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3

MATHEMATICS
TERM 1

Structured Pedagogy Lesson Guides



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Mathematics – Grade 3
Structured Pedagogy
Term 1
First Edition, 2026

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Mathematics

Term 1

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Term 1

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Term 1 **Measurement and Geometry (Areas of Squares and Rectangles)**
Lesson 1: Illustrate and estimate the area of a square or rectangle using square tile units.

I. Learning Objectives
At the end of the lesson, the learners must be able to:

1. illustrate and estimate the area of a square or rectangle using square tile units.

II. Development of the Lesson

A. Motivation
Show images of (or point to) different objects. The learners will stand if the item is a square, sit if the item is a rectangle, and raise both arms if the item is neither a square nor a rectangle.

This exercise aims to recap learners in identifying squares or rectangles in their surroundings.

B. Discussion
1. Explain to learners that the **Area** of an object is often used to measure it. It is the amount of space inside a flat shape, like the number of tiles of a bathroom floor.

2. For the lesson, explain that the learners will illustrate and estimate the area of a square or rectangle using square units.

3. Provide examples to illustrate the lesson proper. These can be drawings on the board or objects with flat surfaces. Ultimately, the unit to be used should be square tiles.

C. Practice
1. Prepare square cutouts/tiles of 1x1 inch size.

2. Prepare three cardboard "nametags" of different sizes:
   a. Dessa -- 6 units wide, 4 units tall
   b. Angelica – 9 units wide, 2 units tall
   c. Jennica - 4 units wide, 4 units tall

3. In groups, ask the learners to measure which nametag is the largest. Ask the groups to present their process.

D. Reflection
Ask the learners the following questions:
- What did we learn today?
- What is one way we can measure the area of a square or rectangle?

III. Homework
Ask the learners to solve the problem below:

Marco and Brenda each brought a book to school. Marco's book is 3 square tiles wide and 5 square tiles long. Meanwhile, Brenda's is 4 square tiles wide and 4 square tiles long. Who has a bigger book?
- Given:
- What is asked:
- Operation to be done:
- Solution:
- Final Answer:

Term 1 **Measurement and Geometry (Areas of Squares and Rectangles)**
Lesson 2: Explore inductively the derivation of the formulas for the areas of a square and rectangle using square tile units.

I. Learning Objectives
At the end of the lesson, the learners must be able to:

1. explore inductively the derivation of the formulas for the areas of a square and rectangle using square tile units.

II. Development of the Lesson

A. Motivation
Conduct a multiplication game using simple questions to help learners recall and practice basic multiplication facts.

Group the learners and have one representative from each group take turns answering the question on the board. Representatives may not participate again until all group members have had a turn.

B. Discussion
1. Provide students with three different rectangles drawn on a grid. Ask them to find the area by counting every single square.
    a. Rectangle A: 2 units tall, 3 units wide (Total: 6)
    b. Rectangle B: 2 units tall, 5 units wide (Total: 10)
    c. Rectangle C: 3 units tall, 4 units wide (Total: 12)

2. Create a simple table on the board. Ask the learners to help you fill it in based on the rectangles they just counted.

	Number of Rows (Length)	Squares in Each Row (Width)	Total Squares (Area)
Rectangle A	2	3	6
Rectangle B	2	5	10
Rectangle C	3	4	12

3. Ask learners to look at the numbers on the table. Ask if they see a relationship between the rows, squares, and total.

   Guide them: "If we have 3 rows and each row has 4 squares, what math operation can we use instead of counting?"

4. Once they observe the pattern, help them turn it into a "math rule."
    a. For a rectangle, length (how long) is multiplied by the width (how wide).
    b. For a square, the length and width are the same, so the area is side multiplied by side.

C. Practice

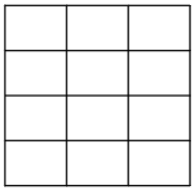
Ask them to predict the area of the following using their new formula.
    a. Rectangle A: 5 units tall, 3 units wide
    b. Square A: 3 units tall, 3 units wide
    c. Rectangle B: 3 units tall, 8 units wide
    d. Rectangle C: 10 units tall, 9 units wide
    e. Square B: 5 units tall, 5 units wide

D. Reflection

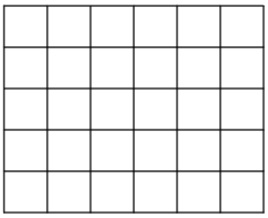
Ask the learners the following questions:
- What did we learn today?
- How do you get the area of squares and rectangles using square tile units?

III. Homework

Ask the learners to compute for the areas of the following items:

1. 

2. 

3. 

Term 1 **Measurement and Geometry (Areas of Squares and Rectangles)**
Lesson 3: Find the areas of squares and rectangles in sq. cm and sq. m.

