



DEPARTMENT OF EDUCATION  
SCHOOLS DIVISION OF NEGROS ORIENTAL  
REGION VII

Kagawasan Ave., Daro, Dumaguete City, Negros Oriental



# TLE-IA-CARPENTRY

## Quarter 1 – Module 4: STAKE OUT AND SET BATTERBOARDS



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**TLE - CARPENTRY – Grade 9**  
**Alternative Delivery Mode**  
**Quarter 1 – Module 4: Stake Out and Set Batter Boards**  
**First Edition, 2020**

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**Development Team of the Module**

**Writers:** Marvin B. Ybañez

**Editors:** Rosemarie O. Elum, Jonathan L. Bayaton, Mark Dave M. Bandiola

**Reviewers:** Clifford O. Ignacio, John Paul Jeremiah B. Teves,  
Rosemarie O. Elum, Jonathan L. Bayaton, Mark Dave M. Bandiola

**Typesetter:** Alden B. Deguit

**Layout Artist:** Alden B. Deguit

<b>Management Team:</b> Senen Priscillo P. Paulin, CESO V	Rosela R. Abiera
Fay C. Luarez, TM, Ed.D., Ph.D.	Maricel S. Rasid
Adolf P. Aguilar, Ed.D., TM	Elmar L. Cabrera
Nilita R. Ragay, Ed.D.	
Antonio B. Baguio Jr., Ed.D.	

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**Department of Education –Region VII Schools Division of Negros Oriental**

Office Address: Kagawasan, Ave., Daro, Dumaguete City, Negros Oriental  
Tele #: (035) 225 2376 / 541 1117  
E-mail Address: negros.oriental@deped.gov.ph

# **TLE-IA-CARPENTRY**

## **Quarter 1 – Module 4: STAKE OUT AND SET BATTER BOARDS**



# Introductory Message

For the facilitator:

Welcome to the TLE-IA-CARPENTRY (9) Alternative Delivery Mode (ADM) Module on Stake Out and Set Batterboards!

This module was collaboratively designed, developed and reviewed by educators both from public and private institutions to assist you, the teacher or facilitator in helping the learners meet the standards set by the K to 12 Curriculum while overcoming their personal, social, and economic constraints in schooling.

This learning resource hopes to engage the learners into guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:



### ***Notes to the Teacher***

This contains helpful tips or strategies that will help you in guiding the learners.









As a facilitator, you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Furthermore, you are expected to encourage and assist the learners as they do the tasks included in the module.




For the learner:

Welcome to the TLE - CARPENTRY (9) Alternative Delivery Mode (ADM) Module on Stake Out and Set Batterboards!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning resource while being an active learner.

This module has the following parts and corresponding icons:

 <b><i>What I Need to Know</i></b>	This will give you an idea of the skills or competencies you are expected to learn in the module.
 <b><i>What I Know</i></b>	This part includes an activity that aims to check what you already know about the lesson to take. If you get all the answers correct (100%), you may decide to skip this module.
 <b><i>What's In</i></b>	This is a brief drill or review to help you link the current lesson with the previous one.
 <b><i>What's New</i></b>	In this portion, the new lesson will be introduced to you in various ways; a story, a song, a poem, a problem opener, an activity or a situation.
 <b><i>What is It</i></b>	This section provides a brief discussion of the lesson. This aims to help you discover and understand new concepts and skills.
 <b><i>What's More</i></b>	This comprises activities for independent practice to solidify your understanding and skills of the topic. You may check the answers to the exercises using the Answer Key at the end of the module.
 <b><i>What I Have Learned</i></b>	This includes questions or blank sentence/paragraph to be filled in to process what you learned from the lesson.
 <b><i>What I Can Do</i></b>	This section provides an activity which will help you transfer your new knowledge or skill into real life situations or concerns.

 <b>Assessment</b>	This is a task which aims to evaluate your level of mastery in achieving the learning competency.
 <b>Additional Activities</b>	In this portion, another activity will be given to you to enrich your knowledge or skill of the lesson learned.
 <b>Answer Key</b>	This contains answers to all activities in the module.

At the end of this module you will also find:

### **References**

This is a list of all sources used in developing this module.

