



Name _____

Age (as of January 1 of the current year) _____

County _____

Club or group name _____

Project helper _____



THE OHIO STATE UNIVERSITY
EXTENSION



Disclaimer

This book is currently an unpublished draft and being used for pilot testing to obtain feedback for a master's degree project. For any questions regarding its use or content, please contact Forrest Lang at Lang.485@osu.edu.

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Note to the Project Helper

Congratulations! A 4-H member or other youth has asked you to serve as a project helper. You may be a parent, relative, project leader, friend, club advisor, or another important person. Your duties begin with helping the youth create and carry out a project plan, as outlined in the Project Guide. As a project helper, it is up to you to encourage, guide, and assist. How you choose to be involved helps to shape the learner's life skills and knowledge of the importance of mower safety and operation.

Your Role as Project Helper

Your contributions are critical to delivery of the 4-H program, which is committed to providing experiences that strengthen a young person's sense of belonging, generosity, independence, and mastery. Your interactions should support positive youth development within the framework of the Eight Essential Elements (also known as the Eight Key Elements):

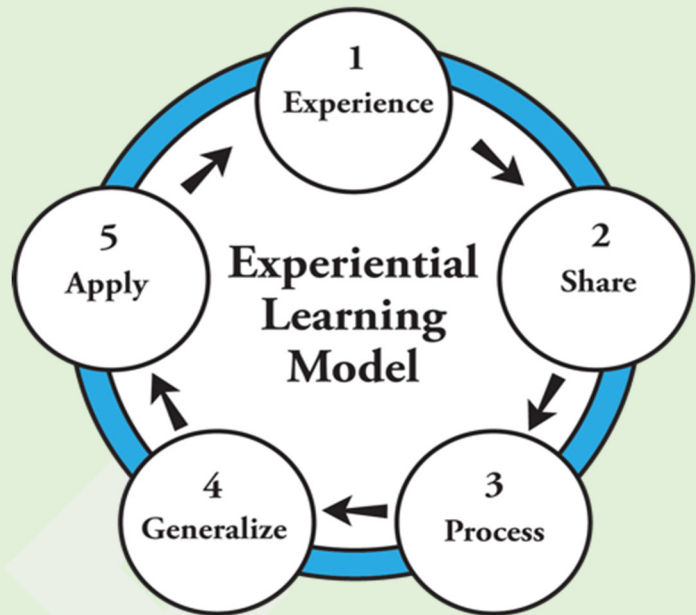
1. A positive relationship with a caring adult
2. An inclusive environment
3. A safe emotional and physical environment
4. Opportunity for mastery
5. Engagement in learning
6. Opportunity to see oneself as an active participant in the future
7. Opportunity for self-determination
8. Opportunity to value and practice service to others

For more information on the Eight Essential Elements, please refer to the *Ohio 4-H Volunteer Handbook* available online at ohio4h.org. On a practical level, your role as a project helper means you will strive to do the following:

- Guide the youth and provide support in setting goals and completing this project.
- Encourage the youth to apply knowledge from this project book.
- Serve as a resource person.
- Encourage the youth to go beyond the scope of this project book to learn more about mower safety and operation.

What You Should Know About Experiential Learning

The information and activities in this book are arranged in a unique, experiential fashion (see model). In this way, a youth is introduced to a particular practice, idea, or piece of information through an opening (1) **experience**. The results of the activity are recorded on the accompanying pages. The learner then (2) **shares** with the project helper what was done and (3) **processes** the experience through a series of questions that allow for (4) **generalizing** and (5) **applying** the new knowledge and skill.



1: Pfeiffer, J.W., and J.E. Jones, Reference Guide to Handbooks and Annuals

What You Can Do

- Review the Learning Outcomes (project skill, life skill, educational standard, and success indicator) for each activity to understand the learning taking place. See the back of the book for the Summary of Learning Outcomes.
- Become familiar with each activity and the related background information. Stay ahead of the learner by trying out activities beforehand.
- Begin the project by helping the learner establish a plan. This is accomplished by reviewing the Project Guide.
- After each project area is completed, conduct a debriefing session that allows the learner to answer the review questions and share results. This important step improves understanding from an experiential learning perspective.
- Help the learner celebrate what was done well and see what could be done differently. Allow the learner to become better at assessing his or her own work.
- In the Project Guide, date and initial the activities that have been completed.

Project Guide

Welcome to *Ready, Set, . . . Mow!* You are about to learn proper mower operation techniques and safety practices. By completing the activities in this book, you will be better prepared to safely operate a lawn mower.

Ready, Set, . . . Mow! is designed for youth of all ages that have experience, or are learning how to mow. This is a complete project for getting familiar with your mower, selecting protective gear, mastering operating techniques, understanding routine maintenance, and enhancing your safety practices. Prior to beginning the project and frequently throughout the project, youth should reference and become familiar with their operator's manual for their specific mower. Youth should always follow manufacturer's age requirement recommendations for safe operation.

The amount of time for each activity varies, but this project can be completed in one year. Members who want to repeat the project may do so, if they pick a different type of mower (push, riding, zero-turn) to focus on each year. Members should also complete a new project book with different learning experiences, different leadership/citizenship experiences, and a new practice record.

Check your county's project guidelines (if any) for completion requirements in addition to the ones below, especially if you plan to prepare an exhibit for the fair.

Ohio 4-H offers plenty of projects similar to the topics on mower safety and operation. If you want to do more projects like this one, check the Family Guide or visit Project Central at projectcentral.ohio4h.org.

Want to continue learning about mower safety and operation? Consider doing a self-determined project. Visit ohio4h.org to learn more.

Project Guidelines Junior Level

- Step 1: Complete **all thirteen** activities, practice pages, and **all** the Talking It Over questions.
- Step 2: Take part in **at least two** learning experiences.
- Step 3: Become involved in **at least two** leadership/citizenship activities.
- Step 4: Complete a project review.

Project Guidelines Senior Level

- Step 1: Complete **all thirteen** activities, practice pages, **all** the Talking It Over questions, and **six** "More Challenges" activities.
- Step 2: Take part in **at least four** learning experiences.
- Step 3: Become involved in **at least four** leadership/citizenship activities.
- Step 4: Complete a project review.

Step 1: Project Activities

Complete **all thirteen** activities, practice pages, and all the Talking It Over questions. The More Challenges activities are optional for the junior level. As you finish activities, review your work with your project helper. Then ask your project helper to initial and date your accomplishment.

Activity	Date Completed	More Challenges	Project Helper Initials
PROJECT AREA: Mower Safety			
1. Getting to Know Your Mower			
2. Pieces and Parts			
3. Dress for Success			
4. Sticking to Safety			
5. Riding Safety			
Talking It Over			
PROJECT AREA: Making The Cut			
6. You're in Control			
7. Pushing Along			
8. Making A Clean Cut			
9. Your Yard Is Looking Good			
Talking It Over			
PRACTICE PAGES			
1. Start, Go, Stop, Repeat			
2. Turn it Around			
3. Turning On A Dime			
4. Putting it Together			
PROJECT AREA: Mower Maintenance			
10. Time For Tools			
11. Sharpening Your Skills			
12. Shed Time			
13. Troubleshooting Tips			
Talking It Over			

Step 2: Learning Experiences

Learning experiences are meant to complement project activities, providing the opportunity for you to do more in subject areas that interest you. Think of a few learning experiences you could do to show the interesting things you are learning about in this project? Here are some ideas:

- Attend a clinic, workshop, demonstration, or speech related to mower safety and operation.
- Help organize a club or group meeting based on this project.
- Go on a related field trip or tour.
- Prepare your own demonstration, illustrated talk, or project exhibit.
- Participate in a county fair or other judging event.
- Plan your own learning experience.

Once you have a few ideas, record them here. Complete **at least two** learning experiences. Then, describe what you did in more detail. Ask your project helper to date and initial in the appropriate spaces below.