I. Learning Objectives

At the end of the lesson, the learners must be able to:

1. find the areas of squares and rectangles in sq. cm and sq. m.

II. Development of the Lesson

A. Motivation

For this activity, provide objects and ask learners to identify whether **centimeters (cm)** or **meters (m)** is the more appropriate unit for measuring each object. Use the activity to review the difference between centimeters and meters. The objects are as follows:

- flagpole
- short bond paper
- long bond paper
- distance of the chalkboard to the back of the classroom
- water bottle

B. Discussion

Recap the discussion deriving the formula of the area of the square and rectangle. Reiterate the following:

a. For a rectangle, length (how long) is multiplied by the width (how wide).

Area of a rectangle = length x *width*

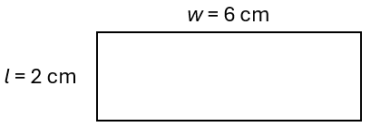
b. For a square, the length and width are the same, so the area is side multiplied by side.

Area of a square = side x side

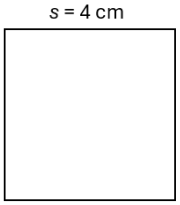
C. Practice

1. Ask the learners to find the area of the following shapes:

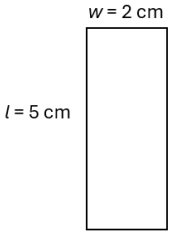
a.



b.



c.



2. Ask the learners to compute the areas of the following:
   a. l = 10 m, w = 3 m
   b. s = 6 cm
   c. s = 3 m
3. Ask the learners to compare the area of each of the following pairs of figures using >, <, or =.
   a. s = 10 m ___ s = 10 cm
   b. l = 7 cm; w = 2 cm ___ s = 4 cm
   c. l = 3 m; w = 4 m ___ l = 6 m; w = 2 m

D. Reflection

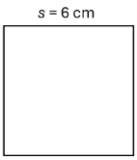
Ask the learners the following questions:

- What did we learn today?
- Let's recap: How do we find the areas of squares and rectangles?

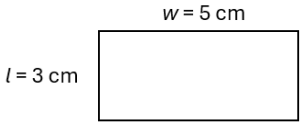
III. Homework

Ask the learners to find the area of the following shapes:

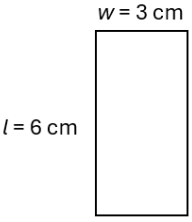
1.



2.



3.



Ask the learners to compare the area of each of the following pairs of figures using >, <, or =.

1. s = 4 cm ___ l = 3 cm; w = 5 cm
2. l = 1 m; w = 9 m ___ l = 2 m; w = 4 m

Term 1	**Measurement and Geometry (Areas of Squares and Rectangles)**
Lesson 4:	Solve problems involving areas of squares and rectangles.

I. Learning Objectives

At the end of the lesson, the learners must be able to:

1. solve problems involving areas of squares and rectangles.

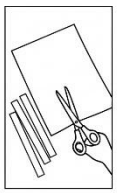
II. Development of the Lesson

A. Motivation

Conduct an arts and crafts activity by guiding the learners through the following steps (sourced from: https://thecreationstation.co.uk/day-5-make-a-recycled-magazine-coaster-childrens-creative-summer-challenge/):

a. Step 1: Cut your scratch paper into strips.

Cut strips approximately 1.5cm wide by 14cm long. Don't worry about being too exact — a little variation adds charm!



Step 1 — Cutting scratch paper into strips

b. Step 2: Lay the strips across your cardboard base.

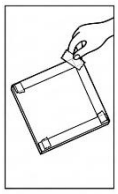
Place a few strips horizontally across your 10cm x 10cm card, leaving about 2cm of the strip on the card. Use clear tape to secure them, making sure there are no gaps between the strips.



Step 2 — Laying strips across the cardboard base

c. Step 3: Fold the strips over the back of the cardboard.

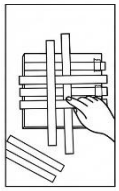
Turn the coaster over carefully, then fold the paper strips down the back side and tape them securely. This gives your coaster a neat, tidy edge.



Step 3 — Folding strips over the back

d. Step 4: Start weaving!

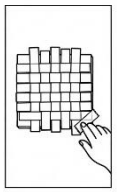
Now take other strips and weave them vertically through the horizontal strips on the front. Push the strips tightly together to keep your coaster strong and solid. This weaving process is a fantastic way to develop fine motor skills, especially for little fingers!



Step 4 — Weaving strips

e. Step 5: Secure the ends.

Once your weaving is complete and the coaster looks full, turn it over. Fold all the loose ends tightly over the back and tape them down securely. This locks everything in place.