The following are some reminders in using this module:

1. Use the module with care. Do not put unnecessary mark/s on any part of the module. Use a separate sheet of paper in answering the exercises.
2. Don't forget to answer *What I Know* before moving on to the other activities included in the module.
3. Read the instruction carefully before doing each task.
4. Observe honesty and integrity in doing the tasks and checking your answers.
5. Finish the task at hand before proceeding to the next.
6. Return this module to your teacher/facilitator once you are through with it.

If you encounter any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator. Always bear in mind that you are not alone.

We hope that through this material, you will experience meaningful learning and gain deep understanding of the relevant competencies. You can do it!



## ***What I Need to Know***

In this module you will learn more about types of batter boards, stake out and set batter boards. It is here to help you understand more about carpentry. The scope of this module permits its use 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.

The module has one lesson:

Lesson 1 - Types of Batter Boards & Stake out and Set Batter Boards

At the end of this module, you should be able to:

1. Identify types of batter board.
2. Set batter board for foundation.
3. Follow procedure in setting batter board.



## ***What I Know***

**Directions:** Multiple Choice: Choose the letter of the correct answer. Write your answers in your notebook.

1. A horizontal board placed when laying out a building.  
a. facial board                      b. batter board                      c. panel board                      d. none
2. What is the distance between the stakes in laying out a building?  
a. 2 feet                      b. 3 feet                      c. 4 feet                      d. 5 feet
3. When constructing a different height of foundation, how do you set the height of the batter board?  
a. according to the height of shortest foundation  
b. according to the average height of the foundation.  
c. according to the height of the tallest foundation.  
d. both a and c
4. The term used to mark stake for the batter board?  
a. grade stake                      b. level stake                      c. stake                      d. all of these
5. Where do you start leveling for the batter boards?  
a. center stake                      b. between the corner and center stake  
c. corner stake                      d. both a and c

**Note: If you get 100% correct in this pre-assessment, skip the lesson but if not and only get 50% to 99% correct, then proceed with the lesson.**



## Lesson

# 1

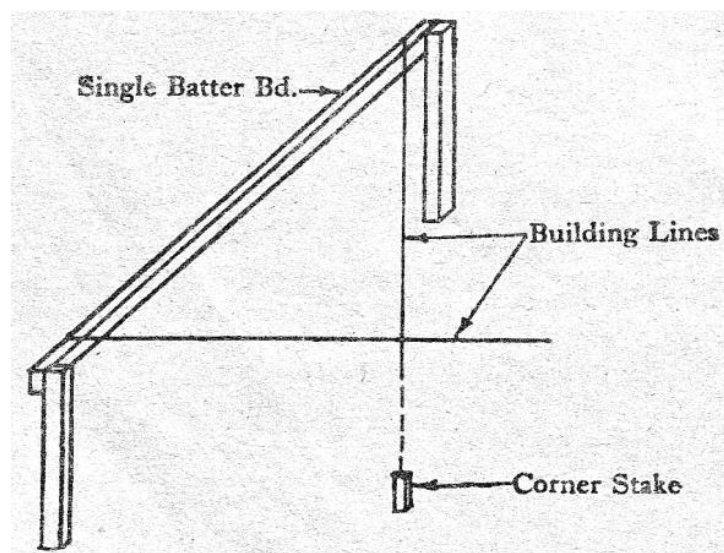
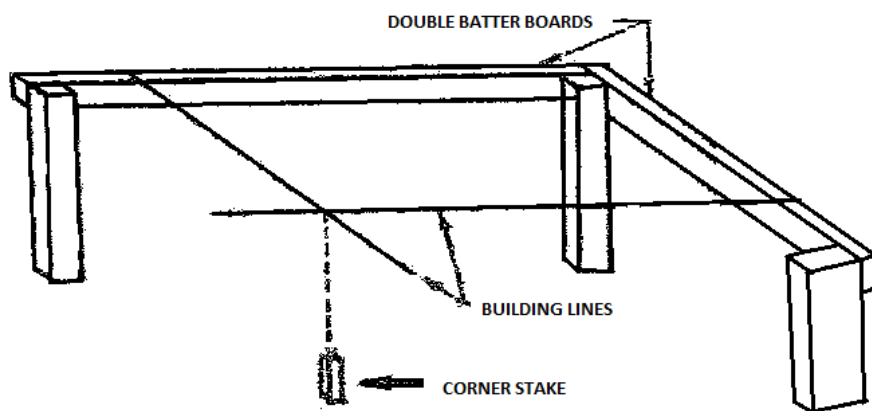
# Stake Out and Set Batter Boards

## Introduction

Batter boards are the horizontal boards placed at the corner and at the sides of the projected building when final layout takes place. The reference for the foundation is marked on these boards.