Plan to Do	What I Did	Date Completed	Project Helper Initials
<i>Demonstration</i>	<i>Showed club or group members the proper attire needed for safe mower operation</i>	<i>5/5/YR</i>	<i>F.L..</i>

Step 3: Leadership and Citizenship Activities

Use what you learn to give back to your community! Choose **at least two** activities from the list below (or create your own) and write them in the table. Record your progress by asking your project helper to initial next to the date as each one is completed. You may add to or change these activities at any time. Here are some examples of leadership/citizenship activities:

- Teach someone about mower safety and operation.
- Help someone else prepare for project judging.

- Host a workshop to share tips about mower safety and operation.
- Encourage someone to enroll in Ready, Set, ... Mow!
- Arrange for a mower safety and operation speaker to visit your club or other group.
- Plan your own leadership/citizenship activity.

Leadership/Citizenship Activity	Date Completed	Project Helper Initials
<i>Organized a field trip to a lawn care business.</i>	6/12/YR	F.L.

Step 4: Project Review

All finished? Congratulations! After you've completed the activities in this book, you are ready for a project review. This process will help assess your personal growth and evaluate what you have learned. Use the space below to write a summary of your project experience. Be sure to include a statement about the skills you have learned and how they might be valuable to you in the future.

Now, set up a project evaluation. You can do this with your project helper or another knowledgeable adult. If you are a 4-H member, it can be part of a club evaluation or part of your county's project judging.

Project Area: Mower Safety

Activity 1: Getting to Know Your Mower

Mowers come in all shapes and sizes but can be broken down into three main types: Push, Riding, and Zero-Turn. Each of these has advantages and disadvantages: **push mowers** are great for small areas, **riding mowers** are great for large open areas, and **zero-turn mowers** are great for large areas with a lot of **obstacles**. Let's explore and learn what makes your mower unique!



What to Do

Step 1: Get the **Operator's Manual** for your mower and head over to your mower.

Step 2: Looking at your mower, and referencing the Operator's Manual, find the following information:

Type of Mower: Push Riding Zero-Turn

Manufacturer (Brand): _____

Model: _____

Serial Number: _____

Mowing Width: _____

Engine Size: _____

Fuel Type: _____

Oil Capacity: _____

Oil Type: _____



More Challenges

To learn more about other types of mowers, visit your local lawnmower dealership and ask questions to a representative. Share your experience with your 4-H club or project helper.



Background

Engineering continues to improve mowers and provide a lot of different options on all types of

Manual Moment



The Operator's Manual for your mower is the answer book to any questions that you might have during this project and beyond. Operator's Manuals include everything about the mower, along with safety, maintenance, and operation information. The manual serves as the legal resource from the manufacturer to make sure the mower is operated the way it was designed.

Look for more *Manual Moments* throughout the book!

mowers. Push mowers are generally the same size but can have many features including: electric or pull start, self-propelled movement, and mulching bags. Riding mowers can have multiple sizes of **mower decks**, different types of attachments, a hitch to pull a trailer, and various engine locations. Zero turn mowers come in multiple sizes but are more standardized as far as controls and shape of the machine.

Mowers can have different types of power. Many are powered by gasoline and some by diesel fuel. Electric powered mowers are becoming more common. Electric mowers run off a rechargeable battery, like a power tool.

Did you know?

There are also autonomous mowers, just like a robotic vacuum cleaner, that do not require an operator.

Glossary words

Push Mowers
Riding Mowers
Zero-Turn Mowers
Obstacles
Operator's Manual
Mower Deck



Resources

<https://www.toro.com/en/homeowner/walk-behind-mowers>

https://www.cubcadet.com/en_US/lawn-mowers

Project Area: Mower Safety

Activity 2: Pieces and Parts

Though there are many variations of mowers, they all have similar parts. All mowers have a deck which shields the **blades** that cut the grass. Most mowers have an **engine** and **fuel tank** that powers the functions of the mower. Electric mowers however have a **motor** and **battery** that powers the mower. **Tires** are another common part on all mower types. All mowers also have a steering system to help you navigate.



What to Do

Step 1: Take a picture or draw your mower and include it below.

Step 2: Label the following parts on it:

- Body
- Deck
- Tires
- Discharge Chute
- Headlights
- Taillights
- ROPS
- Number of blades
- Engine or motor
- Fuel tank or battery
- Steering Controls
- Oil Fill Cap



Step 3: Identify what each part does and provide a brief explanation.

More Challenges

Find a mower that is the same type as yours, but a different brand, and identify similarities and differences between the part locations on each. Share these with your project helper.

Background

Mowers have many parts that move at the same time. Once the engine starts, all parts should be treated as if they can start moving at any time. When inspecting a mower or performing maintenance, always make sure that the mower is turned off and the key is removed.

This will prevent anyone from starting the mower while you inspect or work on it. All new mowers have labels or stickers that identify important components, such as the parts you labeled in the activity. These are sometimes worn off on older mowers, but the important parts are

color coded so that you can still identify them. The **PTO**, or blade engagement for example is always yellow for easy identification. Another part that is common across all mowers is a **discharge chute**. This is a critical piece to the safe operation of your mower as it prevents debris from being thrown from the mower. If your mower does not have a discharge chute, it may have a **mulching bag** on the back instead.

Did you know?

Reel push mowers can contain less than 10 parts as they mainly include a handle, two wheels, and a reel that has blades on it.

Glossary words

Blades	Engine
Fuel Tank	Motor
Battery	Tires
Discharge Chute	PTO
Mulching Bag	Schematics

Resources

https://www.briggsandstratton.com/na/en_us/support/maintenance-how-to/browse/history-of-the-lawn-mower.html

Manual Moment

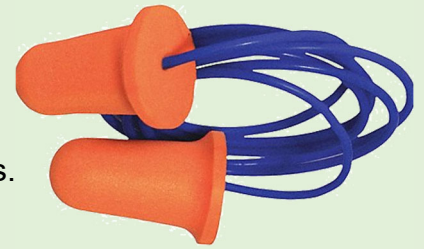


The Operator's Manual can be referenced to find part numbers and **schematics** that show how the many parts of your mower fit together. The schematics should always be referenced when work is being done on your mower and parts are being removed or replaced.



Project Area: Mower Safety

Activity 3: Dress for Success



While mowing can be a relaxing and rewarding task, it is dangerous. Engines are loud and mowers have many **hazard points** that you should always be respected. Always follow the safety rules while operating a mower and protect yourself by wearing **Personal Protective Equipment** (PPE). By wearing clothing designed for mowing, you can stay comfortable and safe.

What to Do

- Step 1: Get dressed in something from each of the categories below.
- Step 2: Take a picture to include in your book, then read the background section to see how well your outfit protects you.
- Step 3: Fill out the table with what you chose correctly, and what you need to add or change in your outfit.
- Step 4: If repeating this project, identify what you are wearing that is different than what you would wear for the other type of mower and explain why.

Clothing Item	Clothing You Picked Is Safe	You Need to Find Something Else
Shirt		
Pants		
Footwear		
Hearing Protection		
Eye Protection		
Sun Protection		



More Challenges

Ask an adult to get dressed to mow the lawn. Identify any issues with their outfit and explain to them what items they should wear instead. If they are dressed correctly, give them a compliment for being a well-dressed role model.

Background

Mowers are very loud and usually operate in a range of 80-100 decibels. Compare this to a normal volume conversation which is 60 decibels. The best way to protect your hearing while mowing is to wear **hearing protection**, such as earplugs or earmuffs that block out the sound of the mower. The most protective footwear is a pair of over the ankle leather boots with low

heels. This type of footwear provides great traction as you get on and off of your mower, or great traction and protection from debris if you are operating a push mower. You should always wear pants that cover your entire leg and aren't loose which will help prevent anything from scratching your legs. You should also always wear a shirt that fits relatively tight as loose-fitting clothes are more likely to get snagged or caught on part of the mower. When you are mowing, dust and pieces of grass can fly up, especially if it is windy. You should wear **eye protection**, such as safety glasses to protect your eyes from any flying debris. You should also always wear safety glasses when servicing your mower as dirt and dust are common during maintenance. Mowers have a lot of moving parts on them. If you have long hair, you

should pull it back so that it cannot get caught in any moving parts. Mowing is usually done when the weather is nice, but the sun can also be a hazard during nice weather because it can cause sunburn and exhaustion. One way to prevent sunburn on your face, head, and neck is to wear a sunhat. Hats with a 3" brim all the way around help limit the exposure to the sun and keep you cooler when it's hot. You should also wear sunscreen on any exposed skin that is not covered by your clothing. It's a good idea to wear gloves when you service your mower because parts can be hot and sharp.