Step 5 — Securing the loose ends

B. Discussion

1. Recap with the learners how to compute for the area of the square and the rectangle.
2.
3. Recap the steps in solving word problems:
   a. Identifying the given – What is stated in the problem? What are we working with
   b. Identifying what is asked – What answer does the problem want?
   c. Determining the computation/formula to be used: What do we need to do to reach the answer?
   d. Solution: Solving for the answer
   e. Final answer: What is the final answer, with units?

C. Practice

1. Individually, ask the learners to answer the following questions:
    a. Maica's *banig* has a length of 3 meters and a width of 2 meters. What is the total area?
    b. Maxine is trying to find out how big a piece of paper is. She used her notebooks, which have a length of 5 inches and a width of 4 inches. While she only needed one notebook to fill up the paper horizontally, Maxine needed two of her notebooks to fill up the paper vertically. What is the total area of the paper?

2. In pairs, ask the learners to solve the following problem:
    a. For Kuya's graduation party, Mother had two tarpaulins printed. One of the tarpaulins was 2 m x 4 m, while the other one was 3 m x 3 m. What is the total combined area of the tarpaulins?
    b. The learners should identify the given, what is asked, the computation to be used, the solution, and the final answer.

D. Reflection

Ask the learners the following questions:

- What did we learn today?
- How do we solve problems involving areas of squares and rectangles?

III. Homework

Ask the learners to solve the following problem:

1. Albert bought two notebooks. One is 5 x 8 inches, while the other is 4 x 5 inches. Combined, what is the total area of the notebooks?
    a. Given:
    b. What is asked:
    c. Computation to be used:
    d. Solution:
    e. Final answer:
2. Myra has two kinds of sticky notes. One type is square with sides measuring 3 inches, while the other has a length of 4 inches and a width of 2 inches. Based on area, which is the bigger sticky note type?
    a. Given:
    b. What is asked:
    c. Computation to be used:
    d. Solution:
    e. Final answer:

Term 1 **Measurement and Geometry (Points, Lines, Line Segments, and Rays)**
Lesson 5: Recognize, use models, and draw a point, line, line segment, and ray.

I. Learning Objectives

At the end of the lesson, the learners must be able to:

1. recognize points, lines, line segments, and rays;
2. use models for points, lines, line segments, and rays; and
3. draw points, line, line segment, and ray.

II. Development of the Lesson

A. Motivation

Teach the learners Geometry Gestures!

When the instructor says "point," they put their fist forward.

When the instructor says "line," they extend both arms to the side.

When the instructor says "line segment," they raise only their elbows to the side, fists in front of their chests.

When the instructor says "ray," the learners raise their left elbow and extend their right arm.

To make the activity more fun, the instructor can do a "Hep-hep Hooray" style.

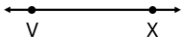
B. Discussion

1. Discuss what a point, line, line segment, and ray is.
    a. **Point** – precise location; no size, only a position.

B Point B

Example: a tiny dot

b. **Line** – a straight path going on forever in both directions



line VX

Example: a road that never ends

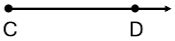
c. **Line Segment** – a straight path connecting two points with a definite starting and ending point



line segment LM

Example: a spaghetti noodle

d. **Ray** – part of a line that has one endpoint and goes on forever in one direction. In naming a ray, it is important to write the endpoint first.



ray CD

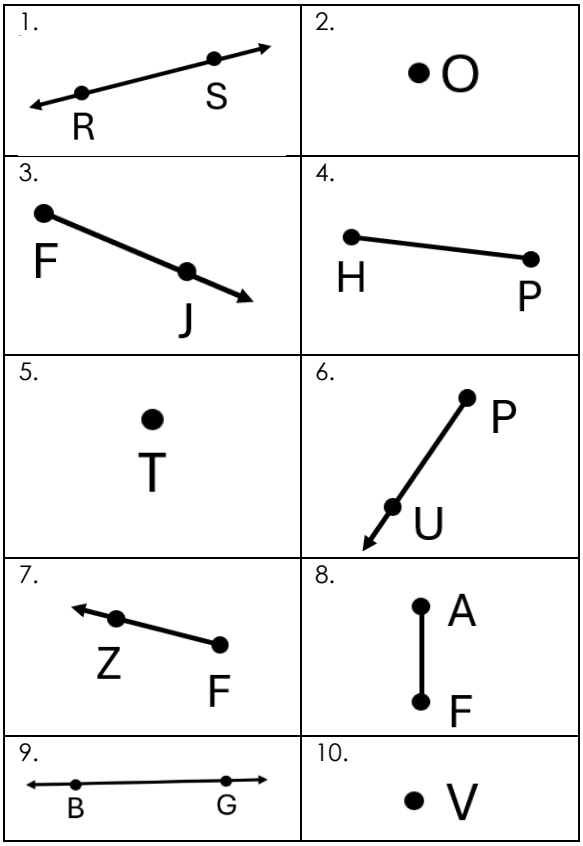
Example: an arrow or a flashlight

2. Present this table that summarizes the discussion:

Term	End points	Does it go on forever?	Real life example
Point	0	No	Dot
Line	2	Yes	Never-ending road
Line segment	2	No	Spaghetti noodle
Ray	1	On one side	Arrow or flashlight

