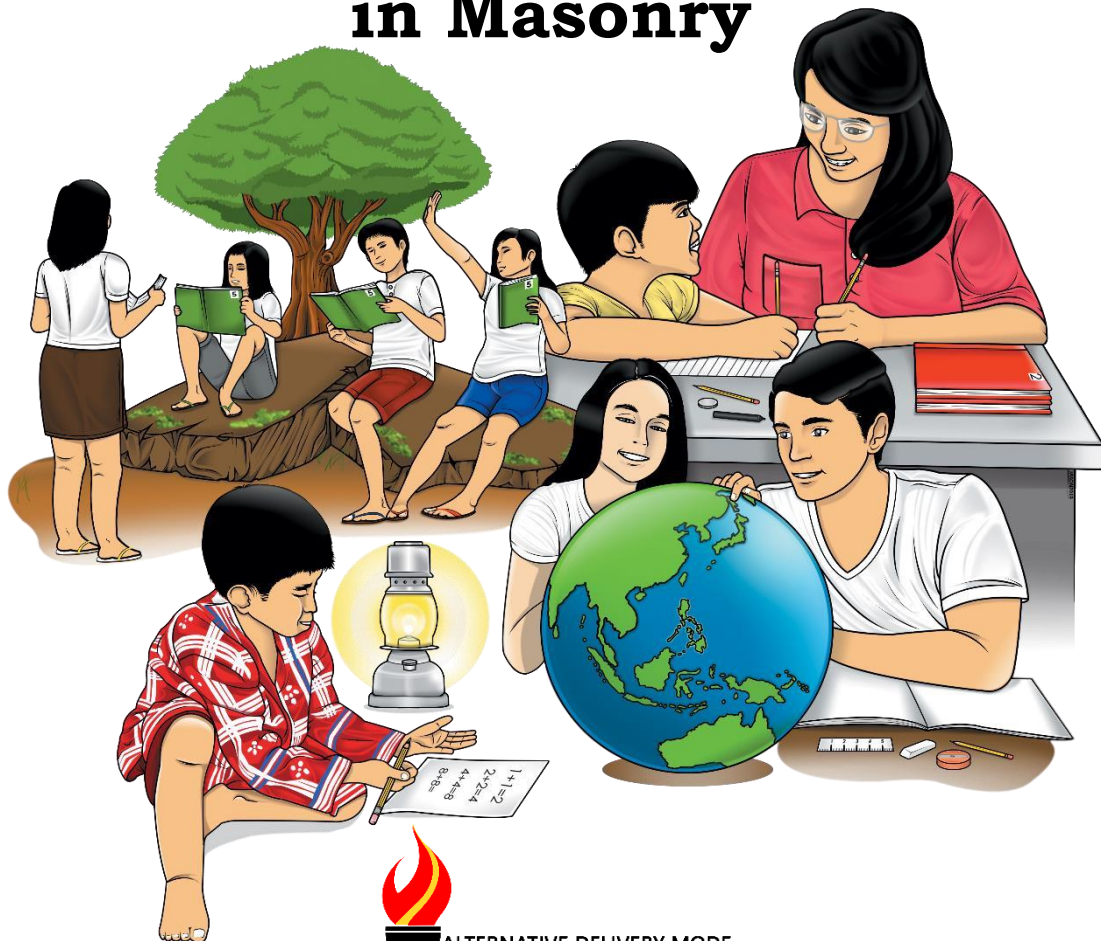


7/8

TLE Masonry

Module 1: Preparation of Materials and Tools Using the Different Forms in Masonry



TLE Masonry – Grade 7/8

Alternative Delivery Mode

**Module 1: Preparation of Materials and Tools Using the Different Forms in Masonry
First Edition, 2020**

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Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners can continue your studies and learn while at home. Activities, questions, directions, exercise, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step by step as you discover and understand the lesson prepared for you.

Pre tests are provided to measure your prior knowledge on the lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text. Note to the teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put necessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

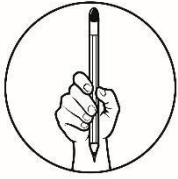
This module was designed and written with you in mind. It is here to help you master the Preparation of tools and materials using the different forms in masonry. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

The module is divided into two learning outcomes, namely:

- LO 1 Prepare Masonry Materials and Tools for the task
- LO 2 – Request appropriate masonry supplies materials and tools applicable to a specific job.