Manual Moment



The Operator's Manual for your mower provides descriptions of all the hazards of mowing. It also includes a list of recommended PPE for properly operating your mower. Find the section that discusses PPE and write the page number here for quick reference _____.

Did you know?

Your hearing never heals itself after being exposed to damaging noises. This is why it is very important to always wear hearing protection, especially for sounds higher than 90 decibels.

Glossary words

Hazard Points

Personal Protective Equipment

Hearing Protection

Eye Protection

Resources

Mowing & Trimming Safety:

https://www.osha.gov/sites/default/files/2019-03/mowing-trimming_safety_manual.pdf



Project Area: Mower Safety

Activity 4: Sticking to Safety

All mowers have **safety labels** on them which identify areas of the mower to pay extra attention. These labels are usually brightly colored and explain the type of **hazard point** in that area. The most common labels are found on the mower deck, the engine, and fuel tank. These areas have the most danger associated with them, so it is very important that you know where these areas are and understand the danger with them.



What to Do

- Step 1: Look at your mower and take pictures, or draw the symbols that are on each safety label
- Step 2: Look in your operator's manual to identify the meaning of each of the symbols.



More Challenges

Your friend has an older mower that have tattered or missing labels. Identify which labels are needed to properly warn against the dangers of the mower.

Background

While there are many dangerous areas on mowers, here are a few to pay extra attention.

The blades are the most dangerous part of the mower. Your mower should have a warning that shows the dangers of getting your hands or feet near the blades while the mower is operating. Lots of areas of the mower will get hot. The heat from the engine will cause this, but also the heat from the sun if it is a very sunny, hot day. Pay attention to where these areas are and avoid touching them. The gas tank of the mower will be labeled with a warning. This is because gas fumes are extremely explosive and hazardous. Always open the gas tank or refuel in a well vented area. You should also wait to refill your fuel tank until the engine is cool, especially if the engine is close to the fuel tank. The engine is an area with a lot of hazards. There can be sharp edges, very hot parts, and many moving parts. Always make sure to turn the mower off and let it cool down any time you are looking at the engine.

Manual Moment



Your Operator's Manual will go over every hazard of your mower. Many times, the label that is on your mower, is further explained in the operator's manual. While the stickers draw your attention to hazards, you should always look in the Operator's Manual to fully understand what the labels mean.

Did you know?

Safety labels didn't always come on mowers. Labels were added because enough people were injured by mowers and the manufacturers needed a way to alert the operators of dangerous areas on the machine.



Glossary words

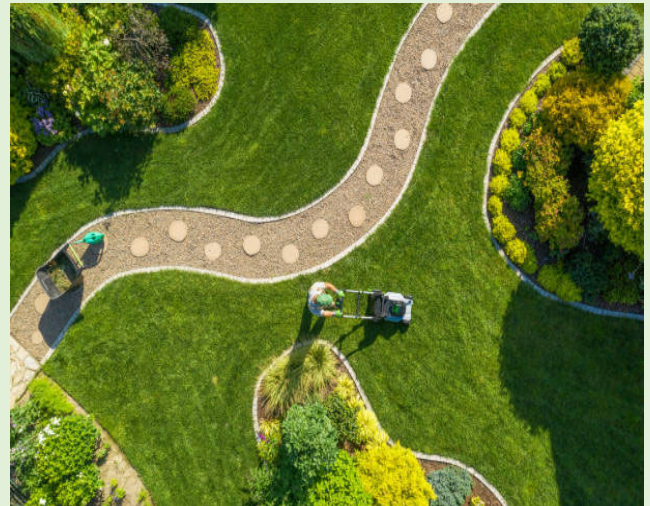
Safety Labels
Hazard Points



Project Area: Mower Safety

Activity 5: Riding Safety

Now that you know a little about mower safety, you're one step closer to getting to operate the mower. This section reviews safe operation when using the mower. While it is important to know how to be safe around mowers, it is even more important to know how to be safe when using and riding your mower.



What to Do

- Step 1: While mowing isn't very challenging, you do have to be aware of your surroundings and the terrain. Take an aerial picture or draw a layout of your yard and include it in the space below. Make sure to include any hills or ditches.
- Step 2: Identify anything you might have to mow around (trees, flowerbeds, porch, etc.), and label them on your drawing.
- Step 3: Draw arrows to show how you normally go around the obstacles with your mower along with which direction you would mow any hills or ditches.




More Challenges

Make a list of all the **safety switches** and lockouts that your mower has, then test each one out to make sure they work.

Background

When operating your mower, you must always be aware of **obstacles** such as flowerbeds, trees, or driveways. There are also loose obstacles to be aware of such as sticks and branches, toys, and garden hoses. Getting your mower too close to these can cause debris to be thrown out of the mower. A good rule of thumb when going around any obstacle is to make

Manual Moment

Along with part breakdowns,  your Operator's Manual includes all the safety systems included on your mower. From the handle switch on push mowers, to the seat weight switch on riding and zero turn mowers, your Operator's manual will explain how each safety system works and how you can test them.

sure that you go slow and have the **discharge chute** of the mower pointed in a safe direction with no one around. When operating your mower on a hill, you need to be aware of how steep the hill is. If the hill is over 15° you should travel up and down it, but if it is less than 15°, you can travel side to side on it. When using a push mower, you should never stand downhill from the mower in case you slip. Some larger Zero turn mowers have a **Roll Over Protection System** (ROPS) on them due to how sharp they can turn. These systems protect you in case your mower rolls over on a hill or in a ditch.

Mowers also have safety features that help prevent dangerous situations. Many riding and zero turn mowers have a seatbelt or safety switch in the seat that will shut the mower off if you get up with it on. Push mowers have a safety switch in the handle and if you let go, the mower will shut off.

Did you know?

More people are injured as a bystander when debris comes out of the chute than from operating a mower.

Glossary words

Safety Switches

Obstacles

Discharge Chute

Roll Over Protection System



Project Area: Mower Safety

Talking It Over

SHARE How do you rate your level of understanding about lawnmower safety?

REFLECT What are some consequences to not wearing hearing protection and other PPE while mowing?

GENERALIZE Why is it important to know the obstacles in your mowing area before you begin mowing?

APPLY What would you do first if a neighbor asked you to use their mower, but you have never run one like it before?

Space For Additional Pictures or Drawings



Project Area: Making The Cut

Activity 6: You're In Control

Alright, now that you fully understand the safety of a mower, you can get into the operation of a mower. Mowers have many different types of controls, all of which do something different to help get your yard mowed. Push mowers usually have only a few controls to understand, but many riding and zero turn mowers have a wide variety of controls to understand.



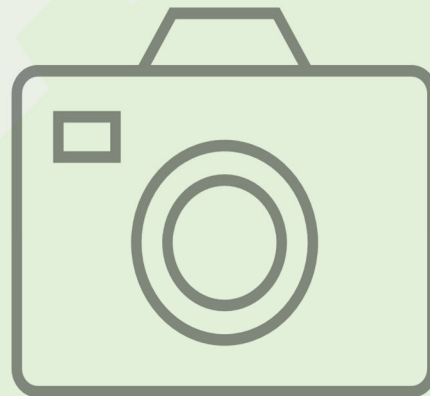
What to Do

Step 1: Draw or take a picture of all the controls of your mower.