C. Practice

Ask learners to identify if the following figures are points, lines, line segments, and rays. Ask them to label the figures also.



D. Reflection

Ask the learners the following questions:

- What did we learn today?
- What is the difference between a point, line, line segment, and ray?

III. Homework

Ask the learners to draw the following geometric figures:

1. Line MP
2. Point L
3. Line segment AZ
4. Ray DM
5. Line GJ
6. Point X
7. Ray JK
8. Line HT
9. Line segment KV
10. Line PR

Tern 1	**Measurement and Geometry (Parallel, Perpendicular, and Intersecting Lines)**
Lesson 6:	Recognize and draw parallel, intersecting, and perpendicular lines.

I. Learning Objectives

At the end of the lesson, the learners must be able to:

1. recognize parallel, intersecting, and perpendicular lines; and
2. draw parallel, intersecting, and perpendicular lines.

II. Development of the Lesson

A. Motivation

1. Tell the learners that there will be a second round of Geometry Gestures!



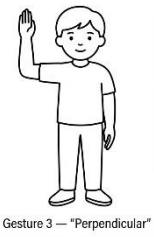
Gesture 1 — "Parallel"

When the instructor says "parallel," the learners will bend their elbows and have their arms horizontally straight in front of their chest, with one arm above the other.



Gesture 2 — "Intersecting"

When the instructor says "intersecting," the learners will make an "X" with their arms.



Gesture 3 — "Perpendicular"

When the instructor says "perpendicular," the learners will make an "L" with their arms.

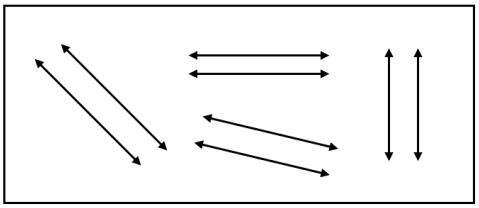
2. Alternatively, the instructor can choose to simplify the prompt words as "par," "in," and "per."

3. To make the activity more engaging, conduct it using the style of "Hep-hep Hooray."

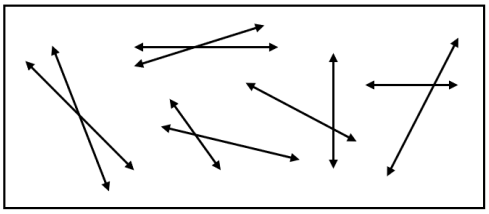
B. Discussion

1. Recap with the learners what a "line" is.

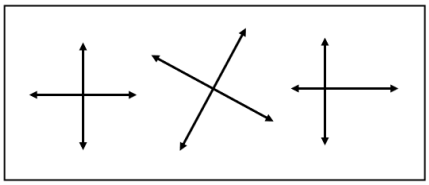
2. Discuss the types of lines:
   a. Parallel lines are straight lines that remain an equal distance apart and never touch or meet.



   b. Intersecting lines are straight lines that meet once, but never again. They can intersect at any angle and are thus not parallel.



   c. Perpendicular lines are intersecting lines that specifically create a 90-degree angle.



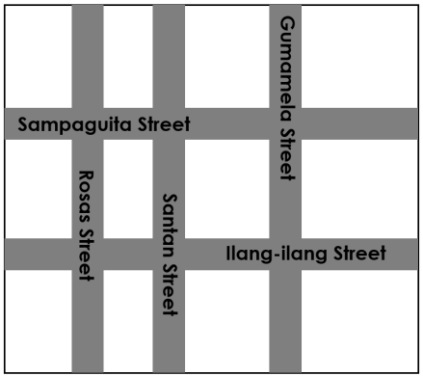
   d. It is important to note that all perpendicular lines are intersecting lines, but not all intersecting lines are perpendicular lines.

3. The instructor can draw examples of parallel, intersecting, and perpendicular lines. Ask the learners to identify what are parallel, intersecting, or perpendicular among the illustrations.

