

HANDOUT 1.TOOLS:

A tool is an object made to help the man constructing, repairing, or modifying other objects.

E.g.:

Wrench



Drill



Hammer



Screwdriver



We can classify them in tools and power tools, power tools are those that have a motor (e.g.: a drill)

All the different tools have different uses, we have to use them properly for the use they have been designed.

1. Draw a tool you know, find the name and the use of it in English and Catalan and write it under your drawing. Use the dictionary and the help of your classmates and the teacher.

English
Name:
Operation:

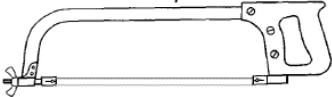
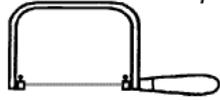
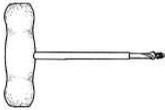
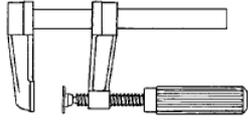
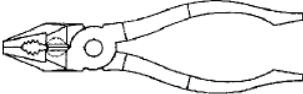
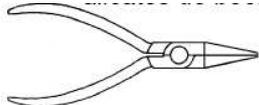
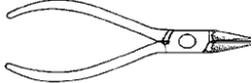
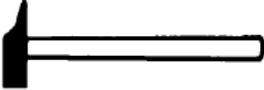
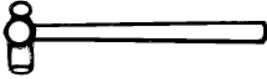
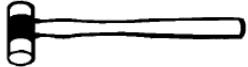
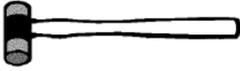
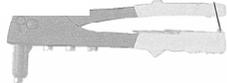
Catalan
Nom:
Acció:

2. Now write the name of all the tools all the class has found:

English		Català	
Name	Operation	Nom	Acció
Wrench	Turn	Clau fixa	Cargolar

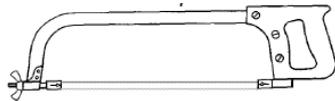
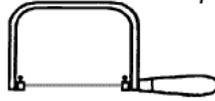
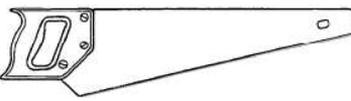
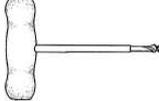
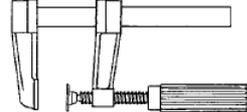
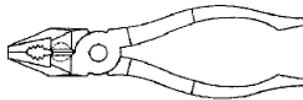
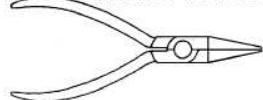
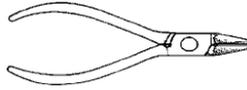
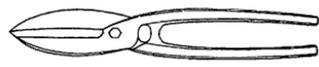
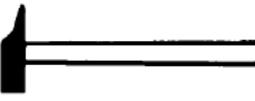
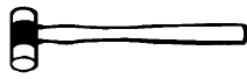
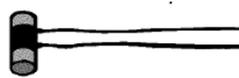
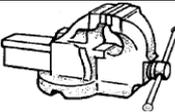
HANDOUT 2.TOOLS TABLE:

Here's a list of the most common tools in the workshop of the school:

 Rasp	 hacksaw	 Coping saw
 handsaw	 gimlet	 clamp
 C-clamp	 pliers	 Needle-nose pliers
 Round nose pliers	 Wire stripping pliers	 shears
 Hammer	 Ball-peen hammer	 Nilon mallet
 Rubber mallet	 Wrench (spanner)	 Riveting tool
 Hot glue gun	 Flat head screwdriver	 Torx screwdriver
 Bench vice	 Flat file	 Round file
 allen key	 Adjustable spanner	 Drill

HANDOUT 3. EMPTY TABLE:

3. Now hide the page you have been using before and in groups try to write all the names

HANDOUT 4. OPERATIONS:

1. These are different operations we can do with the tools in the workshop. Read the definitions.

Cut: divide or shorten something using a sharp tool



Mark: make a sign



Measure: express a dimension as a number



Pierce: make a hole into a material using a sharp tool



Polish: make a surface smoother



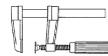
Hammer: give an impulsive force



Screw: fasten or penetrate with a circular motion



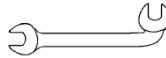
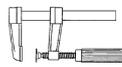
Hold: give physical support avoiding movement



2. Here are the names of different tools. Put each name in the corresponding box:
Saw, pliers, tape measure, spanner, allen wrench, adjustable spanner, hammer, set square, screwdriver, clamp, bench vise, scissors, ruler, wrench, drill, file, sandpaper, compasses, gimlet, mallet, wrench, clamp

Cut	Mark and Measure	Pierce	Polish	Hammer	Screw	Hold

3. Now choose three of the tools above and make sentences like the examples:

- A wrench is a tool that turns nuts or bolts. 
- A clamp is a tool that holds things firmly together 
- A _____
- A _____
- A _____

HANDOUT 5.TOOLS DEFINITION

Here are the uses for the different tools:

Pliers: used to hold, bend or cut wires

Gimlet: used to pierce wood and other materials

Rasp: used to polish wood

File: used to polish metal

Hacksaw: used to cut metal

Handsaw: used to cut thick pieces of wood

Coping saw: used to cut thin pieces of wood

Clamp: used to hold materials

Shears: used to cut metal sheets

Screwdriver: used to insert, tighten, loose or remove screws

Drill: used to pierce different kind of materials

Ruler: used to measure lengths and draw straight lines

Hot glue gun: used to glue different pieces of material

Hammer: used to deliver an impulsive force

Set square: used to draw and check square angles

Wrench: used to hold or twist a nut or a bolt

Allen key: used to hold or twist allen bolts

Tape measure: used to measure lengths

Bench vice: to hold tight a piece of material

4. Fill the gaps in the text below:

A set square is a _____ used to _____ and check _____ angles. For cutting thin pieces of wood we use a _____ saw, but if we want to cut pieces of metal we use the _____. I use a rasp to _____ pieces of _____, but for metal I use a _____.