After going through this module, you are expected to:

1. Prepare a list of masonry tools and materials for a specific job (TLE_IAMS7/8UT-0a-1); and
2. Use the appropriate form in requesting for masonry tools, supplies, and materials for a specific job. (TLE_IAMS7/8UT-0b-2)



What I Know

Pre-Test

Let us determine how much you already know about identifying tools and materials applicable to a specific construction job.

Direction: Select the letter of the correct answer. Write your answers in your activity notebook.

1. What do you call the structural construction of component parts laid in and bound together by a material called mortar?
A. Building
B. Masonry
C. Stone
D. Bricks
2. Which of the following is masonry material?
A. Brick
B. Granite
C. Glass block
D. All of the above
3. What international code requires that the quality of masonry materials should be of general standards?
A. Association of International Architectures Code
B. Association of International Engineers Code
C. 2003 International Building Code
D. 2005 International Building Code
4. What material emphasizes the structure of masonry materials?
A. Mortar
B. Cement
C. Steel
D. CHB
5. Which of the following has a formal appearance of a bond pattern?
A. Rubble stone
B. Combination ashlar
C. Random ashlar
D. None of the above
6. What is CHB stand for?
A. Cemented Hollow Block
B. Coded Housing Buildings
C. Concrete Hollow Block
D. None of the these
7. Are there how many classifications of masonry tools have?
A. 2
B. 3
C. 4
D. 5

8. Which is NOT a roughing up tool?
- | | |
|----------------|------------------|
| A. Crandall | C. Patent hammer |
| B. Cold chisel | D. Claw hammer |
9. Which is NOT a finishing tool?
- | | |
|-----------------|----------------------|
| A. Bull float | C. Devil floating |
| B. Carpet float | D. None of the above |
10. Which is NOT part of the group?
- | | |
|---------------------|----------------------|
| A. Brick trowel | C. Edger |
| B. Buttering trowel | D. None of the above |
11. Which contains information about certain services required for performance?
- | | |
|--------------------|---------------------------|
| A. Borrower's slip | C. Requisition slip |
| B. Job order slip | D. Borrower and Job slips |
12. Which specifies a demand for materials, supplies, or tools?
- | | |
|--------------------|---------------------------|
| A. Borrower's slip | C. Requisition slip |
| B. Job order slip | D. Borrower and Job slips |
13. Which of the following contains an accepted form of a request for tools, materials, and equipment on due time?
- | | |
|--------------------|---------------------------|
| A. Borrower's slip | C. Requisition slip |
| B. Job order slip | D. Borrower and Job slips |
14. How many signatories are there in the Requisition Slip?
- | | |
|------|------|
| A. 1 | C. 3 |
| B. 2 | D. 4 |
15. What happens when any of the slips lack the necessary data?
- | | |
|---------------------------------------|----------------------------|
| A. There is a delay in processing. | C. Misunderstanding occurs |
| B. Promptness of approval is at stake | D. All of the above |

Lesson

1

Preparation of Materials and Tools Using the Different Forms in Masonry

Masonry is the structural construction of component parts laid in and bound together by a cloth called mortar. The common materials are tile, brick, granite, limestone, glass and concrete block, stucco, marble, stone, and travertine. The production of masonry units should generally conform to the wants within the 2003 International code (IBC) Section 2103. Aside from mortar, assembling these units are often reinforced appropriately by steel (rebar) that gives much strength to structures.



What's In

Do you have some construction materials at home ? List down the different masonry tools and materials shown in the picture.

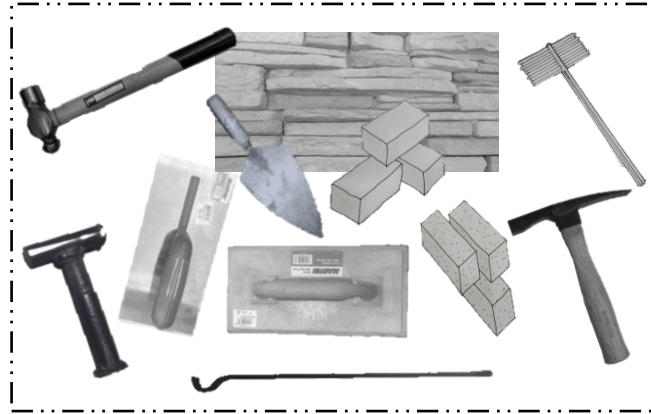


Figure 1: masonry tools and materials



Notes to the Teacher

1. Read the lessons properly. These will guide you to do at the end of this module.
2. Find out what you already know by taking the learning activities.
3. Apply what you have learned in another activity or real life situation.



