

Completed (40 possible)	_____
Accuracy of answers (30 possible)	_____
Appropriate grammar (15 possible)	_____
Neatness of record (15 possible)	_____
Total	_____
A = 86-100 points	
B = 71-85 points	
C = 70 points or less	



# 4-H Small Engines – Intermediate (Grades 6-8) Record Sheet

Record for Year \_\_\_\_\_

A completed record sheet is due by the last business day of May to exhibit each project at the fair.  
Use any 4-H publications, the internet, the library, or a professional to help you prepare your responses.

## The Basics

Name \_\_\_\_\_ 4-H Club \_\_\_\_\_

Years in 4-H \_\_\_\_\_ Grade \_\_\_\_\_ Years in Project \_\_\_\_\_

## Crank It Up

Define horsepower as it relates to small engines. \_\_\_\_\_  
\_\_\_\_\_

Explain the difference between a two-cycle engine and a four-stroke engine. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What two-cycle engines do you have at home? \_\_\_\_\_  
\_\_\_\_\_

What four-stroke engines do you have at home? \_\_\_\_\_  
\_\_\_\_\_

## Warm It Up

Match the engine part to its definition.

- |   |  |
|---|--|
| Bearings <input type="checkbox"/>       | <input type="checkbox"/> Shaft consisting of a gear, cam lobes, and bearing driven by crankshaft |
| Camshaft <input type="checkbox"/>       | <input type="checkbox"/> Contains the cylinder bore, cooling fins, and valve components          |
| Crankshaft <input type="checkbox"/>     | <input type="checkbox"/> Valve through which the burned gases are removed from the engine        |
| Cylinder Block <input type="checkbox"/> | <input type="checkbox"/> Designed to reduce friction between a stationary and moving part        |
| Exhaust Valve <input type="checkbox"/>  | <input type="checkbox"/> Converts linear motion, the primary shaft of the engine                 |
| Flywheel <input type="checkbox"/>       | <input type="checkbox"/> Gears that transmit motion from the crankshaft to insure proper timing  |
| Oil Slinger <input type="checkbox"/>    | <input type="checkbox"/> Heavy disk mounted on one end of the crankshaft to provide inertia      |
| Piston <input type="checkbox"/>         | <input type="checkbox"/> Slides back and forth in the cylinder by combustion forces              |
| Timing Gears <input type="checkbox"/>   | <input type="checkbox"/> Distributes oil throughout the crankcase to lubricate bearings          |

List three reasons why a small engine might have poor compression.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

What is the role of a carburetor in an engine? \_\_\_\_\_  
\_\_\_\_\_

List the steps you would use to prepare a small engine for winter storage. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### **Tune It Up**

Provide a brief description of your 4-H exhibit or plan for your exhibit. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

We do not necessarily care what you spent constructing your exhibit, but it is good for you to understand that things have a cost. Even poster boards are not free. Approximately how much did you spend constructing your exhibit or think you'll spend once it is complete?

\$0.00-\$5.00    \$5.00-\$15.00    \$15.00-\$30.00    \$30.00-\$50.00    Greater than \$50.00

### **Away It Goes**

Name four ways in which you could use a small engine to make some money as an entrepreneur in or near our community.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

What is one thing you learned or sparked your interest as a result of completing this project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In what way does this project apply to your life, or why is this subject matter important to you? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_