I want to cut a metal sheet; I need a pair of _____. I'm going to use the handsaw, but before I'm going to hold the piece of _____ with a _____.

I need to cut this metal bar; first I'm going to hold it tight with the _____, then I'm going to cut it with the _____, finally I'm going to polish it with a _____.

I want to pierce this piece of wood: first I have to measure the exact place where I want the hole, then I have to hold the piece of wood with the _____, and now I can pierce the wood with the _____.

HANDOUT 6.MATERIALS:

1. Look at the following objects; they are made of different materials:

Ceramics
and Glass



Metal



Wood



Plastic



2. Now finish the sentences:



The vase is made of _____

The scissors are made _____



The box is _____

The _____



3. Add three examples in each column:

Ceramics/Glass	Metal	Plastic	Wood

4. Now choose four different objects, and then try to make sentences using the following table:

The	<i>Name of the object</i>	Is made of	Wood Plastic Metal Glass Ceramics	Because it	Is transparent Doesn't melt with heat Is resistant Doesn't burn
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HANDOUT 7. MATCHING:



Pliers

cut



Set square

percussion



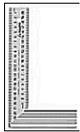
Handsaw

measure



Adjustable spanner

screw on



Hammer

hold



Screwdriver

2. Now make a sentence with each tool following the example:

1. A handsaw is a tool that we use for cutting wood

2.

3.

4.

5.

6.

HANDOUT 8. FILLING FORM

Name: hacksaw

Picture:



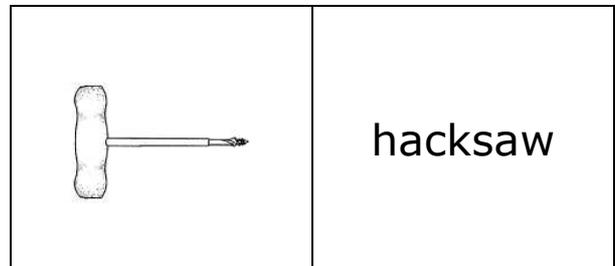
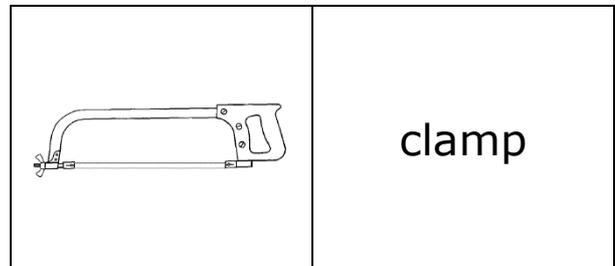
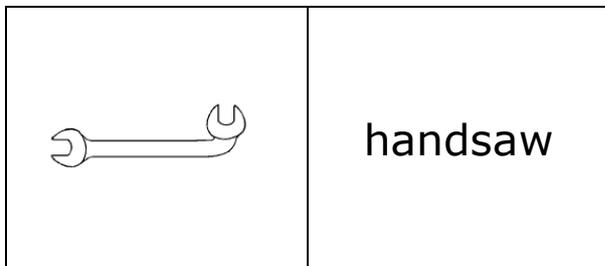
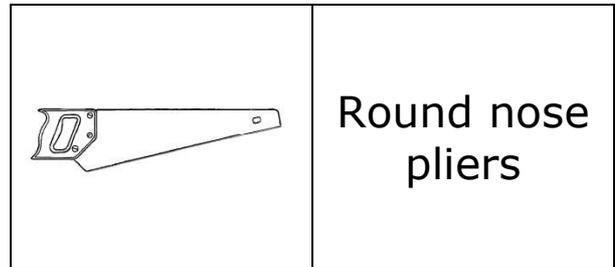
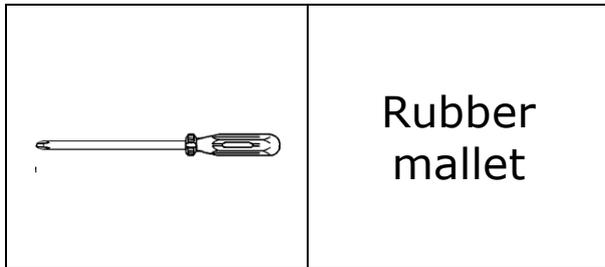
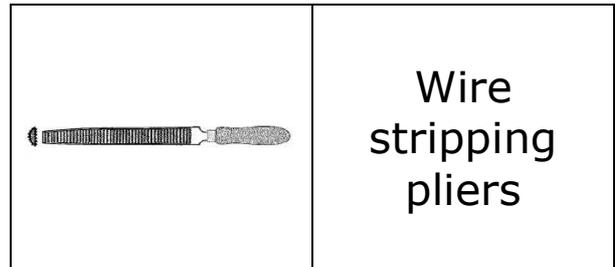
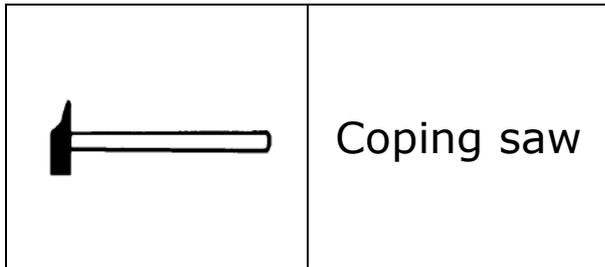
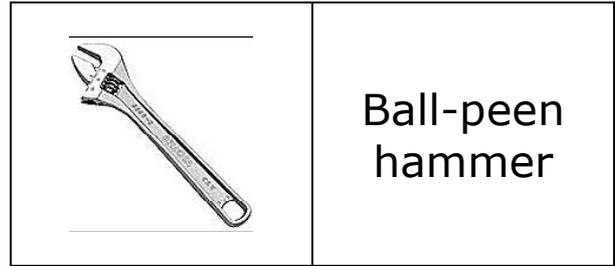
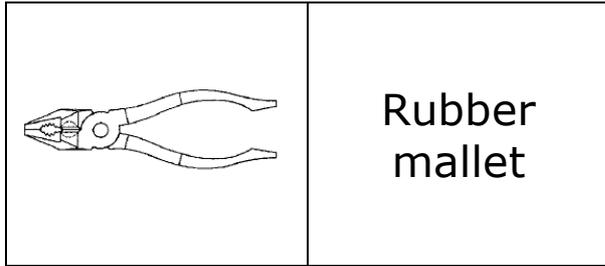
Family: cutting