Step 2: Get familiar with the operation section of your operator's manual by looking through it and identifying what all the controls do.

Step 3: Provide a summary of what each control does. Controls you should identify include

- Throttle
- Steering
- forward and reverse
- blade engagement
- Brake Pedal
- Parking Brake
- Ignition Switch
- Choke
- Deck Height Control



More Challenges

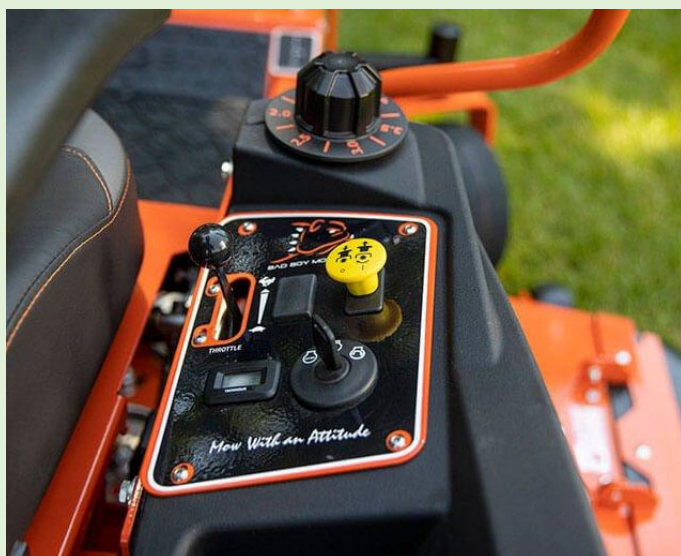
Take your mower to a spot in your yard and practice starting the mower according to the operator's

manual. Then go through all the controls, making sure each function operates as it should.

Make sure to do this in an open space away from obstacles so that you can check the blade engagement. Tell your project helper about anything interesting you noticed.

Background

As mentioned before, mowers come in a variety of styles and with a variety of controls. These controls are typical for the type of mower it is. Riding mowers utilize pedals to move around. These usually include a **brake pedal**, and forward and reverse pedals. Sometimes the forward and reverse functions will be two



separate pedals. Riding mowers use a **steering wheel** which is connected to the front wheels. As the operator turns the steering wheel, the wheels turn and cause the mower to turn also. Zero turn mowers do not have pedals and are controlled with **motion control levers** that control the back wheels of the mower. When one of the levers gets pushed forward or backwards, the wheel on the same side moves in the same direction of the lever. To move forward the levers are pushed forward together

and then pulled backwards to move in reverse. Both riding and zero turn mowers have a **throttle** lever that increases the speed of the engine. They both also have an engagement button that must be pulled out to activate the mowing blades. Push mowers usually have either an **electric start** or **pull start**, along with a **choke**. Once a push mower is started the blade is spinning as they do not have a separate engagement for the blades. Sometimes these mowers have a **self-propelled** function and will drive the back wheels, so you have to “push” it less.

Did you know?

Most zero turn mowers, and riding mowers that have separate forward and reverse pedals utilize a **hydrostatic** system.

Glossary words

Brake Pedal

Throttle

Self-Propelled

Steering Wheel

Electric Start

Hydrostatic

Motion Control Levers

Pull Start

Choke

Manual Moment



Your Operator's Manual will have an entire section addressing the controls of your mower. This is to make sure the manufacturers clearly communicate how to properly use the functions of your mower.

Project Area: Making The Cut

Activity 7: Pushing Along

While riding and zero turn mowers are great for large areas, some smaller areas are best serviced by a push mower. Push mowers require some knowledge and skill to make sure your yard will look good.



What to Do

This activity will only be completed if you are using a push mower for the project.

- Step 1: Get your mower out and review the controls on your mower.

- Step 2: Using your Operator's Manual, go through the starting process that is explained.

- Step 3: Once the mower is started, go through the shut off procedure that is explained in your Operator's Manual.

- Step 4: Write about what was the easiest and most challenging parts of this activity below.



More Challenges

Now that you know how to start and stop your push mower, demonstrate the proper way to turn your mower on and off with your project helper, 4-H club, or a family member.

Background

Push mowers offer the most diversity of any style of mower, but also operate very similarly

to each other. Here is some general information to help you better understand how to operate your push mower.

When starting your mower, you need to make sure that the **choke** is engaged (if it has one). On gas mowers, a choke is used to help start the mower. Once the engine is running, slowly depress the choke back in until the engine is idling at a normal speed.

Manual Moment



Your Operator's Manual is a great reference to use for starting a mower. It will describe step-by-step actions for you to check prior to starting your mower. It will do the same for turning off the mower.

Most push mowers have a **safety switch** hooked into the handle. This must be depressed in order to start the mower and keep it running. This is a safety feature that prevents the mower blades from spinning when you are not in a safe position.

You should always start push mowers in the area you plan on mowing. This makes sure that you do not cut anything while taking the mower from the

storage space to the mowing area.

While running your mower, you need to always watch for obstacles. One good thing about push mowers is that they are simpler to maneuver around obstacles such as trees or flower beds. Always make sure to keep the mower level with the ground and never tip the mower up on two wheels. If your yard has hills or ditches, pay attention to the **slope** of the hill. Push mowers should be operated up and down hills, or alongside hills that are less than 15°. Always make sure that you are standing uphill from the mower in case you slip or trip.

Did you know?

The first lawnmower was invented in the year 1830 in England and somewhat resembles the push mower that is common today.

Glossary words

Choke

Safety Switch

Slope



Project Area: Making The Cut

Activity 8: Making A Clean Cut

Now that you are familiar with the controls of your mower, it is time to practice changing the height of your mower blades. The height of your blades is important for the health of your lawn. When grass is too short, it has a scalped appearance and may not be bright green. The height of a mower plays an important role to have a good-looking lawn. You need to make sure you cut the grass at the appropriate height for the season and weather conditions. It's important to check, and possibly change this setting, every time you mow. It is important to know the cut height you have it set to mow.

What to Do

With an adult's permission, find a spot in your yard that you can test out your mower at different heights.

- Step 1: Go to the area and mow one spot (turn the blades on and then back off and move to a spot right beside that spot).
- Step 2: Do this for several different mower deck adjustment heights of your choice along with a setting of 3 inches.
- Step 3: Once you are done cutting the grass in your spots, take pictures of the spots
- Step 4: Measure the actual length of the grass with a ruler. Include the settings, measurements, and pictures below.

Deck Adjustment Height Setting	Actual Measured Height of Grass
3"	



More Challenges

Give a demonstration on adjusting your mower height and why it is important to your 4-H club, project helper, or community member.

Background

Mowers can cut grass at many different heights. The **cutting height** is usually changed by a lever on most riding and zero turn mowers, and by adjusting the wheel height on push mowers. All of these adjustments raise or lower the deck which affects how close the blades are to the ground. Longer grass has more leaf surface to take in sunlight. This enables it to grow thicker and develop a deeper root system. This deeper root system helps grass survive droughts, tolerate insect damage, and fight diseases. The longer blades also help the soil retain moisture by shielding it from the sun. The Environmental Protection Agency (EPA) suggests that you cut your grass around 3 inches. While the type of grass in your yard will have a certain ideal length, generally most grass species are healthiest between 2.5 and 3.5 inches. You should be mowing often enough so that you are never cutting more than 1/3rd of the height of the grass blades. Most experts agree that the best time to mow your yard is either the mid-morning or late afternoon. Both of these times are during the cooler parts of the day. Cutting your grass in the middle of the day when the sun is full can cause your grass to wilt, especially if it gets cut. Always make sure to check your local laws as sometimes mowing can only be done during certain hours of the day. Mowing can also be restricted during **Knozone action days** and by local weather services.

Manual Moment



Adjusting the deck is important to make sure that you are cutting at the correct height. Most mower decks have two positions, one for mowing, and one for transporting or traveling with your mower. This is important to keep the mower deck from dragging on the ground. Reference your operator's manual to identify the proper heights for each activity.