4. The instructor can also use real-life examples to deepen understanding. Examples include:
    a. Parallel lines:
        - sachets at a sari-sari store (if arranged neatly)
    b. Intersecting lines:
        - chopsticks in use
    c. Perpendicular lines:
        - table

C. Practice

1. Ask the learners to study this map:



2. Ask the learners to identify if the streets are parallel or perpendicular:
    a. Rosas Street and Gumamela Street
    b. Sampaguita Street and Rosas Street
    c. Ilang-ilang Street and Santan Street
    d. Santan Street and Rosas Street
    e. Gumamela Street and Sampaguita Street

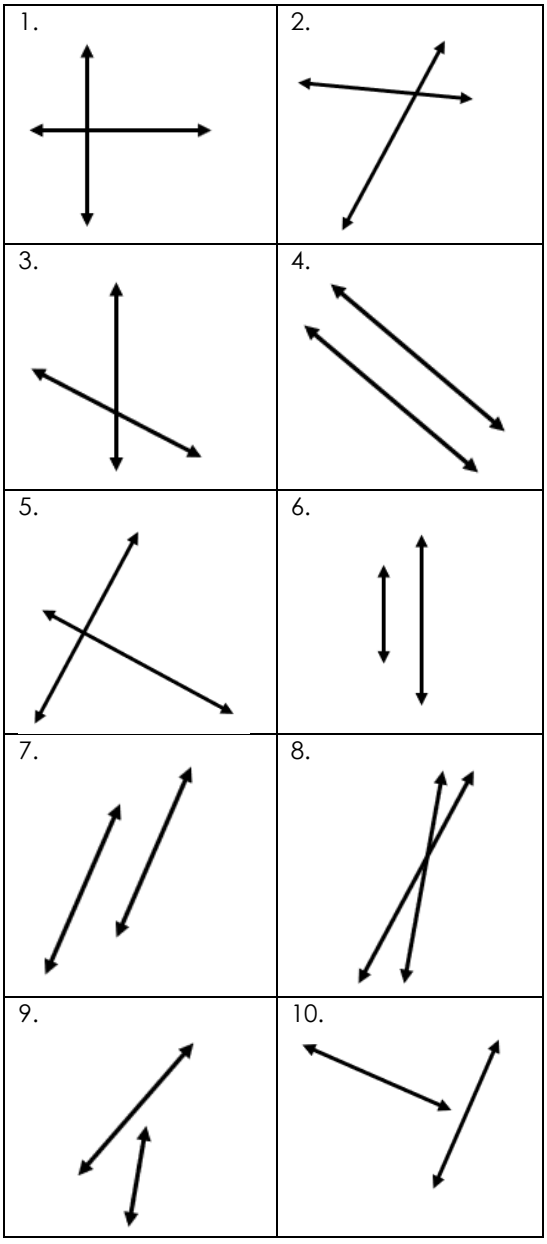
3. Ask the learners to extend the map using the following information:
    a. Kalachuchi Street is parallel to Ilang-ilang Street and perpendicular to Rosas, Santan, and Gumamela Streets.
    b. Rafflesia Street is parallel to Gumamela Street and is perpendicular to Sampaguita Street and Ilang-ilang Street.

D. Reflection

Ask the learners the following questions:
- What did we learn today?
- What is the difference between parallel, intersecting, and perpendicular lines?

III. Homework

Ask the learners to identify if the following lines are parallel, perpendicular, or intersecting (but not perpendicular).



Term 1	**Measurement and Geometry (Points, Lines, Line Segments, and Rays)**
Lesson 7:	Identify and draw line segments of equal length using a ruler.

I. Learning Objectives

At the end of the lesson, the learners must be able to:

1. identify and draw line segments of equal length using a ruler.

II. Development of the Lesson

A. Motivation

Prepare paper strips of various lengths (e.g., 5 cm, 7 cm, 10 cm) and distribute them to the learners.

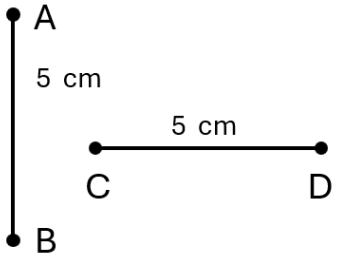
For the first round, ask the learners to find co-learners who have the same lengths of paper.

B. Discussion

To start the discussion, explain that a ruler is used to measure objects. The following are pertinent discussion points:

a. When starting the measurement, use the "0" mark instead of the very edge of the ruler. Demonstrate.

b. Define what "equal lengths" are. Two line segments are equal if they have the same measurement from one endpoint to the other. For instance, if Segment AB is 5 cm and Segment CD is 5 cm, they are equal.



(measurement not to scale)

c. To draw an equal segment, place the 0 of the ruler at the start of the first line. Read the number at the end (for instance, 3 cm).