What's New

Activity 1: Match Up Masonry Materials

Direction: Match the words with the correct description of the different masonry tools and materials.

(1) Bricks

(2) Ashlar

(3) Rubble

(4) Patent Hammer

(5) Crandall

(a.)

A quarry cut to produce a smooth, flat bedding surface that stack easily.

(b.)

A tool in the Bush Hammer family that has removable teeth that are held in place by a simple wedge.

(c.)

It is a building material used to make walls, pavements, and other elements in masonry construction.

(d.)

It is a stone that is irregular in size, shape, and texture. Field stone is one type of rubble.

(e.)

It is a tool made of tempered steel used for cutting 'cold' metals, meaning that they are not used in conjunction with heating torches, forges, etc.

(6) Cold Chisel

(f.) A heavy metal device with one end flattened, split to create a 'V' for pulling nails from objects and curved so can be used in a lever action for prying and demolishing.

(7) Wrecking Baron

(g.) A steel rock drill with a star-shaped point that is used for making holes in stones or masonry

(8) Star Drill

(h.) It is a hammer used by blacksmiths to complete metal work.

(9) Bolster

(i.) A two-faced hammer, each of whose faces is composed of a number of parallel thin chisels; used for dressing

(10) Cross Pen Hammer

(j.) It is used to help break through hard materials by hand such as stone, brick, and metal.



What is It

Activity 2

Guide Questions:

Answer the following questions and write your answer in your activity notebook.

1. Have you seen any masonry materials and tools in your community? Give some examples.

2. List down the commonly used masonry tools and materials and identify their uses?

3. Why do you think these tools and materials are beneficial to masons?

4. In requesting a masonry supply, do you think it is important to follow the procedure? Why?

Masons cannot do their job without these materials and tools. These materials made the work of masons easier in building walls, structures and walkways. Here are some of masonry tools and materials.

Stone Types and Varieties of Bond Pattern

Masonry stones are in various forms and set in several patterns, counting on certain considerations. Such stones varieties and purposes are:

1. **Ashlar** - is a quarry cut to produce smooth, flat bedding surface that stack easily. It is generally digging small rectangles with sawed or dressed face.



Figure 2: Ashlar

2. **Random ashlar** - is an arrangement of stones wherein various sizes are used to bricks wall. However, course ashlar has a formal appearance.

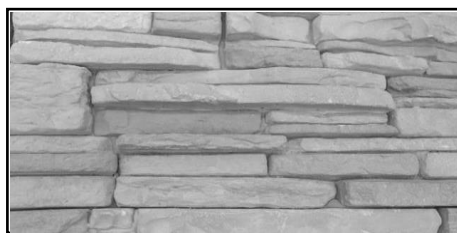


Figure 3: Random Ashlar

3. **Rubble** - is irregular in size, shape, and texture of stone. Fieldstone is one type of rubble. Random rubble is typically dry-laid but also can be mortared. Course rubble features a neater appearance than random rubble but harder to construct and requires an outsized selection of stones.

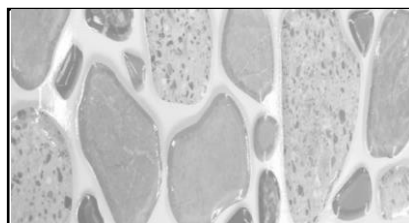


Figure 4

Bricks - is an element in masonry construction that make artifact walls, pavements, and others.

There are three classifications of bricks:

1. **Common Bricks** - are made up of clay and sold at the market.

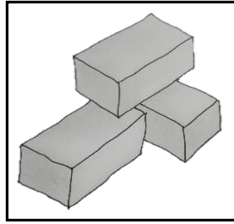


Figure 5: Common Bricks

2. **Face Bricks** - is an architectural structure that is used for exterior and interior of walls.

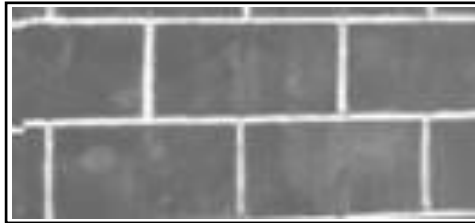


Figure 6: Face Bricks

3. **Calcium Silicate Bricks** - are made with alumina and silica and are used for furnaces and other structures that need higher temperatures up to 1780 C.