Did you know?

By maintaining healthy grass in your yard, you can actually reduce the number of weeds without the use of herbicides.

Glossary words

Cutting Height

Knozone Action Days

Resources

https://www.epa.gov/sites/production/files/2014-04/documents/healthy_lawn_healthy_environment.pdf



Project Area: Making The Cut

Activity 9: Your Yard Is Looking Good

You have probably seen yards that look very clean and have lighter and darker green stripes in them. Have you ever wondered how those stripes got there? The person mowing that lawn probably mows in a specific **mowing pattern** which causes the grass to fold one direction and make the stripes. In this project area you will get a chance to practice making these stripes and learn more about why those stripes occur.



What to Do

- Step 1: With permission, find a spot in the yard where you can make a few different mowing patterns.
- Step 2: Mow in a back-and-forth pattern like the one in figure 1 below.
- Step 3: Go to a different area of your yard
- Step 4: Mow in a round pattern like the one in figure 2 below.
- Step 5: Take pictures of both and compare. Explain why you think they look different from each other.

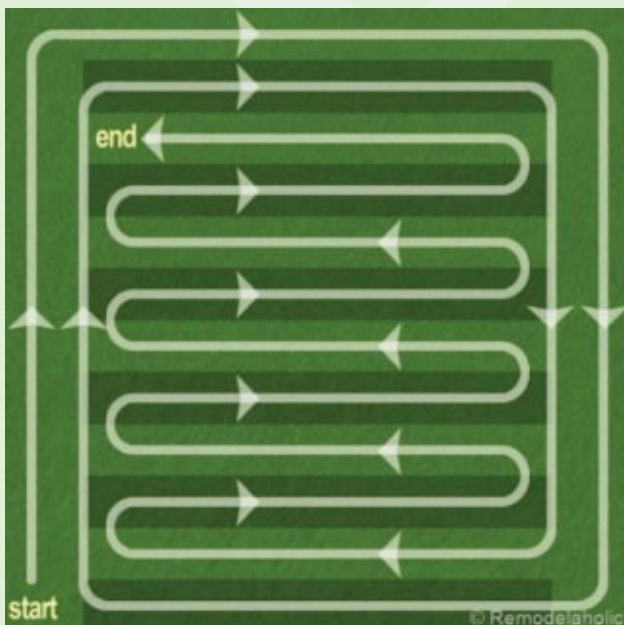


Figure 1: Back & Forth Pattern

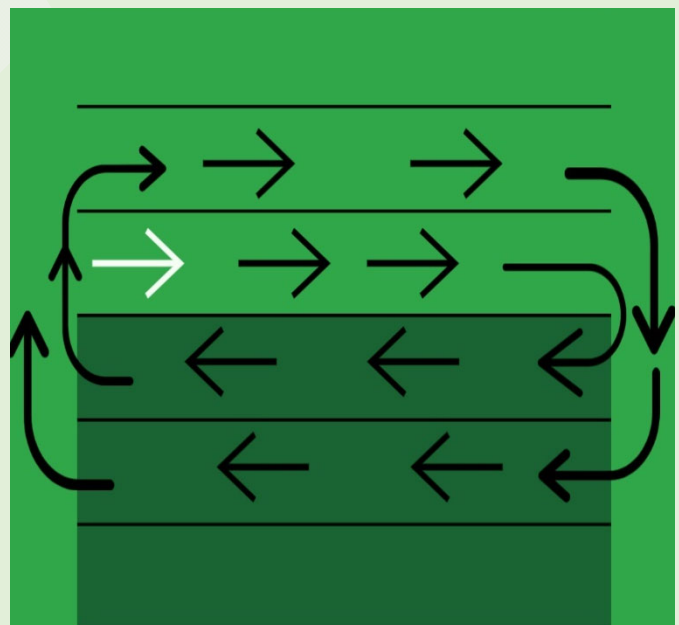


Figure 2: Round Pattern

More Challenges

Mow your entire yard with stripes one direction, take a picture, and then mow it in a perpendicular pattern the next time you mow. Compare the two pictures and share what you notice.

Background

As you mow, you want to **overlap** a little on each pass to make sure that all the grass is getting cut. If you don't overlap at all, you run the risk of leaving a thin strip of grass un-mowed. Lining up your tires with the previous pass is a good rule of thumb. To prevent grass buildup and to make the stripes, you

should mow each pass in the opposite direction. This allows the grass clippings to spread out across the yard. It also lays the grass down in different directions which is what causes the stripes. For example, one pass you will make north to south, and the next pass will be made south to north. Rotating the directions that you mow will help your yard stay healthier as well. Rotating can be as simple as mowing North to South one time, then mowing East to West the next time that you mow. More than likely your yard has some trees, flower beds, or other obstacles that you will have to mow around. The best way to mow these is to make sure the discharge chute of the mower is pointed away from them as you mow around them. This will keep grass from getting thrown on the obstacle. You should also only get as close as you feel comfortable. Some obstacles you won't be able to get all the grass and you will have to come back in with a string trimmer to get the rest.

Did you know?

Some companies make special roller bars for mowers that make sure the stripes in the grass are very defined.

Glossary words

Mowing Pattern

Overlap

Manual Moment



Understanding how and when to properly turn the blades on and off is critical to ensuring your yard looks good. Reference your operator's manual to understand the process for your specific mower.



Project Area: Making The Cut

Talking It Over

SHARE Pick your favorite activity from this project area and summarize what you learned.

REFLECT Why is it important to know where all the controls are on your mower?

GENERALIZE Describe what could happen if your mower was set to the wrong height while mowing

APPLY Identify something in your yard that would prevent you from mowing in a stripe pattern. How would you still be able to stripe your yard?

Space For Additional Pictures or Drawings



Project Area: Practice Pages

Practice 1: Start, Go, Stop, Repeat

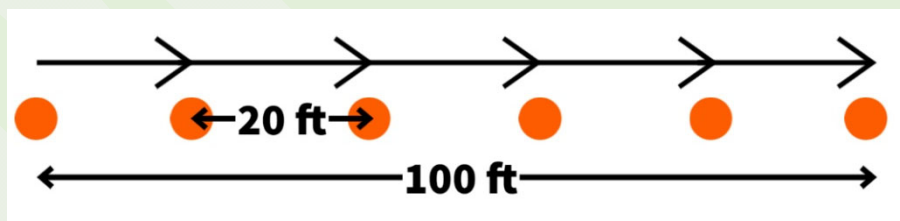
Always reference your Operator's Manual for age limitations for your specific mower. If you are under the age of 16, adult supervision is required.

Skill: Properly start your mower, slowly accelerate, and come to a smooth safe stop.

Before starting to practice, be sure to review your operator's manual, paying close attention to the operating warnings and starting procedures. Remember to always wear the proper PPE while operating your mower. The first step of becoming a skilled mower operator is to master a couple of basic skills, including driving in a straight line and braking. Learning these basics is essential in advancing your abilities as a mower operator. This activity should be done with the mower blades off. Record your practice in the practice record at the back of the book.

What To Do

- Step 1: Find a place to practice. Your practice area should be a flat, off-road area, away from obstacles.
- Step 2: Bring along six objects to use as markers. Plastic bottles or milk cartons with some rocks in them work well, or small safety cones if you have them.
- Step 3: Place the markers in a straight line close to 100 feet long, putting a marker about every 20 feet.
- Step 4: Start your mower using the proper starting procedure outlined in your operator's manual, and drive straight along the markers, making smooth stops at each marker. Practice several times at a low speed.
- Step 5: Repeat this exercise, going a little faster each time. Make sure you are still practicing smooth controlled stops.



Mastering your Skills

Now that you got the hang of this, try doing the same activity in reverse. When you are backing up, make sure that you are constantly looking at your surroundings and checking over both shoulders to avoid any blind spots. Repeat the same steps above, only operating your mower in reverse.