On a new spot, make a tiny dot (point C) and place the ruler's 0 on that dot. Find the same number on the ruler (3 cm, as per the example). Make another dot (Point D) and use the straight edge of the ruler to connect them.

C. Practice

Ask the learners to draw a house using the following measurements:

a. walls: 5 cm
b. ceiling: 4 cm
c. floor: 4 cm
d. roof: 3 cm
e. door: length of 1 cm, width of 0.5 cm

D. Reflection

Ask the learners the following questions:

- What did we learn today?
- Why do we need to use rulers?

III. Homework

Ask the learners to draw two line segments each:

1. 4 cm
2. 6 cm

Term 1 **Number and Algebra**
Lesson 8: Represent numbers up to 10,000 using pictorial models and numerals.

I. Learning Objectives

At the end of the lesson, the learners must be able to:

1. represent numbers up to 10,000 using pictorial models and numerals.

II. Development of the Lesson

A. Motivation

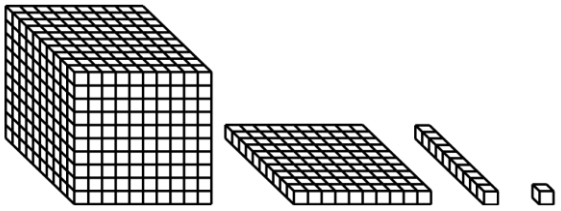
1. Randomly assign each learner a numerical value: 1 000, 100, 10, or 1.

2. The instructor will call out a number (e.g., 2 241). Learners will form groups using the numerical values assigned to them to represent the given number. Ensure that the assigned values and the numbers called can be represented using the available learners.

B. Discussion

Explain to learners that numbers up to 10,000 can be represented in different ways. For this lesson, introduce two representations: (a) blocks and grids and (b) discs.

a. Blocks and grids are used to represent numerical figures. For instance, the figure below shows blocks of 1 000, 100, 10. and 1.



b. Discs are simplified ways to represent blocks and grids. Now, the size of the disc matters more than the number of "tiles" used. The following figures can be used:



C. Practice

Ask learners to use number discs in representing the following:

a. 3 499
b. 1 832
c. 5 780
d. 9 090
e. 8 576
f. 3 311
g. 5 168
h. 1 320
i. 9 999
j. 1 111
k. 2 308

D. Reflection

Ask the learners the following questions:

- What did we learn today?
- How can pictorial models and numerals help us with familiarizing ourselves with numbers up to 10 000?

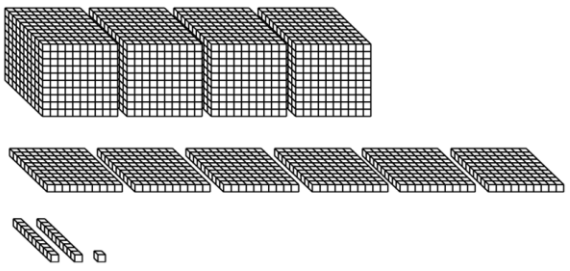
III. Homework

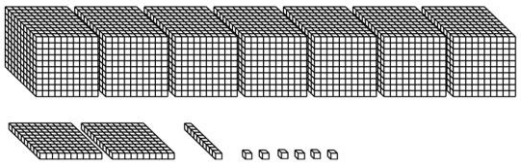
Ask the learners to answer the following questions:

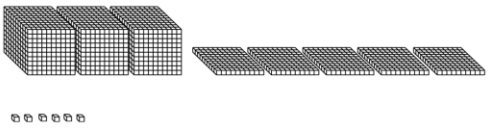
Part 1: Represent the following numbers using discs.

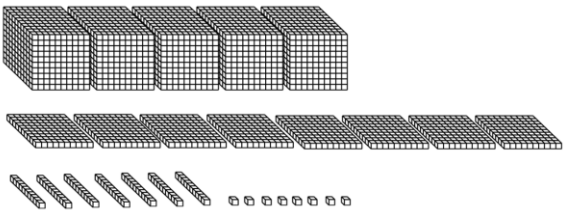
1. 5 201
2. 6 092
3. 2 933
4. 4 557
5. 6 776

Part 2: What is the equivalent of these models?

1. 

2. 

3. 

4. 

5. 

Term 1 **Number and Algebra**
Lesson 9: Read and write numbers up to 10,000 in numerals and in words.

I. Learning Objectives

At the end of the lesson, the learners must be able to:

1. read and write numbers up to 10,000 in numerals and in words.

II. Development of the Lesson

A. Motivation

Conduct a group quiz bee by saying a number aloud and asking learners to write its numerical form on their boards.

For example, if the instructor says "eight thousand, seven hundred twenty-four," learners should write 8,724 on their boards.