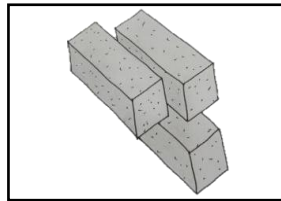


Figure 7: Calcium Silicate Bricks

BLOCKS

There are many sorts of blocks which are most generally used as masonry materials.

1. The **CHB or Concrete Hollow Block** is used for all the types of construction walls, partitions, dividers, fences, etc., it. Generally, a block consists of an outdoor shell with a hollow center that's divided by two or three vertical webs. The end unit may have flanges that accept mortar and join with the opposite adjacent blocks (except blocks intended for corners and therefore the end of the walls).



Figure 8: CHB

MASONRY TOOLS

Appropriate tools are adopted in masonry to suit the type of labor involved. It also includes some carpentry tools like measuring tools, testing tools, and fastening tools.

Classification of Masonry Tools:

1. Roughing up Tools
2. Surface finishing tools

Roughing up tools are tools necessary within the process of preparing, arranging, forming, laying, and shaping of bricks, stones, and masonry blocks.

Tools of this type of work are mostly striking tools such as:

1. Masons Axe or Ax-Hammer - is used in two different ways. The ax to serve as a chisel and the hammer for driving nails and other rough work in masonry.



Figure 9: Masons Axe

2. Patent Hammer - A two-faced hammer, each of whose faces is composed of a number of parallel thin chisels; used for dressing stone.



Figure 10: Patent Hammer

Brick Hammer - Stonemason's hammer, also known as a brick hammer, has one flat traditional face and a short or long chisel-shaped blade. It can be used to chip edges or small pieces of stone, cut brick or a concrete masonry unit, without employing a separate chisel.



Figure 11: Brick Hammer

3. Crandall - is a tool in the Bush Hammer family that has removable teeth that are held in place by a simple wedge. It is most often used to surface sandstones that tend to simply flake away if struck with the common type of Bush Hammer.

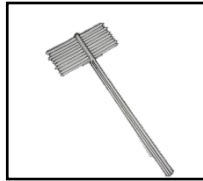


Figure 12: Crandall

4. Cross Pen Hammer - is a hammer used by blacksmiths to complete metalwork. The wedge-shaped end of the hammer allows you to form the metal fuller when used with heat.



Figure 13: Cross Pen Hammer

5. Cold Chisel - is a tool made of tempered steel used for cutting 'cold' metals.



Figure 14: Cold Chisel

6. Star Drill - a steel bore bit with a star-shaped point that is used for making holes in stones or masonry.

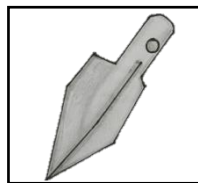


Figure 15: Star Drill

7. Bolster - are used to help break through hard materials by hands such as stone, brick, and metal. They have a handle and strong beveled edge blade that will cut through material with the help of a hammer or mallet.



Figure 16: Bolster

8. Wrecking Baron - is a heavy metal device with one end flattened, split to create a 'V' for pulling nails from objects and curved so can be used in a lever-action for prying and demolishing.

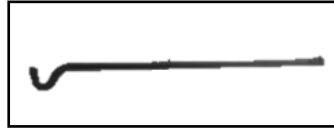


Figure 17: Wrecking Baron

Surface Finishing Tools and their Classifications

Surface finishing may be a process that needs a spread of tools, materials, and – most significantly – highly specialized skills. One of the most technically advanced types of surface finishing is mold making, where the surface of the mold has a direct impact on the surface of the product being molded.

1. Float
2. Trowels

Floats Classification

Common Float

1. Bull Float
2. Carpet Float
3. Devil or Nail Floating
4. Angle Floating

Different Kinds of Trowel

Ordinary Trowel

1. Pointing Trowel
2. Brick Trowel
3. Buttering Trowel
4. Edger
5. Margin Trowel

JOB ORDER AND REQUISITION SLIPS

A requisition is formed through a required form referred to as requisition slip or within the sort of a letter if the previous isn't available. Most offices use uniform requisition slip, while others have their own. In school shops, teachers are creative enough to plan their own form to suit their local needs. The practice of using requisition slip promotes proper monitoring of supplies, materials, tools, and performance and accomplishment of required service or services among others. Here are some samples of requisition forms consistent with their purpose.

