



Illinois 4-H | Spark Ideas. Ignite Possibilities.

In Small Engines youth will develop knowledge and skills about engine types, internal parts, tools of the trade, safety issues, and what makes small engines work. They will get hands-on experiences that will help them understand how machines, such as lawn mowers and model airplanes, operate and how to keep them running.



Exploring 4-H Small Engines

Spark Activity: Small Engines Scavenger Hunt

In many of our daily activities around our homes and community we use equipment powered by small gas engines. What are a few of these items and how can you benefit from acquiring adequate knowledge & skills for maintenance and repair of these engines? Explore your home and garage and create a list of items that you think run using a small engine. Do you have family or friends who might have additional items that run using a small engine? Make a list to see how many different pieces of equipment you can find that use a small engine. While on your scavenger hunt, does anyone have an older piece of equipment that no longer works? Taking apart an old engine that no longer works is a great way to learn about engine parts and assembly.



4-H Project Levels and Goals

Beginner

- Identify parts of a small engine
- Identify tools used with small engines
- Identify and use safety equipment
- Learn to perform engine maintenance on spark plugs, air cleaners, and carburetors
- Determine engine size

Intermediate

- Classify small engine types
- Identify internal small engine parts
- Test the compression of an engine
- Be able to clean a carburetor and understand carburation
- Obtain information about careers related to small engines

Advanced

- Identify small engines by sound
- Identify and use diagnostic tools
- Learn to assemble and tear down an engine
- Learn to tear down and rebuild an engine's electrical system
- Select and install replacement engine
- Start your own business

Put Your Project Into Action

Show Your Skills

- Talk or demonstration on the different parts of an engine or small engine safety
- Poster with parts and functions of small engines or tools needed for maintenance or repair
- Display showing routine repair and maintenance
- Display comparing 2-stroke and 4-stroke engines

Service and Leadership

- Do a small engine tune-up day with proceeds going to a local charity
- Winterize lawn mowers for community members
- Host a used oil drive
- Lead a small engine safety workshop or seminar
- Organize a lawnmower tune-up clinic
- Plan a tour for your 4-H club of a local mechanic shop or lawncare business

Entrepreneurship

- Reconstruct defective small engines to resell
- Start a lawn mowing business
- Review mechanical repair tools online in videos or on a blog
- Job shadow a mechanic or small engine repair shop business owner for a day

Technology Connection

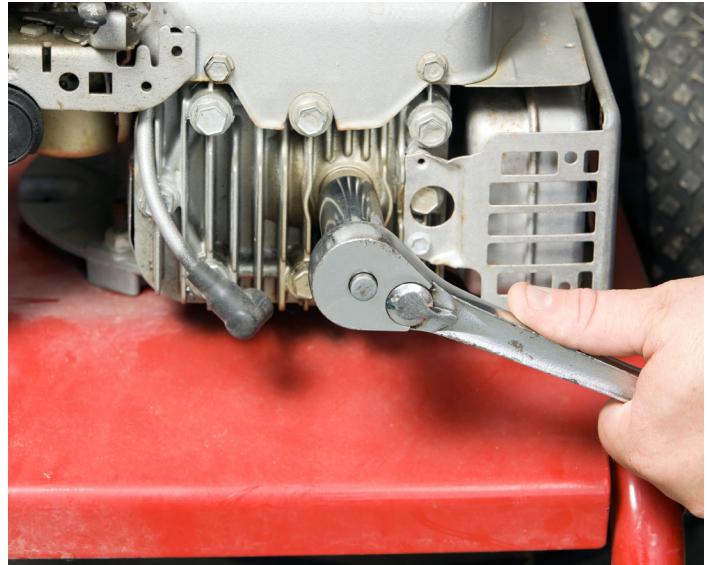
- Lithium-ion battery electric starting technology replacing pull start
- Hassle-free starting- no prime, no choke

Connecting with a Mentor

- Local small engine shop or mechanic in your community
- Staff at local community college in mechanics

Events

- Exhibit opportunities at your county and state fair
- Give a speech or demonstration related to engines in your county 4-H public speaking competition
- Contact a local antique tractor club
- Contact a local agriculture instructor or community college for information on local opportunities for workshops, activities, events



Careers for People Interested in Small Engines

Small Engine Mechanic
Maintenance/ Service
Technician

Lawncare/Landscaping
Business Owner
Diesel Mechanic

Start a Conversation

What is the difference between a two-stroke and four-stroke engine?

The human body has numerous systems (nervous, digestive, muscular, etc.) that each have a function and they all work together. A small engine works in much the same way. Can you name some of these systems and how do these compare to the human body to keep the engine running?

Want to learn more?

go.illinois.edu/4Hsmallengines

Explore more at Illinois 4-H!

4-H.extension.illinois.edu



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