## Two Types of Batter Boards

1. **Batter boards for foundation posts** – may be either joined by continuous pieces surrounding the site of foundation or by individual piece for each foundation.
2. **Batter boards for the foundation walls** – are either single or double batter boards which are placed at corner.



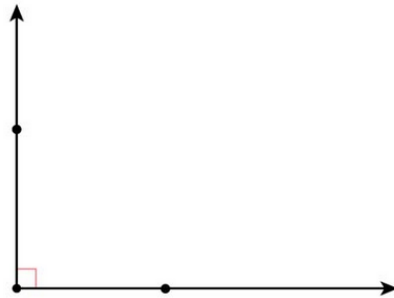
The batter boards should be set as high as the desired height of the foundation. In constructing with different heights of foundation, the tallest foundation is set as the height of batter boards.



## What's In

### LET'S REVIEW!

**Directions:** Bisect a right angle (90 degrees angle) using pencil, ruler, and compass. Write your drawing in a separate sheet of paper (short bond paper).



10 points	8 points	6 points	4 points
All lines are carefully drawn with a pencil using only a compass and a straight edge. There is no freehand drawing. The construction is neat and detailed.	Most lines are carefully drawn with a pencil using only a compass and a straight edge. There is some freehand drawing. The construction could be neater and more detailed.	Some lines are drawn with a pencil using a compass and a straight edge. There is some freehand drawing. The construction could be neater and more detailed.	All lines created free-hand or incomplete.



## What's New

**Directions:** Answer the following questions. Use your notebook for your answers.

1. What do you call the horizontal boards that are placed when laying out a building?
2. This term is used to mark a stake for the batter board?
3. What are the two types of batter boards?
4. When constructing a different height of foundation, how do you set the height of the batter board?



## ***What is It***

### **STAKE OUT AND SET BATTER BOARDS**

- Set out stakes from pre-determined building lines
- Measure, lay-out and cut batter board according to specification
- Set stakes at 0.75 – 1.00 meter away from the pre-determined building lines
- Secure batter boards with tolerance for dimensions at  $\pm 5\text{mm}$ , and levelness of  $\pm 3\text{mm}$ .
- Use PPE according to job requirements

***For the procedure on how to set batter boards, refer to What I Can Do.***



## ***What's More***

**Directions:** Read each statement or question below carefully and fill in the blank(s) with the correct answer. Answers may be more than one word. Write your answers in your activity notebook.

### **STAKE OUT AND SET BATTER BOARDS**

1. Set out stakes from pre-determined \_\_\_\_\_.
2. Measure, lay-out and cut batter board according to \_\_\_\_\_
3. Set stakes at \_\_\_\_\_ meter away from the pre-determined building lines
4. Secure batter boards with tolerance for dimensions at \_\_\_\_\_, and levelness of  $\pm 3\text{mm}$ .
5. Use \_\_\_\_\_ according to job requirements



## ***What I Have Learned***

Batter boards are temporary wooden frameworks used to suspend the layout strings for a foundation. Once erected, the batter boards resemble hurdles. Their placement is crucial to building a foundation exactly as the plans specify, and certain elements of their construction must be exact. Properly installed batter boards help ensure the corners of the foundation are at exactly the right angles and locations.



