

FCE, Oregon Association For Family & Community Education

MOM'S TOOL BOX

Lesson Plan

Michael C. Denbo, District #4
10/6/2015

MOM'S TOOL BOX

MATERIALS NEEDED

Computer for Power Point presentation

Overhead projection with screen for Power Point presentation

Internet Access for "You Tube" videos

Student Handouts

Mom's Tool Box

Handout

The man of the house usually has his own set of tools, sometimes quite extensive, consisting of hand and power tools, selected for all manner of repairs. More often than not, they can be found in select locations around the homestead and the search for a particular tool is accompanied by the phrase "honey, have you seen my.....????"

Today's discussion is on "Mom's Toolbox" and the selection of tools that the lady of the house might find useful. I have discovered that in my home, Mom's Toolbox is just that, Mom's! Permission must be granted for others to use said tools and the "prompt" return of tools is not only expected, but demanded. The penalty for failure is not pretty and usually results in forfeiture of permission to borrow, at the very least!

The quality of the tools purchased need not be name brands, as Mom is not normally making her living using these tools every day. By utilizing the discount stores and on-line shopping, the costs associated with Mom's toolbox can be kept to a minimum.

Wrenches: The home tool box should contain a set of combination wrenches in both metric and sae (standard), ranging in size from $\frac{1}{4}$ in to $\frac{3}{4}$ inch. These wrenches contain both an "open end" and a "box end".

Socket Wrenches: AKA socket set, these sets are extremely versatile and your tool box should contain both metric and sae, just like the combo wrench sets. Usually $\frac{3}{8}$ drive, but the $\frac{1}{4}$ drive has proven extremely handy due to the collection of smaller sockets included.

Specialty Wrenches:

Adjustable wrench (Crescent Wrench TM.) One of the most miss-used tools in the box, but every tool box should have at least one. Proper use requires adjustment of jaws each time it is positioned on the bolt head or nut, otherwise "rounding" of the bolt head/nut can occur.

Pipe wrench: useful for plumbing work and also to "hold and grip" anything that is being really stubborn.

Pliers: Pliers come in many configurations, each one designed for a particular need or use. Every tool box should have at least the slip joint pliers and the needle nose pliers.

Slip joint: used to grab hold and steady the bolt, nut, pipe etc., used where light force is needed to stabilize.

Large slip joint (water pump or channel lock tm): used where more leverage is needed, and for plumbing work.

Lineman's pliers: have a built in wire cutter and a wider flat "biting" area for grabbing and bending wire.

Needle Nose: used to reach into those tight places to hold or grab, some have built in wire cutter.

Side cutter's: used for cutting light gauge wire.

Striking Tool: A hammer, Mom's toolbox must have at least one, preferably one that can pull a nail or tack rather than a ball peen.

Screwdrivers: Every toolbox should have at least 4, 2 flat blade (one small, one large) and 2 Phillips (one #1 and one #2). A set of jeweler screwdrivers might also be considered as they are very handy for things like eye glasses and the extra small screws on many appliances.

Hand Saws: Although there may not be room in the toolbox itself, a handsaw is a much needed addition. In fact two is better, one for wood, and one for metal.

Measuring tools: A tape measure (your choice of length) and a 12 inch rule should also be part of your toolbox.

Home Repairs: Review "You Tube" videos for p-trap and flapper replacements.

REFERENCES:

1. Scott P. Schneider (1998). "Tools". In Jeanne Mager Stellman. Chemical, industries and occupations. Encyclopaedia of Occupational Health and Safety 3 (4th ed.). International Labour Organization. pp. 93.33–93.34. ISBN 978-92-2-109816-4
2. Cacha, Charles A. (1999). Ergonomics and Safety in Hand Tool Design. CRC. ISBN 1566703085.

Clip Art obtained from Microsoft Word non-commercial use software.

MOM'S TOOL BOX

Opening Statement:

Introduce yourself, short bio, introduce the course content.
Length of class is appx. 1 hour.
Encourage questions.

Mom's Toolbox

Show slide #1 "Mom's Tool Box"

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MOM'S TOOL BOX

What is a Hand tool?

Slide #2. Any tool that is not a power tool, that is, one powered by hand and not an engine is a hand tool.

A brief history

Slide #3.

Hand tools have been used by humans since the Stone Age, when stones were used for hammering and cutting. During the Bronze Age, tools were made by casting the copper and tin alloys clay moulds. Bronze tools were sharper and harder than those made of stone. During the Iron Age, iron replaced bronze, and tools became even stronger and more durable. The Romans developed tools during this period which are similar to those being produced today. In the period since the industrial revolution, the manufacture of tools has transitioned from being craftsman made to being factory produced.

General Tool Categories

Slide #4

The American Industrial Hygiene Association gives the following categories of hand tools: [\[2\]](#) wrenches, pliers, cutters, striking tools, struck or hammered tools, screwdrivers, vises, clamps, snips, saws, drills and knives. We will look at these, and discuss which are good choices for the home tool box.

MOM'S TOOL BOX

General Tool Categories

Wrenches

Slide #5

The home tool box should contain a set of combination wrenches in both metric and sae (standard), ranging in size from $\frac{1}{4}$ in to $\frac{3}{4}$ inch. These wrenches contain both an "open end" and a "box end".

Socket Wrenches

Slide #6

AKA socket set, these sets are extremely versatile and your tool box should contain both metric and sae, just like the combo wrench sets.

Specialty Wrenches

Slide #7

Adjustable wrench (Crescent Wrench TM,) One of the most miss-used tools in the box, but every tool box should have at least one. Proper use requires adjustment of jaws each time it is positioned on the bolt head or nut, otherwise "rounding" of the bolt head/nut can occur.

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MOM'S TOOL BOX

Pliers

Slide #8

Pliers come in many configurations, each one designed for a particular need or use. Every tool box should have at least the slip joint pliers and the needle nose pliers.

Slip joint

Used to grab hold and steady the bolt, nut, pipe etc., used where light force is needed to stabilize.

Large Slip Joint

(water pump or channel lock tm): used where more leverage is needed, and for plumbing work.

Lineman's Pliers

Have a built in wire cutter and a wider flat "biting" area for grabbing and bending wire.

Needle Nose

Used to reach into those tight places to hold or grab, some have built in wire cutter.

Side Cutters

AKA diagonals - Used for cutting light gauge wire.

Striking Tool

Slide #9

A hammer-Mom's toolbox must have at least one, preferably one that can pull a nail or tack rather than a ball peen.

MOM'S TOOL BOX

Screwdrivers

Slide #10/11/12

Every toolbox should have at least 4, 2 flat blade (one small, one large) and 2 Phillips (one #1 and one #2). A set of jeweler screwdrivers might also be considered as they are very handy for things like eye glasses and the extra small screws on many appliances

Hand Saws

Slide #13

Although there may not be room in the toolbox itself, a handsaw is a much needed addition. In fact two is better, one for wood, and one for metal.

Measuring Tools

Slide #14

A tape measure (your choice of length) and a 12 inch rule should also be part of your toolbox.

Home Repairs

Slide #15

Discuss uses of "You Tube" videos and how to obtain. Show two videos if internet access is available.

P-Trap Mechanics

Slide #16

Discuss how a p-trap for the sinks works and can be accessed.

Tool box gift ideas

Slide #17 – gift ideas for new home owners & college students

Questions

Slide #18