

### Unit 1 : The Technological Process

Write a summary of this unit and do the next activities:

1. Fill the gaps

- a) Technology produces \_\_\_\_\_ and develops \_\_\_\_\_ or strategies that solve \_\_\_\_\_ and \_\_\_\_\_ our needs.
- b) An object can be a \_\_\_\_\_, \_\_\_\_\_ or \_\_\_\_\_.
- c) Technology is the practical application of \_\_\_\_\_ (science) and \_\_\_\_\_ (technology) to create a \_\_\_\_\_ that allows human beings to \_\_\_\_\_ their needs or problems.
- d) When a \_\_\_\_\_ has been found, it is converted into a \_\_\_\_\_. This is a skill we know how to do and that is used for future \_\_\_\_\_. This is the base of \_\_\_\_\_.

2. Fill the chart below

<b>Need</b>	
<b>Idea</b>	
<b>Development of the idea</b>	
<b>Construct</b>	
<b>Verification</b>	

3. Give **three** examples of **sources of information**.

4. Name and briefly explain the seven aspects you should evaluate in your project.

5. Name the 5 models of societies and explain their characteristics.
  
  
  
  
  
  
  
  
  
  
6. Write a list (at least 4 words) with the MATERIALS the primitive humans use and transform into objects.

## Unit 2: Graphic Expression

Write a summary of this unit and do the next activities:

1. Complete these sentences using the right words:

- a) Pencils have ..... (en català, "mines") of different hardness in a scale that ranges from "B" to "H".
- b) The most common protractor has ..... degrees.
- c) We use compass to draw circumferences and .....
- d) The space between the two points of the compass is the ..... Of the circle.
- e) ..... (en català, "escaire") is a right-angle isosceles triangle with one angle of  $90^\circ$  and two of ..... Degrees.

2. Give five examples of things that you would scale down to draw them.

3. Give five examples of things that you would scale up to draw them.

4. Write "T" (for true) or "F" (for false) at the end of the sentences:

- a) A sketch is a freehand drawing of an object .....
- b) A sketch is more accurate than a diagram. ....
- c) To draw an ant, we normally scale down .....
- d) The 3 views we use to show an object are Plan (or Top), Back and Side. ....
- e) The scale 1:20 means that the drawing is 20 times bigger than the real dimensions. ....
- f) To draw an elephant, we normally scale down.....

5. Definition of "scale". Write the formula to calculate the scale.

6. Calculate the scale if an object that measures 24 mm is drawn 720 mm long.

7. Calculate the scale if the drawing of an object is 30 cm and the real thing is 60 m.

8. What shall be the width of a 2cm wide rubber if we scale it up 5:1.

9. What should be the height of a 80 cm high table when we scale it down 1:40

10. Trace a triangle knowing its three sides (7,5; 6 and 10,5 cm)

11. Trace a hexagon in a circle with a radius of 2 cm.

12. Draw:

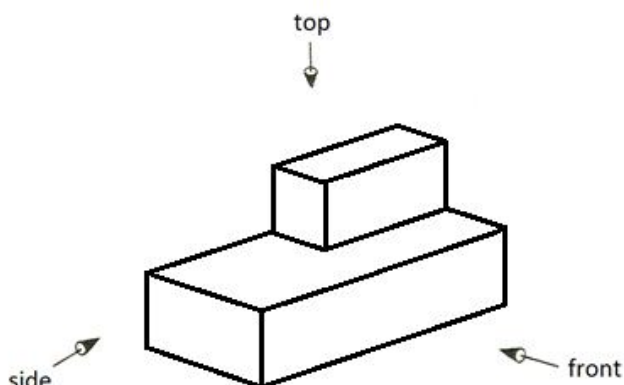
a) Five lines parallel to this line:



b) A line at 60° angle to this line (with compass and ruler).



13. Draw this object in first angle projection. :



**Unit 3: Materials For Technical Use.**

1. Fill the gaps

- a) A \_\_\_\_\_ material is a substance that we get directly from \_\_\_\_\_.
- b) \_\_\_\_\_ material is that has been \_\_\_\_\_ and is available for making other products.
- c) A \_\_\_\_\_ product is an object created by \_\_\_\_\_ \_\_\_\_\_ to satisfy a need or improve the quality of life.
- d) To make a \_\_\_\_\_ product, we follow this process: we \_\_\_\_\_ raw materials from \_\_\_\_\_. We \_\_\_\_\_ the raw materials into \_\_\_\_\_ materials. We use these \_\_\_\_\_ materials to make \_\_\_\_\_.

2. Classify these materials as finished products, raw or processed materials:

Book / wooden plank / cotton / sand / glasses / chair / TV / plastic / iron bar / tree trunk		
raw materials	processed materials	finished products

3. Write 2 sequences of 3 to show how “raw materials” are transformed into “finished products”.

raw materials	processed materials	finished products

4. Explain where the next materials come from give examples of their use.

- a) Wood
  
- b) Metals
  
- c) Plastics
  
- d) Textiles

e) Glass

f) Ceramics

5. Fill in the blanks in this grid about properties of materials.

Properties	materials		
	wood	Metal	plastic
Electrical conductivity			No
fragility		No	
Permeability	yes		
Oxidation			

6. Draw with a pencil a cross-section of a tree trunk and label the layers. (Do it at the back of this paper).

7. Complete these sentences about plywood using the right words:

- We make plywood with thin layers of wood that we call v.....
- We glue several of this layers on top of each other to obtain the desired t.....
- Plywood is very resistant because the fibres go in two different d.....
- We make veneers using whole l.....
- It is easy to make large plywood b .....without defects as knots.

8. Complete these sentences about fibreboard using the right words: [10 points]

- Fibreboard is made of a m ..... of glue and wood fibres and particles.
- It is much c..... than natural wood because it's made from spare wood.
- Fibreboard is h..... than natural wood because its materials are compressed.
- Fibreboard do not accept n..... or s..... because the fibres would crumble.
- We use fibreboard to make cheap f.....

9. Write a diagram to summarise the steps to produce paper.

10. Select the correct option:

- a)  We transport the trees by lorry or by floating them down rivers to a sawmill where we cut them into wood planks.
- We transport the logs by lorry or by floating them down rivers to a sawmill where we cut them into wood planks.
  - We transport the logs by lorry or by airplane them down rivers to a sawmill where we cut them into wood planks.
  - We transport the logs by lorry or by floating them down rivers to a sawmill where we cut them into spheres.
- b)  Varnish is a soft resin spread over the surface of the component before the final manufacture of the object.
- Varnish is a hardened resin spread over the surface of the component before the final manufacture of the object.
  - Varnish is a soft resin spread over the surface of the component after the final manufacture of the object.
  - Varnish is a hardened resin spread over the surface of the component after the final manufacture of the object.
- c)  We make plywood with thin layers of mahogany that we call "veneers".
- We make plywood with thick layers of wood that we call "veneers".
  - We make plywood with thin layers of wood that we call "veneers".
  - We make plywood with thick layers of resin that we call "veneers".
- d)  "Chemical pulping" breaks the structure of lignin to separate it from the cellulose fibres. Lignin is a complex molecule in plants. We wash the lignin to have a pure cellulose pulp. We put bleach in the cellulose pulp to make the pulp white and make white paper.
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