## ***What I Can Do***

### **PROCEDURE IN SETTING BATTER BOARD**

#### **Procedure:**

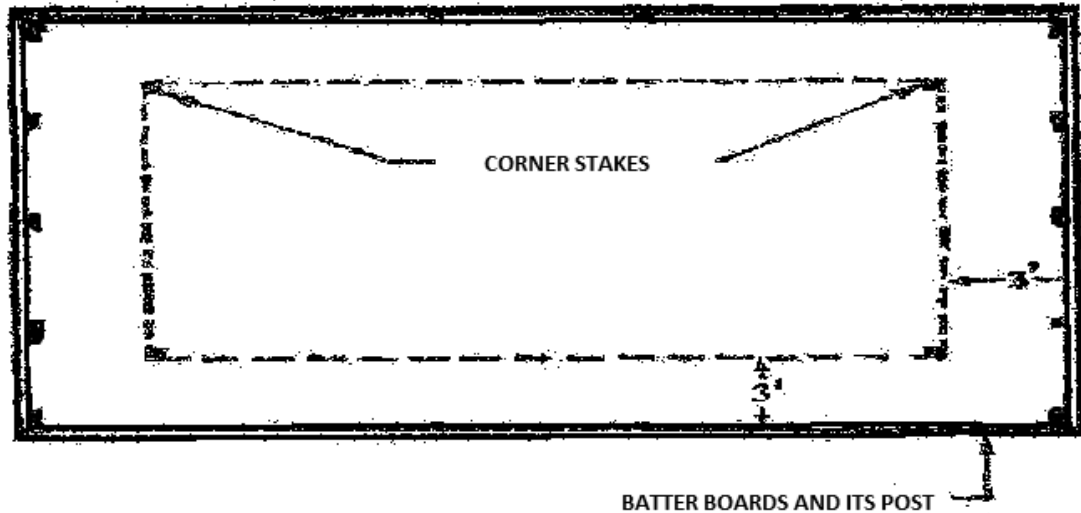
1. Determine the height of the foundation at any of the four corners of the proposed building. Set the stakes at 0.75 to 1 m away from the pre-determined building lines, preferably where the grade stake is.



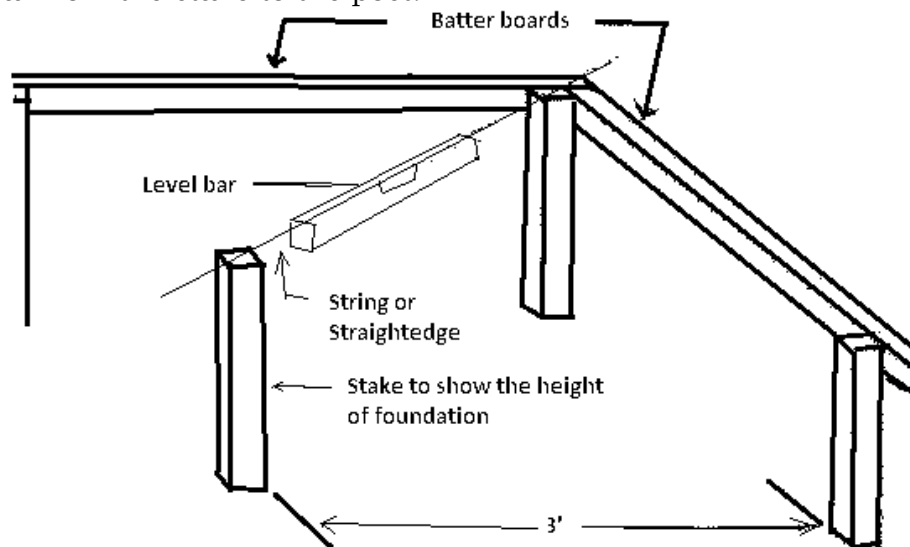
2. In this corner, drive a stake as high as the desired height of the foundation.



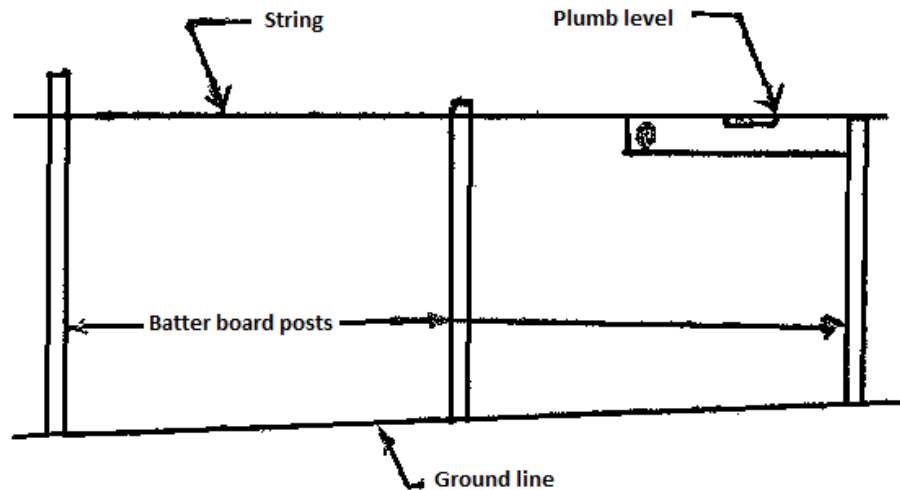
3. Drive in set of posts for the batter boards 3 feet away from the corners and along the sides. Drive in the posts firmly. Align these posts with a string.