B. Discussion

1. To "translate" numbers to words, recap the different place values:
   a. thousands
   b. hundreds
   c. tens
   d. ones

2. Explain to learners that when reading numbers, "thousand" and "hundred" are said aloud, while "ten" and "one" are represented by their place values and are not said as separate words

   For instance, in the number 3,766:

3,766	three thousand
3,**7**66	seven hundred
3,7**6**6	six tens → sixty
3,76**6**	six ones → six

3. When writing numbers from 21 to 99 in words, use a hyphen (–). For example, 66 is written as sixty-six, so 3,766 is written as three thousand, seven hundred sixty-six.
4. When a place value is zero, it is not read aloud. For example, 5,026 is read as five thousand twenty-six, not "five thousand zero hundred twenty-six."

C. Practice

1. Ask learners to individually write a four-digit number on a small slip of paper.
2. Have them exchange numbers with three other learners. After each exchange, learners should read the number aloud using its place-value form, such as "__ thousand, __ hundred…", rather than simply reading the digits one by one.

D. Reflection

Ask the learners the following questions:

- What did we learn today?
- Why do we need to properly read and write numbers up to 10 000?

III. Homework

Ask the learners to write the numbers in full words:

1. 7 867
2. 2 433
3. 3 422
4. 1 977
5. 8 453

Term 1	**Number and Algebra**
Lesson 10:	Describe the position of objects using ordinal numbers up to 100th.

I. Learning Objectives

At the end of the lesson, the learners must be able to:

1. describe the positions of objects using ordinal numbers up to the 100th.

II. Development of the Lesson

A. Motivation

Ask learners to write a two-digit number on a piece of paper. Instruct them to arrange themselves from least to greatest based on their numbers. Once they are in order, assign each learner a number starting from 1.

B. Discussion

1. Explain that ordinal numbers show position or order, not "how many."

2. Remind learners that most ordinal numbers end in -th, but there are special forms:
   a. 1 → 1st → first
   b. 2 → 2nd → second
   c. 3 → 3rd → third

   This pattern also applies to larger numbers ending in 1, 2, and 3. For example, 21 → 21st → twenty-first.

3. Explain that numbers ending in zero have a slight spelling change. For example:
   a. 40 → 40th → fortieth
   b. 90 → 90th → ninetieth

4. Refer to the learners' new order from the Motivation activity and ask each learner to identify and say their ordinal position.

C. Practice

Conduct a verbal practice by asking learners to say the ordinal form of each number aloud. Use the following numbers:

a. 72
b. 25
c. 99
d. 67
e. 24
f. 73
g. 10
h. 11
i. 61
j. 64

2. Ask 10 volunteer learners to stand in a line. Then, ask the remaining learners to identify the ordinal positions of their classmates by answering the following questions:
   a. Who is the sixth person from your right?
   b. Who is the seventh person from your left?
   c. Who is the fourth person from your right?

D. Reflection

Ask the learners the following questions:

- What did we learn today?
- Why do we need to properly describe the position of objects using ordinal numbers?

III. Homework

Ask the learners to answer the following questions:

1. Kris is running a marathon with 50 others. She started the marathon 40th in line. After 10 minutes, she noticed she had passed 9 runners. What is her new position?
2. Dessa is on the fourth floor of a building. She decided to go to the fifteenth floor. How many floors did she pass?
3. Sharon passed the runner in second place. What is her new rank?

Term 1 **Number and Algebra**
Lesson 11: Determine (a) the place value of a digit in a 4-digit number, (b) the value of a digit, (c) the digit of a number, given its place value.

I. Learning Objectives

At the end of the lesson, the learners must be able to determine:

1. the place value of a digit in a 4-digit number;
2. the value of a digit; and
3. the digit of a number, given its place value.

II. Development of the Lesson

A. Motivation

1. Use a story to help learners understand the place value of numbers:
    a. The Story: "In the country of Numberland, we have Barangay Ones, Tens City, Hundreds Province, and Region Thousands."
    b. Assign learners to represent the Barangay, City, Province, and Region.

2. Give the learners a four-digit number (e.g., 4,725).
    a. Ask the learners in the Hundreds Province to step forward. Ask, "Who is in the Hundreds Province today?" The answer is 7.
    b. Repeat the activity using different place-value groups and four-digit numbers.

Digit	Place Value	Value

B. Discussion

1. Ensure that learners understand the difference between place value, value, and digit.
    a. **Digit** is a single number.
    b. **Place value** is the name of the position (tens, thousands).
    c. **Value** is how much the digit is worth in that spot (digit x place value).

2. Ask learners to examine the number **6,381**. Guide them in identifying the digit, place value, and value of each digit using the table below.