Project Area: Practice Pages

Practice 2: Turning It Around

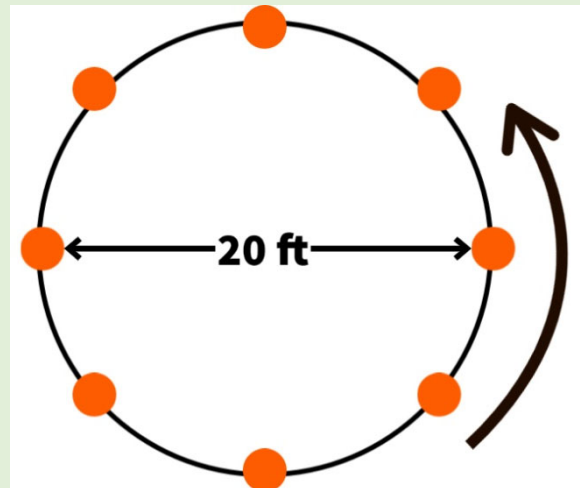
Always reference your Operator's Manual for age limitations for your specific mower. If you are under the age of 16, adult supervision is required.

Skill: Making wide turns and determining turn radius

Before starting to practice, be sure to review your operator's manual, paying close attention to the operating warnings. Remember to always wear the proper PPE while operating your mower. The first step of becoming a skilled mower operator is to master a couple of basic skills, including turning and understanding turning radius. Learning these basics is essential in advancing your abilities as a mower operator. This activity should be done with the mower blades off. Record your practice in the practice record at the back of the book.

What To Do

- Step 1: Find a place to practice. Your practice area should be a flat, off-road area, away from obstacles.
- Step 2: Bring along at least 8 objects to use as markers. Plastic bottles or milk cartons with some rocks in them work well, or small safety cones if you have them.
- Step 3: Make a circle with a 10-foot radius in your practice area.
- Step 4: Drive clockwise around the circle, staying a distance away from the markers that you feel comfortable with. Then repeat going counterclockwise. The closeness of your mower to the markers should be judged from the outer edge of your mower deck, not the tires.
- Step 5: Repeat this exercise, getting a little closer to the markers each time. The goal is to get as close to the markers as possible, without hitting them, while making a smooth steady turn.



Mastering your Skills

Now that you got the hang of this, try doing the same activity in reverse. When you are backing up, make sure that you are constantly looking at your surroundings and checking over both shoulders to avoid any blind spots. Repeat the same steps above, only operating your mower in reverse. While turning for long distances in reverse is uncommon, having to turn while backing up for a short distance is very common and this will help you develop that skill.

Project Area: Practice Pages

Practice 3: Turning On A Dime

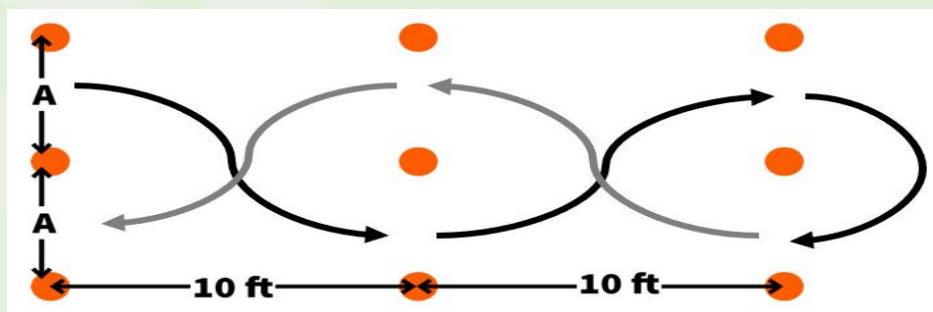
Always reference your Operator's Manual for age limitations for your specific mower. If you are under the age of 16, adult supervision is required.

Skill: Making sharp turns and determining turning radius

Before starting to practice, be sure to review your operator's manual, paying close attention to the operating warnings. Remember to always wear the proper PPE while operating your mower. The first step of becoming a skilled mower operator is to master the basic skill of making sharp turns. Learning this basic skill is essential in advancing your abilities as a mower operator. This activity should be done with the mower blades off. Record your practice in the practice record at the back of the book.

What To Do

- Step 1: Find a place to practice. Your practice area should be a flat, off-road area, away from obstacles.
- Step 2: Bring along 9 objects to use as markers. Plastic bottles or milk cartons with some rocks in them work well, or small safety cones if you have them.
- Step 3: Measure the width of your mower. The distance "A" in this activity will be the measured width, plus 12 inches. Set up the markers accordingly.
- Step 4: Drive through the course in the pattern shown below. Once completed, repeat the pattern, but start at the section where you stopped.
- Step 5: Once you feel comfortable, repeat this exercise by shortening the distance "A" by 4 inches until it is only 4 inches wider than your mower. This will help you get used to tight turning situations.



Mastering your Skills

Now that you got the hang of this, try doing the same activity in reverse. When you are backing up, make sure that you are constantly looking at your surroundings and checking over both shoulders to avoid any blind spots. Repeat the same steps above, only operating your mower in reverse. While turning for long distances in reverse is uncommon, having to turn while backing up around obstacles is very common and this will help you develop that skill.

Project Area: Practice Pages

Practice 4: Putting it Together

Always reference your Operator's Manual for age limitations for your specific mower. If you are under the age of 16, adult supervision is required.

Skill: Combining skills learned to more complex course

Before starting to practice, be sure to review your operator's manual, paying close attention to the operating warnings. Remember to always wear the proper PPE while operating your mower. Now that you have mastered several basic skills needed for mower operation, you can start challenging yourself with more difficult courses. This activity should be done with the mower blades off. Record your practice in the practice record at the back of the book.

What To Do

- Step 1: Find a place to practice. Your practice area should be a flat, off-road area, and can have some basic obstacles in it.
- Step 2: Bring along at least 12 objects to use as markers. Plastic bottles or milk cartons with some rocks in them work well, or small safety cones if you have them.
- Step 3: Taking the courses that were completed in the previous three practice pages, set up your own course and add in obstacles that allow you to practice each of the following skills at least once. You can use natural obstacles in your practice area as well, such as trees or rocks.
- Driving forward straight
 - Coming to a stop
 - Making a wide turn (at least a 10-foot radius)
 - Making a sharp turn
 - Backing up straight
 - Backing up while turning
- Step 4: Draw or take a picture of your course layout and label each of the above obstacles. Include the picture in the practice record at the back of the book.
- Step 5: Drive your course and get a good feel for it.
- Step 6: Repeat by making a different course or having your project helper develop a course for you to go through.

Project Area: Mower Maintenance

Activity 10: Time for Tools



Your mower does a great job with taking care of your lawn, but you need to do a great job at taking care of your mower. Routine **maintenance** is important to make sure your mower stays healthy and keeps your yard looking great for years to come.

What to Do

- Step 1: Using your operator’s manual, identify the maintenance intervals for the parts of your mower listed in the chart below. If a part does not apply to your mower, simply put N/A
- Step 2: Identify when the last time each service was completed
- Step 3: Make a schedule for these service intervals

Part or Service	Service Interval	Last Service Date	Next Scheduled Date	Date Completed
Oil Change				
Clean Air Filter				
Tire Pressure				
Mower Belt				
Sharpen Blades				
Clean Deck				
Clean Radiator				
Replace Fuel Filter				
Check Spark Plug				

More Challenges

With the assistance of your project helper, complete one full maintenance interval with your mower. Take before and after pictures of each part and give a presentation on what you did.