4. Move the height of the foundation from the stakes to the corner post of the batter board. This is done by stretching a string, leveled with spirit level or level bar from the stake to the post.



5. From the mark of this post, stretch out a string going around the corners of the building and passing at the side of the batter board posts.
6. Level this string with a spirit level or level bar. Stretch the string tight. Start leveling from the corner stake where the height of the foundation is established. Recheck the levelness.



7. Mark batter board posts along the line just leveled. These marks are places for the top of the batter boards.
8. Nail the batter boards in place, the straight side up and at the marks of the posts.



#### Assessment Criteria:

1. Batter boards are set away from the building line excavation.
2. Batter boards are properly secured with tolerance for dimension at + 5mm, and levelness of + 3mm.
3. Unexpected situations are responded to in line with company rules and regulations.

#### Rubrics in Assessing the Performance/Output

##### Operation: Procedure in setting batter boards

Criteria	Percentage	5	4	3	2	1	Average
1.Proper handling of tools and equipment.	20%						
2.Accuracy of measurement	25%						
3. Skills and Knowledge on work	25%						

4. Safety	15%						
5. Work ethics	15%						
Total	100%						



### ***Notes to the Teacher***

If you want to pursue doing this activity, make sure you let your students perform with supervision or guidance of a knowledgeable family member or guardian.

<b>Criteria</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Proper handling of tools and equipment.	All tools were properly used.	1-2 tools were improperly used.	3-4 tools were improperly used	Almost all of the tools were improperly used	No attempt to work or incomplete work performance.
Accuracy of measurement.	100% of batter boards are properly set with tolerance for dimension of +5mm, and levelness of + 3mm.	75% of batter boards are properly set with tolerance for dimension of +5mm, and levelness of + 3mm.	50% of batter boards are properly set with tolerance for dimension of +5mm, and levelness of + 3mm.	25% of batter boards are properly set with tolerance for dimension of +5mm, and levelness of + 3mm.	No attempt to work or incomplete work performance
Skills and Knowledge on work.	Learners perform the procedure completely and independently.	Learners perform the procedure completely with only 1 help from the teacher.	Learners perform the procedure completely with 2 help from the teacher.	Learners attempted to work but were not able to finish the job.	No attempt to work.
Safety	Learners used complete PPE	Learners did not use 1 of	Learners did not use 2 of	Learners did not use 3 of	All of the required PPE were



	according to job requirements .	the required PPE.	the required PPE.	the required PPE.	not used during work.
Work ethics	Learners finished the job completely without destruction/ damage.	Learners finished the job completely with 1-3 destruction / damage.	Learners finished the job completely with 4-6 destruction / damage.	Learners finished the job completely with 7-9 destruction / damage.	Learners attempted to do the job but not completely finished



## Assessment

**Instructions:** Fill in the blanks with the correct word or group of words to complete each sentence. Write your answers in the activity notebook.

- A. Determine the \_\_\_\_\_ at any of the four corners of the proposed building, Set the stakes at 0.75 to 1m away from the pre-determined building lines, preferably where the grade stake is.
- B. On one of the corners, drive a \_\_\_\_\_ as a high as the desired height of the foundation.
- C. Drive in set of posts for the \_\_\_\_\_ 3 feet away from the corners and along the sides. Drive in the posts firmly. Align these posts with a \_\_\_\_\_.
- D. Move the height of the foundation from the stakes to the \_\_\_\_\_ of the batter board. This is done by stretching a string, leveled with spirit level or level bar from the stake to the post.
- E. From the mark of this post, \_\_\_\_\_ a string going around the corners of the building and passing at the side of the batter board posts.
- F. Level this string with a \_\_\_\_\_. Stretch the string tight. Start \_\_\_\_\_ from the corner stake where the height of the foundation is established. Re-check the levelness.
- G. \_\_\_\_\_ batter board posts along the line just leveled. These marks are places for the top of the batter boards.
- H. \_\_\_\_\_ the batter boards in place, the straight side up and at the marks of the posts.





