

FARM MECHANICS

Prepared By:

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Target Groups:

13 years old or older

Time Allotted:

50 minute block

Pre-Requisites:

5. Visit an implement dealer. Interview the dealer technician or service manager for hints on good preventive maintenance. Ask why it is important, the costs, and what causes wear or damage. Report what you learn.

Materials Needed:

Assorted Nuts & Bolts

Automotive Maintenance Car

Instructional Goal:

At the end of the week students will have a more well-formed idea of what farm mechanics entails as well as develop skills to help them for the future.

Monday

Requirements:

1. Do the following:
 - (a) Discuss with your counselor the safety equipment, tools, and clothing used while checking or repairing farm equipment. Use this equipment, tools, and/or clothing (when needed or called for) in meeting the requirements for this merit badge.
 - (b) Draw a plan showing a well-equipped farm shop. Point out the shop's mandatory safety devices and features.
 - (c) Find all the universal warning and safety symbols on a piece of equipment and explain what they mean.
 - (d) Describe what a safety data sheet (SDS) is and tell why it is used. Obtain the SDS for any engine coolant, oil, grease, fuel, hydraulic or transmission fluid, or other flammable or hazardous materials you use in meeting the requirements for this merit badge.

Tuesday

Requirements:

3. Do TWO of the following:
 - (a) Replace the handle of any tool found on the farm.
 - (b) Organize a tool rack or a storage system for nails, bolts, nuts, and washers.
 - (c) Using a hand file, properly dress the mushroomed head of a chisel or punch.
 - (d) Using a hand file, correctly dress a screwdriver tip.
6. Explain each step in ONE of the following maintenance procedures:
 - (a) Tightening hydraulic fittings
 - (b) Checking the air filter
 - (c) Cleaning a work piece with a wire-brush wheel

Wednesday

Requirements:

5. Visit an implement dealer. Interview the dealer technician or service manager for hints on good preventive maintenance. Ask why it is important, the costs, and what causes wear or damage. Report what you learn.
7. Find out about three career opportunities in farm mechanics. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.

Thursday

Requirements:

2. Explain how power is produced or transferred in a:
 - (a) Diesel engine
 - (b) Hydraulic system
 - (c) Transmission or any other power system
4. Do ONE of the following:
 - (b) For any engine-powered machine, create a pre operational checklist; include checking the engine coolant, engine oil, hydraulic and/or transmission fluid, and battery voltage (using a voltmeter). Using your checklist, conduct a pre operational check of that machinery or equipment.

Friday

Requirements:

(continue working on car, have everyone try and complete the checklist from requirement 4.b)