

# Four Stroke Engine

Academic Representative



Technology Education Concepts

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## Description

After a solid introduction to the four strokes — intake, compression, power, and exhaust — students are ready to get their hands dirty and see how all of the components work together. They first identify the major and minor components of the cylinder block, then assemble the internal and external parts such as the piston, crankshaft, camshaft, and flywheel. As the work gets more complex — building the cylinder head, adding a spark plug, mounting the carburetor and fuel tank, installing the muffler and air filter — students become increasingly involved in the intricate and delicate inner workings of the engine.

## Skills

- Illustrate the four-stroke sequence in the engine
- Describe the function of a piston
- Assemble a four-stroke engine piston and identify its components
- Assemble the crankshaft, camshaft, and flywheel of a four-stroke engine

## Knowledge

Basic internal operation of a four-stroke engine

## Activities

- Activity 1 - Introduction
- Activity 2 - Cylinder Assembly and Piston
- Activity 3 - Piston, Crank, and Cam
- Activity 4 - Ignition Systems
- Activity 5 - Cylinder Head and Spark Plug
- Activity 6 - Intake, Exhaust, and Carburetion
- Activity 7 - Governor and Throttle Assembly
- Activity 8 - Disassembly
- Activity 9 - Disassembly and Lubrication
- Activity 10 - Post-Test and Wrap-Up
- Activity 11 - Bonus Activities
- Activity 12 - Challenge
- Activity 13 - Open-Ended Challenge
- Activity 14 - Careers
- Activity 15 - Internet

## Standards

Math/Measure Science Problem Solving Reading

## Module Includes:

Student Workbook, Instructor's Manual, Installation CD, Headphones, Organizer Storage Tray (4), Small Engine Workstation, 3 in. Bench Vice, Tool Organizer Tray, Briggs & Stratton Overhead Valve Engine, Tool Chest

## Requirements

Optional Four-Stroke Storage Cabinets should be considered for each Four-Stroke Engine if storage is not available.

TV/DVD Player is recommended.

Four-Stroke Engine Module includes one class setup. An additional class setup must be purchased for each additional class period.