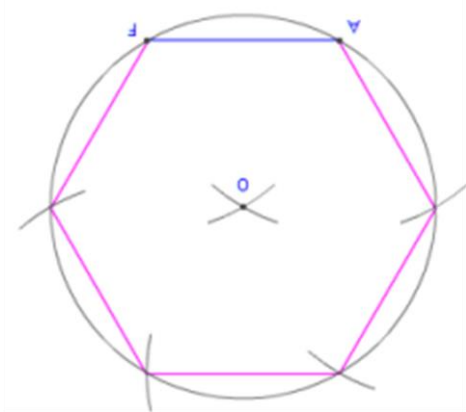
## Additional Activities

**Explore!**

1. What are the two types of batter board?
2. What are the procedures in setting batter board?



## Answer Key

What's More	What I Know
	<ol style="list-style-type: none"> <li>1. a</li> <li>2. b</li> <li>3. c</li> <li>4. a</li> <li>5. c</li> </ol>
<ol style="list-style-type: none"> <li>1. batter board</li> <li>2. grade stake</li> <li>3. -batter boards for foundation posts</li> <li>-batter boards for the foundation walls</li> <li>4. set according to the height of the tallest foundation.</li> </ol>	

<p><b>What's More</b></p> <ol style="list-style-type: none"> <li>1. building lines</li> <li>2. specification</li> <li>3. 0.75 – 1.00</li> <li>4. +/- 5mm</li> <li>5. PPE</li> </ol>	<p><b>Assessment</b></p> <ol style="list-style-type: none"> <li>1. height</li> <li>2. stake</li> <li>3. batter boards</li> <li>4. string</li> <li>5. corner post</li> <li>6. stretch out</li> <li>7. spirit level or level bar</li> <li>8. leveling</li> <li>9. mark</li> <li>10. nail</li> </ol>
<p><b>Additional Activities</b></p> <ol style="list-style-type: none"> <li>1. The two types of batter board are batter boards for foundation posts and batter boards for the foundation walls.</li> <li>2. The procedure in setting batter board are the following: <ul style="list-style-type: none"> <li>• Determine the height of the foundation at any of the four corners of the proposed building. Set the stakes at 0.75 to 1 m away from the pre-determined building lines, preferably where the grade stake is.</li> <li>• In this corner, drive a stake as high as the desired height of the foundation.</li> <li>• Drive in set of posts for the batter boards 3 feet away from the corners and along the sides. Drive in the posts firmly. Align these posts with a string.</li> <li>• Move the height of the foundation from the stakes to the corner post of the batter board. This is done by stretching a string, leveled with spirit level or level bar from the stake to the post.</li> <li>• From the mark of this post, stretch out a string going around the corners of the building and passing at the side of the batter board posts.</li> <li>• Level this string with a spirit level or level bar. Stretch the string tight. Start leveling from the corner stake where the height of the foundation is established. Recheck the levelness.</li> <li>• Mark batter board posts along the line just leveled. These marks are places for the top of the batter boards. Nail the batter boards in place, the straight side up and at the marks of the posts.</li> </ul> </li> </ol>	

## ***References***

### **References for Content:**

- <https://homeguides.sfgate.com/purpose-batter-boards-laying-foundation-76196.html>

### **References for Pictures:**

- <https://homeguides.sfgate.com/purpose-batter-boards-laying-foundation-76196.html>

**For inquiries or feedback, please write or call:**

Department of Education – Schools Division of Negros Oriental  
Kagawasan, Avenue, Daro, Dumaguete City, Negros Oriental

Tel #: (035) 225 2376 / 541 1117

Email Address: [negros.oriental@deped.gov.ph](mailto:negros.oriental@deped.gov.ph)

Website: [lrmds.depednodis.net](http://lrmds.depednodis.net)

