Tools

Take care of tools to prolong their use:

- An easy way to make sure your garden tools are clean and rust-free is to use a bucket filled with a sand-oil mixture. Fill up a 5-gal. bucket with clean, dry sand, then lightly saturate it with new motor oil. When you are done using tools like shovels, forks and spades, scrape off excess soil and plunge them up and down in the mix. Small tools like trowels can also be cleaned the same way. Wipe the tools dry before storing.
- To keep hands clean, wear brightly colored rubber gloves. The bright color makes it easy to find them when needed and also to see the dirt to rinse off before storing them away for the next time they are needed.
- Scrape off any excess mud or dirt. Use a stick to knock off large pieces and a wire brush for tougher spots. If the soil is really caked on, you may need to let the tool soak in a bucket of water for a few minutes before tackling it again.
- Wipe off the tool with an old rag, and let it dry thoroughly.
- Remove any rust by rubbing it vigorously with a small piece of steel wool. (Be sure to wear gloves.)
- Condition wooden handles by sanding any rough or splintery portions with sandpaper. Follow up by rubbing paste wax over the handle.
- Spray metal parts with a penetrating lubricating oil to protect from rust.
- Store in a dry spot. Avoid leaving tools on the floors of garages or other places likely to get damp during the winter.

Handout #3 -

Garden Tool Pictures/Without Names

Resource Sheet # 1

Garden Tool Pictures with Names

 <p>Shovel</p>	 <p>Small Shovel</p>	 <p>Hoe</p>
 <p>Clippers</p>	 <p>Wheel Barrow</p>	 <p>Rake</p>
 <p>Knee Pads</p>	 <p>Clippers</p>	 <p>Gloves</p>

Resource Sheet #2

Answer Key

The number below each picture represents the safety tip number found on the Safety Tip & Information for Gardening Sheet.



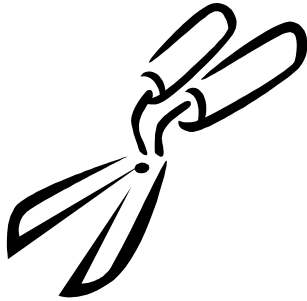
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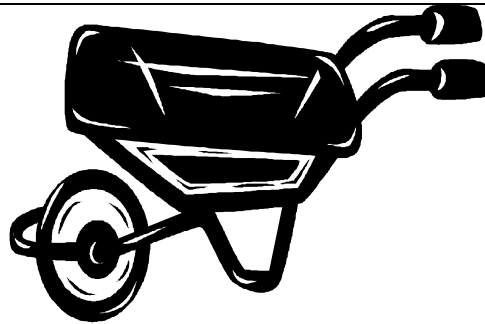
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4.



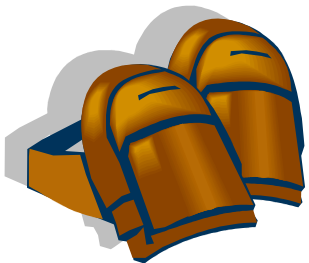
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1.



3.



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7.



Resource Sheet #3

Additional Safety Tips for Gardening and Equipment Use

Practice Safe Exercise with Gardening:

1. Keep your back erect when working at ground level and when using long-handled tools, such as spades and rakes.
2. Bend at your knees and hips to lift objects.
3. Alternate or use both arms whenever possible.
4. Keep your elbows bent.
5. Don't rest your body weight on your elbows.
6. Grip hand tools lightly.

Hand Tools

A few well-made, well-maintained tools are preferable to a lot of neglected ones. Keep your tools in good condition, with cutting edges clean and sharp. Keep points of shovels, spades, trowels and forks smooth and correctly shaped. Tools with joints and rollers should be lubricated to work properly.

Garden tools such as rakes, hoes, spades, forks, pruning clippers, files and metal plant stakes should not be left lying around when not in use. If you anticipate needing a tool momentarily, place it blade down against a wall or fence.

Use a tool only for the purpose its maker intended, applying only force that it was built to withstand.

Visit <http://www.pbs.org/healthweek/hint222.htm> for additional information about gardening and safety.

Quick Tips for Gardening:

Before you reach for a shovel or hoe, you need to warm up your muscles. Try a 10-minute walk followed by some gentle stretching exercises. Once in the garden, sit on the ground or kneel rather than bending over. If you have sore knees, use knee pads or kneelers.

1. While jumbo bags of top soil or compost can save money, smaller bags are a better investment when it comes to saving your back. Choose bags with handles, and always lift with bent knees and a straight back. Use a cart or a dolly to move heavy bags and containers around.
2. As for garden tools, cushioned grips and wide handles, at least 1 1/2 inches in diameter, can reduce blisters and hand strain.
3. Finally, remember to take frequent breaks and quit before you're exhausted. Some of the worst injuries occur during cleanup, when worn-out gardeners slip on wet pavement or trip over misplaced tools.

-----**Free Brochure** For a free copy of Homelite, Inc.'s "*Safety Tips Handbook*", call 1-800-252-8772. These tips are part of a national safety program by Homelite Inc., celebrating its 75th year of manufacturing portable power equipment for yards and gardens across America and around the world. (NAPSI)