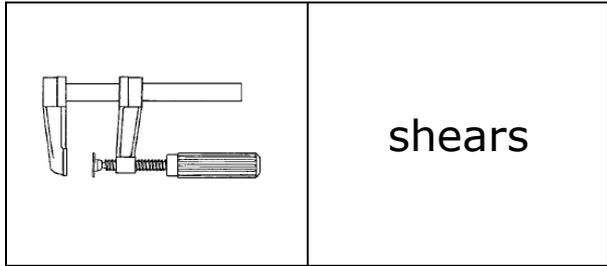
Actions: cutting metals

Materials: metals

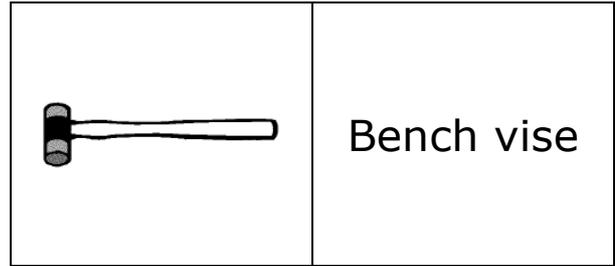
Examples of use: cut a bar of metal or any other metallic piece

Security: use additional tools to hold the metal piece or gloves

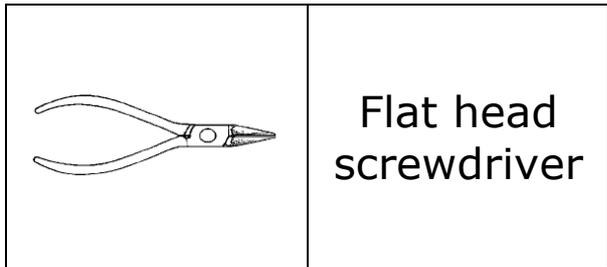




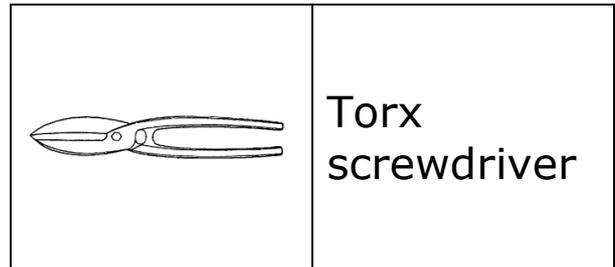
shears



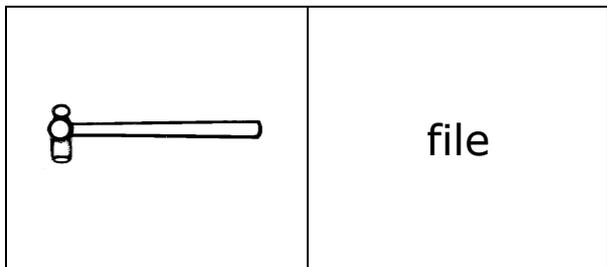
Bench vise



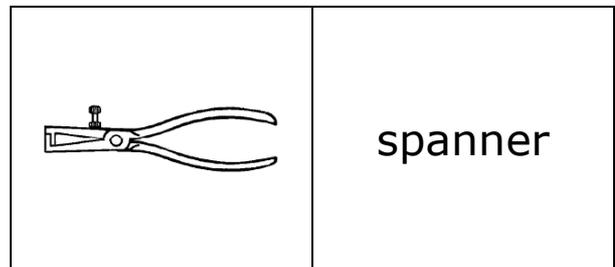
Flat head
screwdriver



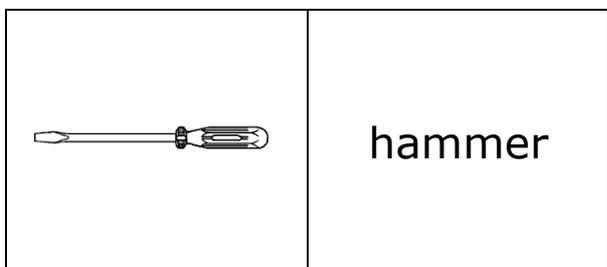
Torx
screwdriver



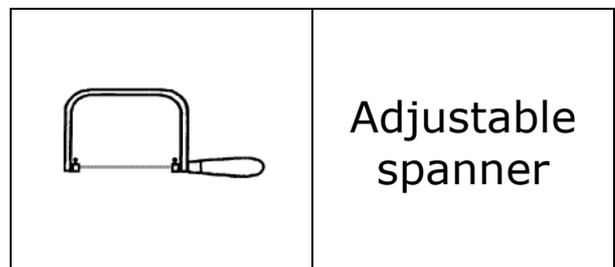
file



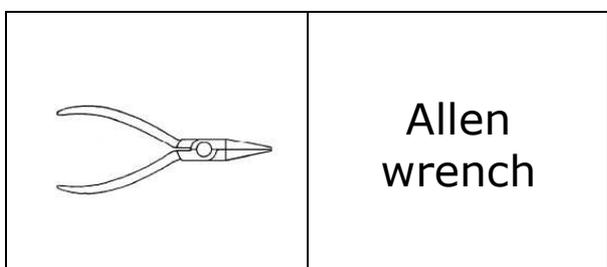
spanner



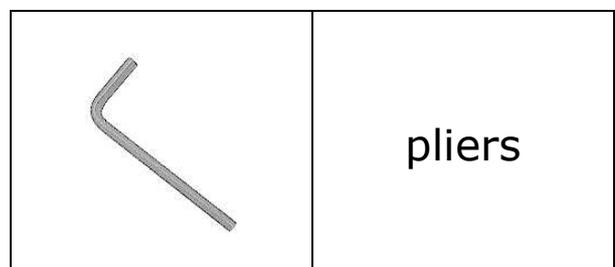
hammer



Adjustable
spanner



Allen
wrench



pliers

hacksaw

1. metal
2. teeth
3. frame
4. handle

tenon saw

1. wood
2. back
3. handle
4. teeth

coping saw

1. teeth
2. frame
3. curves
4. backwards

ruler

1. measuring
2. millimetres
3. steel
4. marking out

try square