Background

Keeping up with the service on your mower is very important to making sure it runs right and lasts a long time. One critical component is the oil which helps keep parts of the engine from seizing up and getting too hot. As the oil gets older, it needs to be changed out. The oil also passes through an **oil filter** that cleans the oil and keeps dirt out of the engine and should be replaced every time you change the oil. Blades are another key component of your mower. Blades need to be inspected, cleaned, and sharpened to make sure your mower is making a clean cut on your lawn. If you have a riding or zero-turn mower, your mower probably has a belt on it that helps transfer power from the engine to the deck. Over time, belts can become worn out or frayed and need to be inspected to make sure they are still in good shape. If your mower runs off gas or diesel, the engine mixes the fuel with air which it burns for energy. The air first passes through an **air filter** to make sure it is clean and free from dirt particles. Because mowing can get dusty and messy, the air filter needs to be cleaned to make sure good air flow is getting to the engine, but if the air filter is too dirty, then it should be replaced by a new one. The tires are also a critical part to the function of your mower and should be checked frequently to make sure that the tire pressure is within the correct range. The proper air pressure is included on the sidewall of the tire, and in the operator's manual. The most frequent item to check on your mower is the fuel level. If your mower runs off gas or diesel, it will need to be refilled regularly. Refilling should always be done in a well vented area that will allow the harmful gas vapors to dissipate into the air. If you have an electric mower, you should make sure that once the batteries are charged, you take them off the charger to prevent over charging. You should also store batteries indoors in the winter to prevent them from freezing.

Manual Moment



Your Operator's Manual not only informs you about safety and operation, but includes everything you need to know to take care of your mower. It is a great practice to mark these pages in your operator's manual to have quick reference to them.

Did you know?

With proper maintenance, some mowers can last well over 30 years.

Glossary words

Oil Filter Air Filter Maintenance



Project Area: Mower Maintenance

Activity 11: Sharpening Your Skills

Your blades are one of the most important parts of your mower. Without them, your mower would simply drive around and make noise. It is important to keep the blades sharp so that they cut through the grass. Dull blades can rip and tear the grass which will make the lawn look unhealthy. Blades become dull over time and should be inspected regularly.



What to Do

Depending on your age, you will need your project helper for this activity.

- Step 1: Using a **jack**, lift your mower so you can look at the blades. When jacking up your mower, you should make sure that the mower is on level ground and that the parking brake is engaged. Use **jack stands** or blocks that are rated for the weight of the mower and make sure the mower is secure before you look at the blades.
- Step 2: When looking at the blades see if they have any nicks or appear dull, take them off to further inspect.
- Step 3: Take a picture of the edge of your blade before doing any work on them.
- Step 4: With the assistance of your project helper sharpen your blades.
- Step 5: Balance your blades once each side is sharp, resharpening as needed to maintain balance.
- Step 6: Take a picture of the blades after the work has been completed. Attach the pictures in your book.
- Step 7: Reinstall the blades and test them out in the yard.



More Challenges

Visit your local lawncare provider or mower dealer and have them show you their process for sharpening and balancing blades. Share your experience with your project helper or 4-H club.

Background

Sharpening blades include a two-step process, sharpening and balancing. When sharpening your blade, you should sharpen it at a 30° angle. This will provide a nice edge to cut through the grass and prevent buildup of clippings in the deck. The blade should also be sharpened until all the nicks and gouges are removed.



Blades need to be balanced which means they should weigh the same on each side. As you are sharpening a blade, whatever you do to one side, you should do to the other side. This will prevent unnecessary vibrations when the blade is spinning at operating speed. You can get a small **blade balancer** or simply suspend the blade from a string and see if it sits level. If it leans to one side, sharpen that side further.



Manual Moment



Blades are an important part of your mower. Your operator's manual will have an entire section on care and maintenance of the blades. It is important that you understand how to inspect the blades and change them for your specific mower, as all mowers vary slightly.

Did you know?

There are special sharpeners made just for mower blades that make sure the blade is sharpened to the correct angle.

Glossary words

Jack

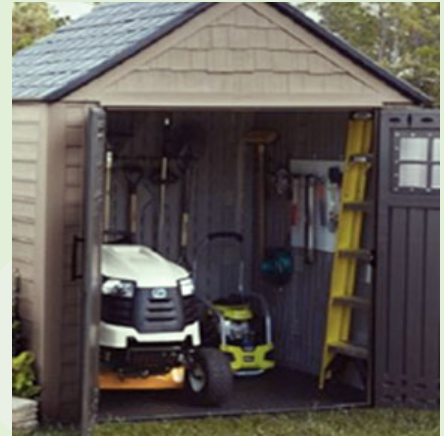
Jack Stands

Blade Balancer

Project Area: Mower Maintenance

Activity 12: Shed Time

Your mower is an expensive and important machine. It should be cared for and stored in a place that keeps it out of the weather. Your mower should be properly stored not only in the winter, but during the mowing season too. Proper storage will help make the maintenance easier and make your mower have a longer life.



What to Do

Step 1: Reference your operator's manual for storage suggestions for your mower. Identify which of the following tasks are needed for in-season and/or out of season storage.

Task	In-Season	Out of Season
Cleaning The Deck		
Charging The Battery		
Adding Fuel Additive		
Disconnect Battery		



More Challenges

Demonstrate the process of how to get your mower ready for out of season storage to your project helper or 4-H club.

Background

During the season, the way that you store your mower is very important. After you are done mowing, you should always clean debris off of the deck. This can be done with a garden hose, pressure washer, air compressor, or leaf blower. By getting all the grass clippings off of your deck, you keep any grass from rotting and sticking

to the deck which will cause buildup over time. The buildup can cause your deck to rust and fall apart.

Another thing to check during the season is the fuel level. It's always a good idea to make sure your mower has at least a half tank of fuel in it so that it can easily start the next time you go to use it.

Over wintering, or out of season storage, takes a little bit more work depending on where you live. It's a good idea to add a **fuel stabilizer** to the gas tank to make sure the gas stays good throughout the off season.

This will aid with starting your mower for the first-time next season. Your operator's manual may also recommend draining the fuel tank prior to storing for the winter.



Manual Moment



Your Operator's Manual will lay out specific instructions for storage of your mower. By following these steps each year, you will make sure that your mower lasts for many years to come!

Just like during the season, cleaning your mower's deck off before the winter is also important. You should make sure all grass is cleaned off so that it doesn't rot or provide a home for rodents looking for a warm place.

If your mower has a battery, it will lose charge if your mower does not run for a long time. To avoid this, make sure you disconnect the battery cables from your mower's battery. When doing this, always disconnect the negative cable first, but reconnect the positive cable first.

If you have an electric mower, it is best to remove the battery from the mower and store in a place that will not experience below freezing temperatures.

Did you know?

Some mower decks have a connection for a hose that will help you wash the underside of the deck.

Glossary words

Fuel Stabilizer



Project Area: Mower Maintenance

Activity 13: Troubleshooting Tips

Sometimes you can follow all the steps, listen to all the instructions, and your mower may still not start. This happens to everyone and is nothing to get worried about. Usually, it is a simple fix.

What to Do

Step 1: Reference your operator's manual and find the troubleshooting section. This section will review the most common problems that you may experience with your mower.

Step 2: Identify three problems that may occur and in your own words, describe below how to fix them.

1. _____

2. _____

3. _____

More Challenges

Identify a common problem with the operation of mowers and demonstrate to your 4-H club how to check for the problem and fix it.

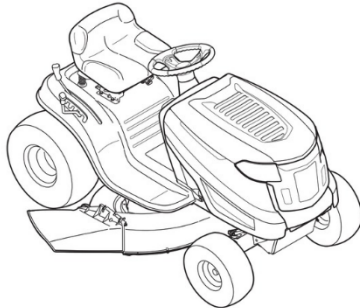
Background

Sometimes mowers won't start right away, this can be caused by a number of situations. One situation is that a safety switch is not





OPERATOR'S MANUAL



Lawn Tractor — Pony

⚠ WARNING

READ AND FOLLOW ALL SAFETY RULES AND INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS MACHINE. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

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Printed in USA

Form No. 769-03502
(November 13, 2007)

engaged. These switches need to be engaged in order to start the mower. Examples are a handle on a push mower, the PTO, parking brake, neutral lever, and seat or seatbelt.

If nothing happens once you have all the safety switches engaged, next check the battery connection. Sometimes the connections can become loose or corroded. By cleaning the connections with a wire brush, the problem should be solved. If this still doesn't help, then you should check to make sure your battery is charged. This can be done by checking the charge with a **voltmeter**.