Requisition Form

Serial No.: _____

Date: _____

Item No.	Description	Quantity	Unit	Unit Price	Total price

Total Price _____

Requested by: _____

Signature of Department Head: _____

Received by: _____

Signature of Stores Manager: _____

Date: _____

Time: _____

Table 1: Requisition form

Borrower's Slip

This form is employed for borrowing materials, tools, equipment. Its use promotes proper monitoring of inventories. It has numerous purposes that outweighs disadvantages. This form is devised according to the need of the office or accountable officer. Adopting this system necessitates observing certain rules and penalties for violators.

BORROWER'S SLIP

Name of Borrower: _____

Date: _____

Description	Quantity	Remarks

Signature of Borrower

Noted By:

Date returned: _____

Warehouse In-charge

Table 2: Borrower's Slip

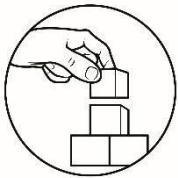
Requisition Procedure

In the maximum amount as some offices or school shops don't use the electronic method, a requisition is formed on a prepared slip available to be used. Completed Requisition Form is an important step in efficiently securing your order. The requisitioning process is done by an authorized person.

1. Accomplish the slip with the required data.
2. Have it approved or signed by your commissioned officer or immediate supervisor?
3. Forward the slip to the officer in charge of purchases, procurement, or preparation and release of requisitioned items.

Here is the information to teach you follows how to accomplish the form in order to purchase materials.

1. State the name of the requestor and the date you requested the materials.
2. Fill in the requisition form or purchase order request form.
3. Write the number of items, qty of materials.
4. List the unit of materials to be requested.
5. Enumerated the materials with their description.
6. List the cost per unit and total price.
7. Write your name as a requestor.
8. Secure the approval of authorities.



What's More

Activity 3

Direction: A. Supply what is defined or described. Write your answer on your activity notebook.

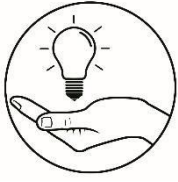
- _____ 1. It is a two-faced hammer.
- _____ 2. Also known as Ax-Hammer.
- _____ 3. It is a Stonemason's hammer
- _____ 4. It's a hammer used by blacksmiths.
- _____ 5. It's a tool in the Bush Hammer family.
- _____ 6. It is a tool made of tempered steel used for cutting 'cold'.
- _____ 7. Tools used to help break through hard materials by hand such as stone, brick and metal.
- _____ 8. A steel bore bit with a star-shaped point that's used for making holes in stones or masonry.
- _____ 9. Is a heavy metal device with one end flattened, split to create a 'V'.
- _____ 10. Tools needed in the process of preparing, arranging, making, laying, and shaping of bricks, stones, and masonry blocks.

B. Complete the form with the missing information. Answers will be provided inside the box.

REQUEST FORM			
Name: _____		Date: _____	
Quantity	Unit	Description	Total
4		Wood	350.00
1		cement	250.00
10	pcs		
2		paint	250.00
4	pcs		72.00
		Total	

_____ Signature	_____ Noted by: Mr. Ed D. Maglayo
Date purchased: _____	_____ In-charge

Jaime H. Mantis	August 30, 2020	10.50
bag	bricks	932.50
pieces	galloons	September 5, 2020
hallow block	steel	



What I Have Learned

Directions: Fill in the blank. Select the answer provided inside the box. Write your answer in your activity notebook.

Masonry	Bricks	ashlar
random ashlar	rubble	fastening tools
Concrete Hollow Block	measuring tools	testing tools
requisition slip	requisition procedure	

1. _____ is the structural construction of component parts laid in and bound together by a material called mortar.
2. Masonry stone has three (3) general varieties, those are the _____, _____, and _____.
3. _____ is building material used to make walls, pavements and other elements in masonry construction.
4. _____ is used for all the types of construction walls, partitions, dividers, fences, etc., it.
5. Appropriate tools are adopted in masonry to suit the kind of work involved. It also includes some carpentry tools such as the _____, _____, and _____.
6. The practice of using _____ promotes proper monitoring of supplies, materials, tools, and performance and accomplishment of required service or services among others.



What I Can Do

Directions: Supposing you were told to improve the exterior of the rough concrete surface of the front wall of your house. The problem is your tight budget. What will you do?

a. What masonry tools and materials will you use?

b. Why do you choose such materials and tools?

c. What will you do to determine the right quantity of the materials needed?

d. In your requisition form list down the materials, you need for the improvement of your house front wall.