1. 90°
2. right angle
3. marking out
4. wood

flat file

1. metal
2. teeth
3. handle
4. remove

plane

2. wood
3. sizes
4. blade
5. cast iron

chisel

1. sharp
2. wood
3. removing
4. mallet

hammer

1. wooden
handle
2. head
3. hit
4. strike

scriber

1. point
2. scratch
3. mark out
4. metal

pliers

1. grip
2. cut
3. handles
4. pivot

bradawl

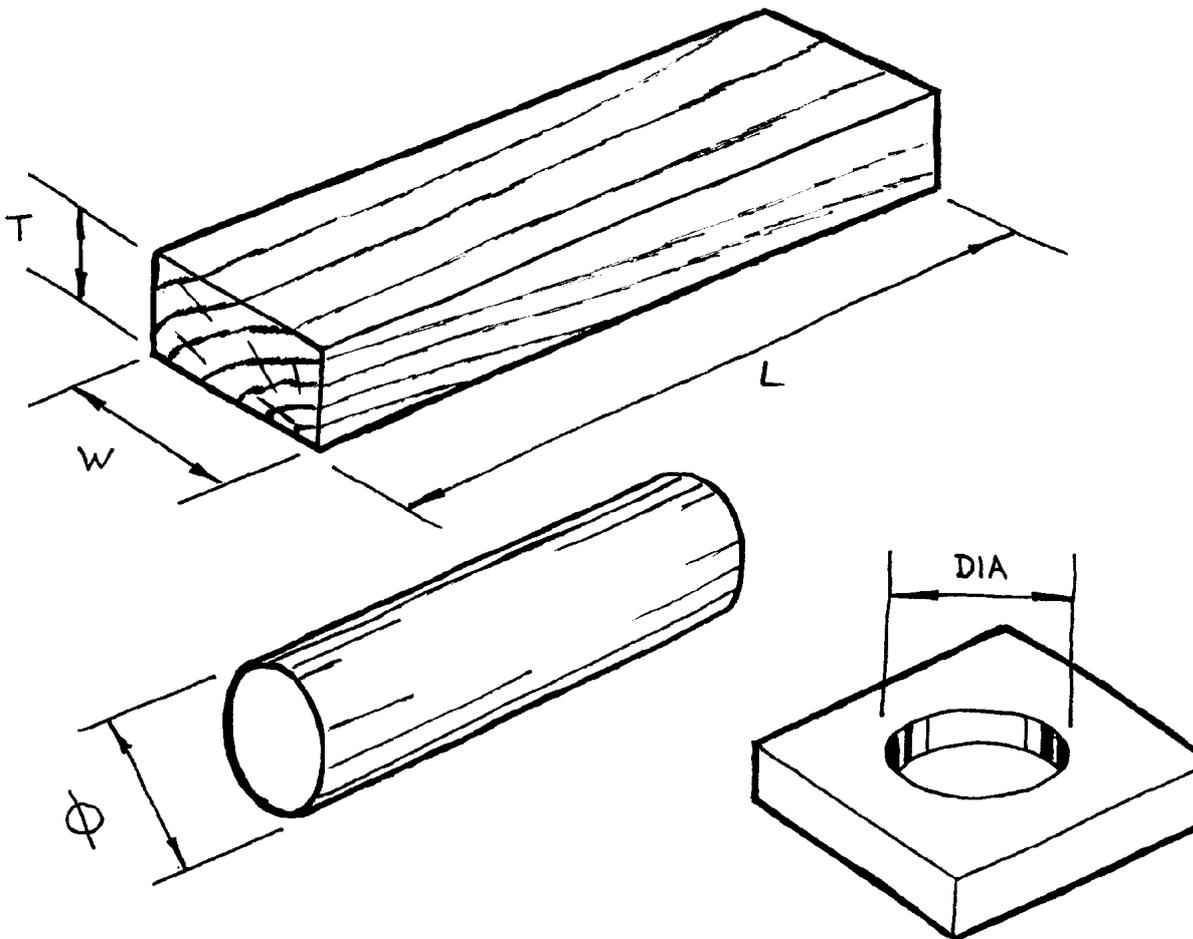
1. pilot hole
2. turn
3. push
4. wood

HANDOUT 1. MEASURING LENGTH.UNITS AND ABBREVIATIONS:

Sizes are taken in millimetres (mm), centimetres (cm), metres (m)...

Here are some abbreviations used when measuring.

- mm = Millimetres
- L = Length
- W = Width
- T = Thickness
- ∅ or DIA = Diameter



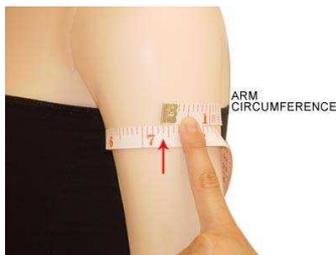
HANDOUT 2. MEASURING LENGTH

1. Look at the following objects and choose which measuring tool is the most suitable:



2. Make a sentence with the help of the following table:

I use a	tape measure	to measure	my height