If your mower has good charge and turns over and sounds like it wants to start but won't, the issue could be a bad **spark plug**. Spark plugs get

dirty during use and eventually fault out. By removing your sparkplug and holding it against the block while trying to start the engine you can see if there is a spark or not.

Finally, if your spark plug is good, the issue could be that your gas is either too low, or old. By adding new gas to the tank, this should solve the issue. If this still doesn't solve the problem, you should check the fuel filter on the mower to ensure gas is getting through.

Did you know?

Many people can make a business out of servicing lawnmowers for other people in their communities.

Glossary words

Voltmeter

Spark Plug

Troubleshooting

Manual Moment



Most operator's manuals have a **troubleshooting** section to help guide you through any issues that you might have when starting your mower. While some are simple fixes, others can be important issues that need to be addressed by a mechanic. Never perform work that you do not feel confident and comfortable performing.

Project Area: Mower Maintenance

Talking It Over

SHARE What is a part of your mower that you didn't realize needed to be checked or serviced before completing this project area?

REFLECT What could happen if you do not perform regular maintenance on your mower?

GENERALIZE What steps should you do before performing any maintenance work on your mower?

APPLY Your friend has a mower that won't start. They have tried everything that they know, but they don't have the manual. The mower is the same type as your mower, just a different brand. How would you go about helping them?

Glossary

Air Filter: An engine part that prevents dirt from coming in with the air into the engine

Battery: An object that stores electricity for later use

Blades: Sharpened pieces of metal that spin and cut grass

Blade Balancer: A device used to check the weight distribution of a blade

Brake Pedal: Used to slow down and bring a vehicle or machine to a stop when depressed

Choke: A valve used to restrict the flow of air to into the engine to help start a cold engine

Cutting Height: The distance from the ground to the sharpened edge of the blade where the grass will be cut.

Discharge Chute: A plastic or rubber piece that attaches to the mower deck and prevents debris from being thrown

Electric Start: A starting system that uses a batter and key or button to start the engine

Engine: A machine that converts the energy in fuel into a mechanical force

Eye Protection: Goggles or shatter resistant glasses or shield worn over the eyes to prevent dust and other debris from entering the eye.

Fuel Stabilizer: A petroleum product added to fuel to extend its life

Fuel Tank: The storage location on the mower that holds fuel to be used by the engine

Hazard Points: Parts of the mower that present a danger to the operator.

Hearing Protection: Earplugs or earmuffs that reduce the volume of sound entering the ears

Hydrostatic: A mower that runs on a system of hydraulics rather than using belts and gears

Jack: A device for lifting heavy objects, most often vehicles or machinery

Jack Stands: a stand whose height can be adjusted and is used to support a piece of machinery that has been raised by a jack

Knozone Action Days: Days when the air quality may become unhealthy for everyone, but certain groups including children and the elderly should avoid spending a lot of time outside. Restrictions are placed on operation of unnecessary equipment, such as mowers.

Maintenance: Steps taken on equipment and machinery to insure continued operation and long life

Motion Control Levers: Arms on a zero-turn mower that are used to steer, drive forward, and backup

Motor: A machine that converts electrical energy into a mechanical force

Mower Deck: The housing that covers the mower blades

Mowing Pattern: The directions that an area is mowed, including paths around obstacles

Mulching Bag: An attachment for mowers that collects the grass clippings so they can be used for mulch or compost

Obstacles: Anything that gets in the way of mowing in a strait line. Examples include trees, sidewalks, toys, garden hoses, flowerbeds, etc.

Oil Filter: An element that cleans and removes debris from the oil in the engine

Operator's Manual: A book containing all the information about a specific mower including safety, operation, and maintenance

Overlap: The distance the mower deck hangs over the previous mowing pass

Personal Protective Equipment: clothing and equipment that is worn or used in order to provide protection against hazards

PTO: Short for Power Take-Off, this is the system that allows mechanical energy to be transferred from the machine to an external attachment, such as a mower deck

Pull Start: A starting system that uses a rope that must be pulled to spin the engine

Push Mowers: Mowers that require the operator to push them during operation.

Riding Mowers: Mowers that have a seat, pedals, and steering wheel, and the operator rides on the mower.

Roll Over Protection System: Also called a ROPS, is a system or structure intended to protect equipment operators from serious injury in the event the equipment rolls over. The system consists of a seatbelt and roll over bar.

Safety Labels: Stickers on the mower that identify hazards and warn the operator against them

Safety Switches: mechanical or electrical lockouts that must be engaged before the mower can be started. If they become disengaged, the mower will shut off to protect the operator.

Schematics: Drawings that show how all parts of a mower fit together

Self-Propelled: A optional function on push mowers that provides drive to the rear wheels of the mower and allows the operator to not have to push as much

Slope: a surface of which one end or side is at a higher level than another; a rising or falling surface such as a hill

Spark Plug: A part of an engine that contains an air gap where a spark is produced to ignite gasoline in the engine

Steering Wheel: A wheel attached to a column that attaches to the axle of a mower and allows the wheels to be turned

Throttle: A lever that controls the speed of the engine

Tires: A rubber covering, typically inflated, or surrounding an inflated inner tube, placed around a wheel to form a flexible contact with the ground

Troubleshooting: The steps taken to identify potential causes and solve a problem

Voltmeter: an instrument for measuring the charge of a battery

Zero-Turn Mowers: Mowers that have a seat and Motion Control Levers that control the movement of the mower, and the operator rides on the mower.

Practice Record Pictures

Use the space below to include any pictures or drawings of your courses that you set up for practicing your skills.



Photos? Receipts? Notes?

DRAFT

Summary of Learning Outcomes

Activity	Project Skill	Life Skill	Educational Standard*	Success Indicator
Project Area: Mower Safety				
1. Getting to Know Your Mower	Identifying important information and understanding the operator's manual	Reading operator's manual		Checks manual before using a new piece of equipment
2. Pieces and Parts	Identifying important parts of a mower	Developing an understanding of what makes a mower		Becomes familiar with the parts of a new machine before operating
3. Dress for Success	Identify proper attire for mowing	Preventing personal injury		Wear proper mowing attire
4. Sticking to Safety	Identifying safety label meanings	Preventing personal injury		Looks up the meaning of new labels
5. Riding Safety	Identifying obstacles that need to be watched for when mowing	Preventing injury and property damage		Looks over an area fully before mowing
Project Area: Making The Cut				
6. You're in Control	Identifying the controls of a mower	Identifying control functions before use		Goes through functions of controls before operating a new piece of equipment
7. Pushing Along	Identifying the controls and starting a push mower	Identifying control functions before use		Goes through functions of controls before operating a new piece of equipment
8. Making A Clean Cut	Identifying proper mowing height	Quality assurance		Checks to make sure mower is cutting at proper height when mowing
9. Your Yard Is Looking Good	Mowing stripes into yard	Performing quality work		Is able to stripe a yard with the mower
Project Area: Mower Maintenance				
10. Time For Tools	Identify routine maintenance	Equipment care		Performs preoperational checks and
11. Sharpening Your Skills	Sharpen mower blades	Equipment care		Checks routinely to make sure blades are in good condition
12. Shed Time	Proper storage of mower	Equipment care		Cleans mower before storage
13. Troubleshooting Tips	Properly troubleshoot mower	Problem solving		References manual to start mower if it doesn't start

**I pledge my head to clearer thinking,
My heart to greater loyalty,
My hands to larger service,
and my health to better living,
for my club, my community, my country,
and my world.**

ohio4h.org

Want to know more about 4-H? Find your local program at
4-h.org/find.

This book is an unpublished draft being used in a pilot test to gather
feedback from participants.

Other Ohio State University Extension, 4-H Youth Development
publications are available through local OSU Extension offices and
online at **extensionpubs.osu.edu**. Ohio residents get the best price
when they order and pick up their purchases through local Extension
offices.