Requisition Form					
Serial No.: _____			Date: _____		
Item No.	Description	Quantity	Unit	Unit Price	Total price
Total Price				_____	
Requested by: _____			Signature of Department Head: _____		
Received by: _____			Signature of Stores Manager: _____		
Date: _____			Time: _____		



Assessment

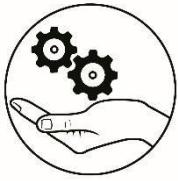
Post-Test

Let us determine how much you already know about identifying tools and materials applicable to a specific construction job.

Direction: Select the letter of the correct answer. Write your answers in your activity notebook.

1. What do you call the structural construction of component parts laid in and bound together by a material called mortar?
A. Building
B. Masonry
C. Stone
D. Bricks
2. Which of the following is masonry material?
A. brick
B. granite
C. glass block
D. all of the above
3. What international code requires that the quality of masonry materials should be of general standards?
A. Association of International Architectures Code
B. Association of International Engineers Code
C. 2003 International Building Code
D. 2005 International Building Code
4. What material emphasizes the structure of masonry materials?
A. mortar
B. cement
C. steel
D. CHB
5. Which of the following has a formal appearance of a bond pattern?
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B. combination ashlar
C. random ashlar
D. None of the above
6. What does CHB stand for?
A. Cemented Hollow Block
B. Coded Housing Buildings
C. Concrete Hollow Block
D. None of the these
7. How many classifications of masonry tools?
A. 2
B. 3
C. 4
D. 5
8. Which is NOT a roughing up tool?
A. Crandall
B. cold chisel
C. patent hammer
D. claw hammer

9. Which is NOT a finishing tool?
- | | |
|-----------------|----------------------|
| A. bull float | C. devil floating |
| B. carpet float | D. none of the above |
10. Which is NOT part of the group?
- | | |
|---------------------|----------------------|
| A. Brick trowel | C. edger |
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| A. borrower's slip | C. requisition slip |
| B. job order slip | D. borrower and job slips |
14. How many signatories are there in the Requisition Slip?
- | | |
|------|------|
| A. 1 | C. 3 |
| B. 2 | D. 4 |
15. What happens when any of the slips lack the necessary data?
- | | |
|---------------------------------------|----------------------------|
| A. There is a delay in processing. | C. Misunderstanding occurs |
| B. Promptness of approval is at stake | D. all of the above |



Additional Activities

Activity 4

Materials and Tools word search. Find the Ten (10) words of materials and tools you found in the table.

B	L	O	C	K	S	F	G	S	K
O	R	U	B	B	L	E	S	T	L
L	D	I	C	R	Y	D	L	A	P
S	F	R	C	H	Y	G	U	R	S
T	A	A	F	K	T	E	N	D	L
E	F	L	T	E	S	R	R	R	E
R	R	H	G	A	J	V	F	I	W
E	T	S	V	N	O	F	A	L	O
C	R	A	N	D	A	L	L	L	R
D	V	R	R	A	I	O	F	O	T

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



Answer Key

<p style="text-align: center;">Pre-test</p> <p>1. B 2. D 3. C 4. C 5. D 6. C 7. D 8. D 9. D 10. D 11. B 12. C 13. A 14. B 15. D</p>	<p style="text-align: center;">Activity 1</p> <p>1. c 2. a 3. d 4. i 5. b 6. e 7. f 8. g 9. j 10. h</p>	<p style="text-align: center;">Activity 3</p> <ol style="list-style-type: none"> 1. Patent Hammer 2. Masons Axe or Hammer 3. Brick Hammer 4. Cross Pen Hammer 5. Crandall 6. Cold Chisel 7. Bolster 8. Star Drill 9. Wrecking Baron 10. Roughing up tools
<p style="text-align: center;">What I have learned</p> <ol style="list-style-type: none"> 1. Masonry 2. Ashlar, random ashlar and rubble 3. Bricks 4. Concrete Hollow Block 5. Fastening tools, measuring tools, and testing tools 6. Requisition slip 	<p style="text-align: center;">Post-Test</p> <p>1. B 2. D 3. C 4. C 5. D 6. C 7. D 8. D 9. D 10. D 11. B 12. C 13. A 14. B 15. D</p>	<p style="text-align: center;">Activity 4</p> <p>BLOCK BRICKS CRANDALL BOLSTER TROWELS ASHLAR RUBBLE FLOAT EDGER STAR DRILL</p>

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