	caliper		the width of the rubber
	ruler		the length of the book



e.g.: I use a tape measure to measure the arm's circumference

1. _____

2. _____

3. _____

HANDOUT 3.Measuring with the ruler

1) Use a ruler to measure the lengths of the lines below:



The line is _____cm



The line is _____cm



The line is _____cm



The line is _____cm



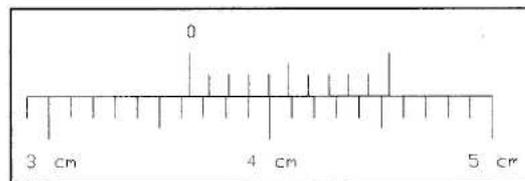
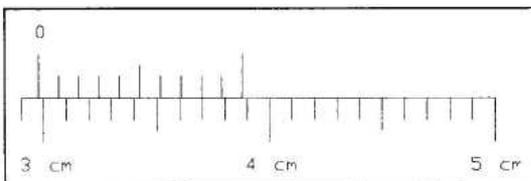
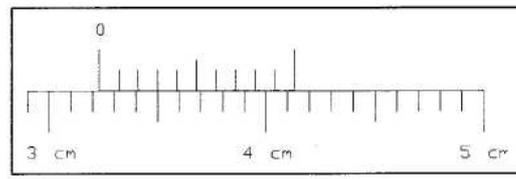
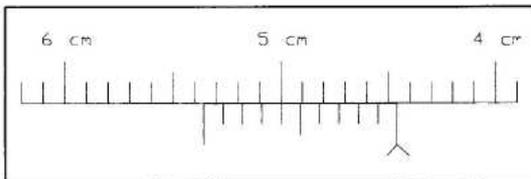
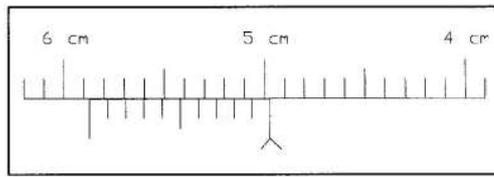
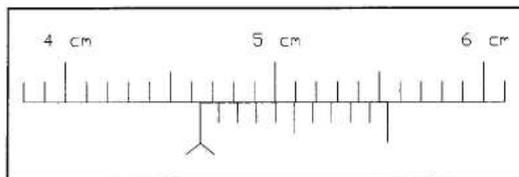
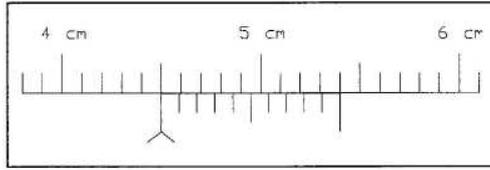
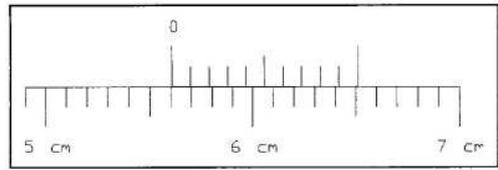
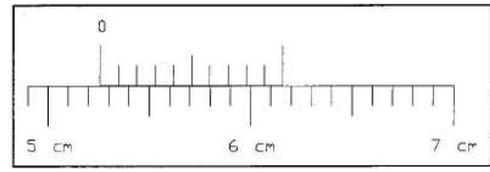
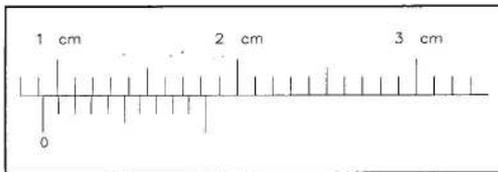
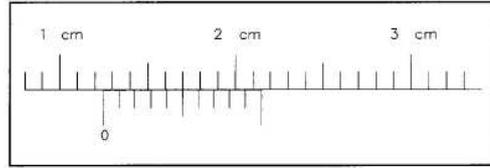
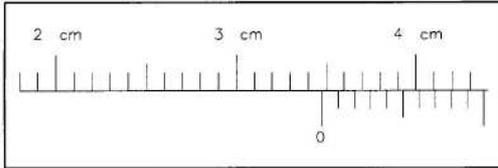
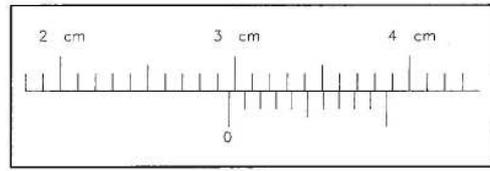
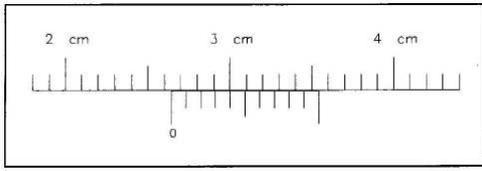
The line is _____cm

10cm	5cm	15cm
9cm	3cm	



HANDOUT 4.MEASURING WITH THE CALIPER:

Write under each diagram the measure:



HANDOUT 5.MEASURING LENGTH

Use the caliper to measure the following things (work in pairs).When you have finished try it with the digital caliper and compare the results

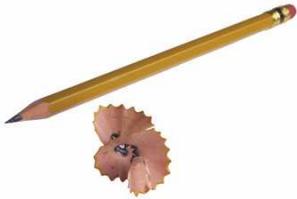
Rubber width:

length:

thickness:



Width of a sheet of paper:



Thickness of a pencil:

Depth of the cap of a bottle:



Diameter of a bolt:



Diameter of the hole of a nut:

Thickness of a notebook:



Thickness of a book:



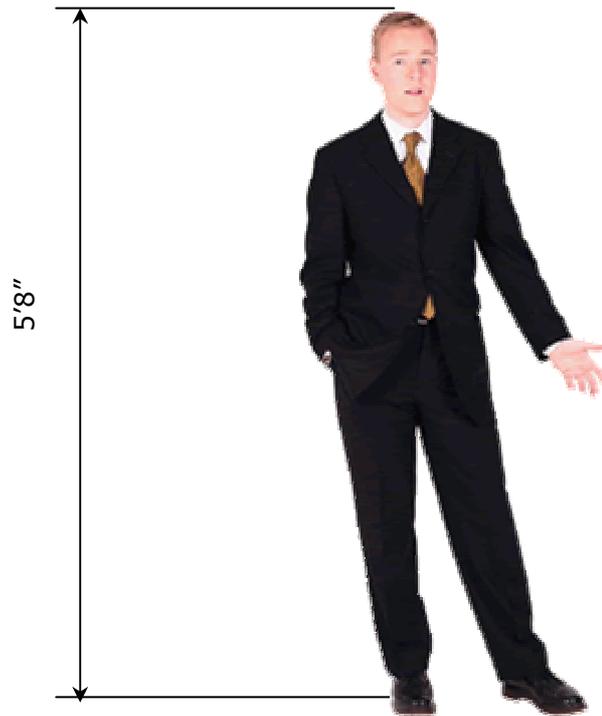
Thickness of an electric wire:

HANDOUT 6.OTHER UNITS:

Brian says that his height is 5' 8", he says that like this: " I measure five feet and eight inches". He is English, and in England they use other units for expressing length. Try to find out the equivalence of foot and inches in centimetres. Then express your own height in feet and inches.

1 foot = ____cm

1 inch = ____cm



Brian's height in metres:

Your height in metres and in inches:

HEALTH AND SAFETY:

In the workshop it's very important to be careful

These are signs that tell you that there is a **danger**:



Danger



High voltage



Flammable



Poison

There are other signs that show **prohibition**:



Prohibition



no smoking



no entry



no mobile phones

There are other signs that show the **obligation** of wearing safety clothes:



Helmet



boots



goggles

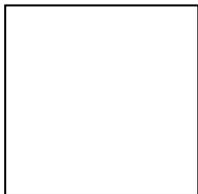


gloves

1. Now draw one of those signs and make a sentence like this one:

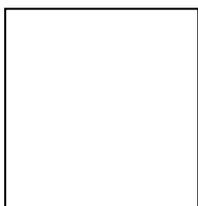


This sign means: danger of High Voltage



This sign means: _____

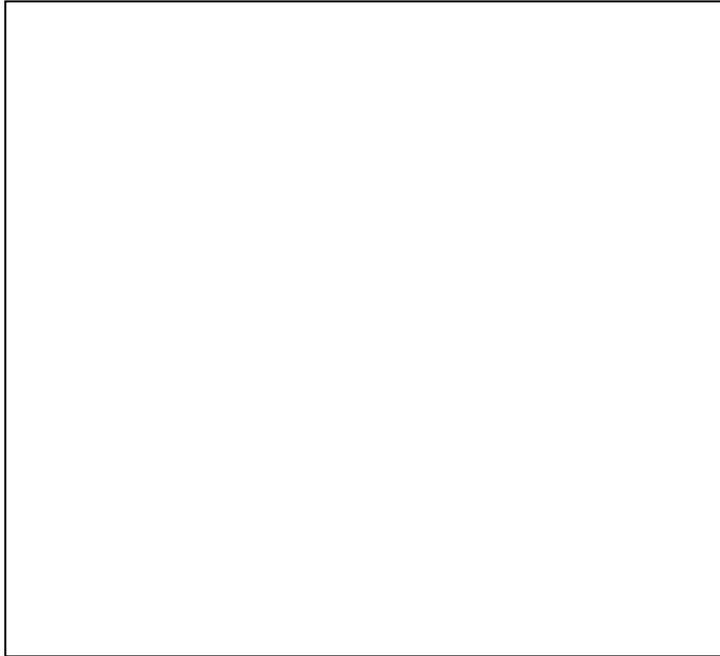
2. Invent your own sign. Look at the colours and shapes you have to use, and then explain what it means:



This sign means: _____

3. In groups of four choose 4 signs for the school workshop; you have to decide which are the most important.

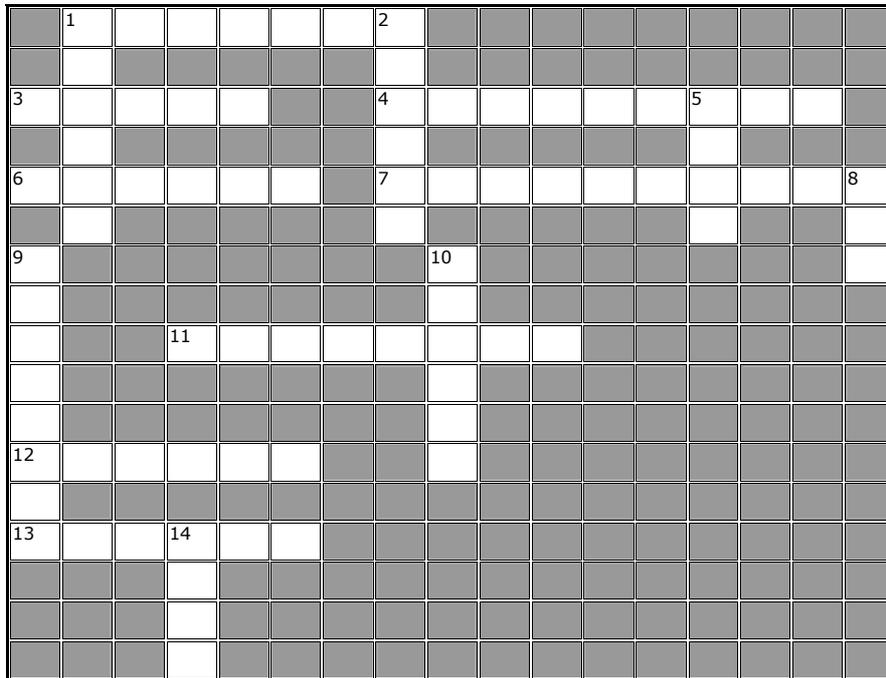
4. Now each one in the group has to draw one of those signs. Do it in the following square:



5. Discuss with your group in what part of the workshop should be the sign you have drawn. Write down your decision and try to explain it:

6. Health and safety crossword:

Try to solve the crossword with the words from the lesson; you can discuss the solutions with your classmates.



ACROSS

- 1. Protection for the eyes
- 3. Protection for the feet
- 4. Substance that burns easily
- 6. Protection element for the head
- 7. Danger signs are (shape)...
- 11. Prohibition signs are (shape) ...
- 12. Condition of being free from disease
- 13. Substance that causes illness or death to living organisms

DOWN

- 1. Protection for the hands
- 2. Condition of being certain that risks of accident are minimal
- 5. The colour of the obligation signs
- 8. The colour of the prohibition signs
- 9. Special classroom prepared for design and build objects
- 10. The colour of the danger signs
- 14. Drawing that gives information

PROJECT NAME:

Authors:

Class:

Date:

Teacher:

DEFINITION:

Explain in few words what you want to do.

LIST OF TOOLS:

MAKE A LIST OF THE TOOLS YOU USE AND THE OPERATION YOU DO WITH THEM:

E.g.: **We use the rasp to polish the wood**

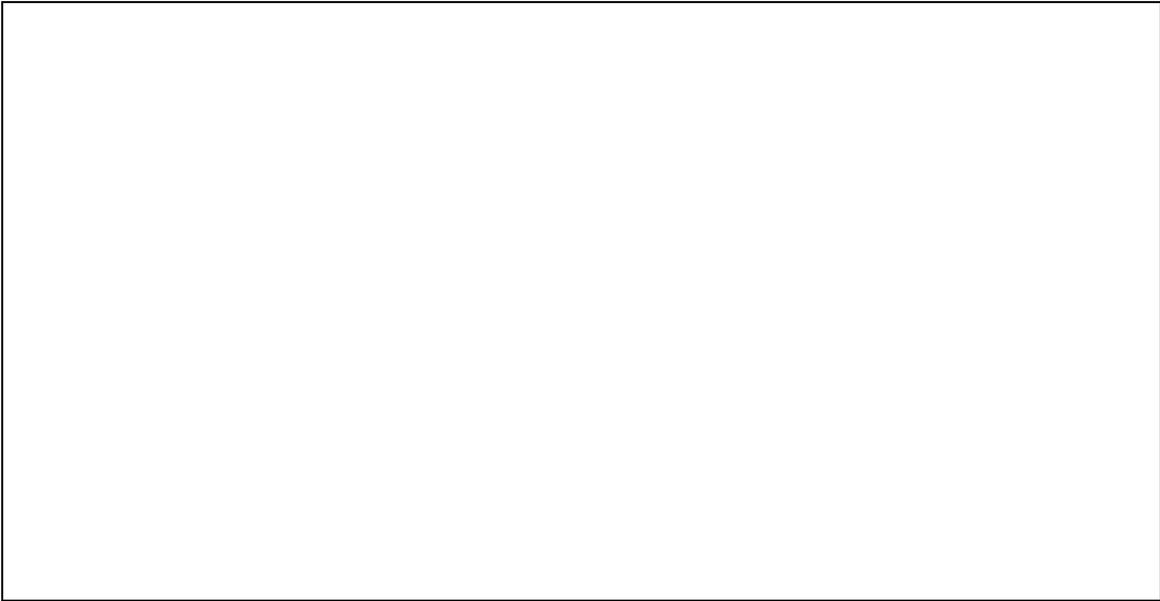
	<i>tool</i>		<i>operation</i>	<i>material</i>
We use the		for		

LIST OF MATERIALS:

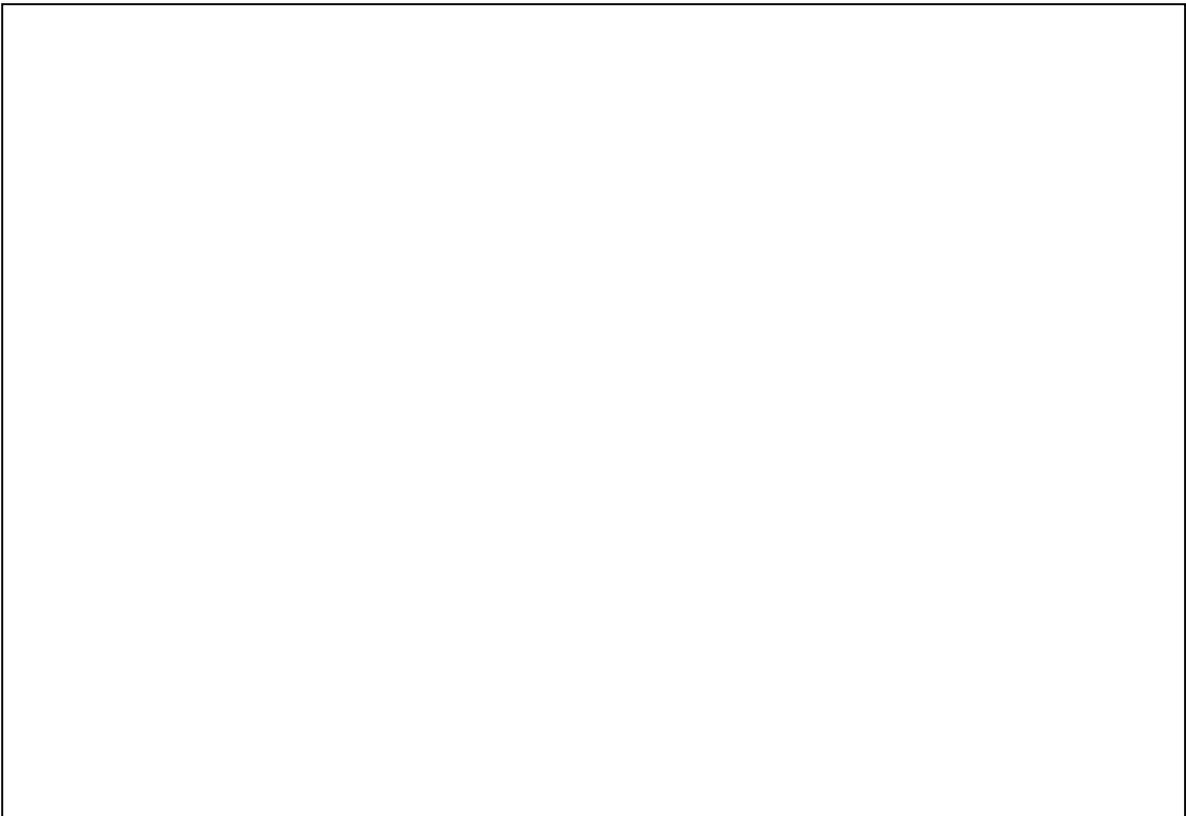
DESCRIBE THE WORK PROCESS:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

DRAW THE DIFFERENT PARTS OR PIECES:



DRAW A SKETCH OF THE WHOLE PROJECT:



EVALUATE:

Look at the results and think if they are like you planned, if you could add changes, if the solution is what you wanted, if it was difficult, easy, long, cheap, expensive,...etc