Digit	Place Value	Value
6	thousands	6 000
3	hundreds	300
8	tens	80
1	ones	1

Now, ask learners to complete the table for the number **8,429**.

Digit	Place Value	Value
8		
4		
2		
9		

3. Explain that sometimes learners are given the value and need to identify the corresponding digit. For example, if the value is 500 in the hundreds place, the digit is 5. If the value is 4,000 in the thousands place, the digit is 4.

C. Practice

1. Ask learners to complete the table by identifying the **digit, place value, and value** of each digit in the following numbers:
    a. 9,011
    b. 2,461
    c. 3,885

2. Ask the learners to write the number based on the given digits and place values:
    a. 8 in the ones
       3 in the thousands
       1 in the tens
    b. 9 in the thousands
       7 in the tens
       6 in the ones
       1 in the hundreds

c. 5 in the tens
5 in the ones
8 in the hundreds
1 in the thousands
d. 9 in the thousands
6 in the hundreds
7 in the tens
e. 7 in the ones
9 in the thousands
8 in the hundreds
5 in the tens

D. Reflection
Ask the learners the following questions:
- What did we learn today?
- Why do we need to distinguish the place values of different digits?

III. Homework
Ask the learners to answer the following questions:

Part 1: Write the number based on the given digit and place value.
1. 7 in the ones
8 in the tens
1 in the thousands
1 in the hundreds
2. 8 in the tens
8 in the thousands
3. 1 in the hundreds
7 in the ones
2 in the thousands

Part 2: Fill in the table by identifying the digit, place value, and value of each digit in 7,341.

Digit	Place Value	Value

Term 1 **Number and Algebra**
Lesson 12: Round numbers to the nearest ten, hundred, or thousand.

I. Learning Objectives
At the end of the lesson, the learners must be able to:
1. round numbers to the nearest ten, hundred, or thousand.

II. Development of the Lesson
A. Motivation
1. Draw a hill on the board. Place the numbers 0, 1, 2, 3, 4 on the left slope (going up). Place 5 at the very top. Place 6, 7, 8, 9 on the right slope (going down toward the next ten).

2. Ask the learners to imagine a ball on the hill. If the ball is at 2, it rolls back down to the start (rounds down). If the ball is at 8, it rolls forward to the finish line (rounds up).
a. Ask: "What happens when the ball is at 5?"
b. Explain that 5 is the "booster" number—it has enough energy to push the ball over to the next side!

3. Introduce the "Rounding Off Song" to help learners remember the rules. Sing it together using the tune of "We Will Rock You."

Rounding Off Song

Find the place, look next door,
Five or more, raise the score.
Four or less, let it rest.
Look to the right, put zero in sight

We will, we will, ROUND OFF! ROUND OFF! (2x)

B. Discussion
1. Explain that the digit to the right of the place value being rounded determines whether to round up or round down.
a. Round down: 0, 1, 2, 3, 4 → the digit stays the same.
b. Round up: 5, 6, 7, 8, 9 → add 1 to the digit.

2. Explain that all digits to the right of the rounded place become zero. For example, to round 4,362 to the nearest thousand

a. Identify the digit in the thousands place and underline it: 4,362
b. Look at the digit to its right 4: 4,**3**62.
c. Since **3** is in the round-down group, 4 stays the same.
d. Change all digits to the right to zero: **4,000**.

3. Show learners that the same number can have different rounded values depending on the place value being rounded. Use **2,584** as an example.

Round to the nearest…	**Look at…**	**Result**	**Why?**
Ten	4	2,580	4 is less than 5, so 8 stays the same.
Hundred	8	2,600	8 is more than 5, so 5 becomes 6.
Thousand	5	3,000	5 is the "booster," so 2 becomes 3.

4. Emphasize that learners should identify the place value first, then look at the digit immediately to its right to determine whether to round up or down.

C. Practice
1. Ask the learners to identify whether each number should round up or round down to the nearest ten.
a. 84
b. 77
c. 32
d. 44
e. 91

2. Ask the learners to identify whether each number should round up or round down to the nearest hundred.
a. 122
b. 351
c. 849
d. 162
e. 777

3. Divide the learners into groups. Ask each group to complete the table by rounding each number to the nearest ten, nearest hundred, and nearest thousand.

	Nearest Ten	**Nearest Hundred**	**Nearest Thousand**
1 655			
6 198			
7 895			
3 221			

D. Reflection
Ask the learners the following questions:
- What did we learn today?
- How do we round off numbers to the nearest ten, hundred, or thousand?

III. Homework
Ask the learners to round off each number to the nearest ten, nearest hundred, and nearest thousand, then complete the table.

	Nearest Ten	**Nearest Hundred**	**Nearest Thousand**
3 622			
4 501			
8 998			
1 092			

Term 1 **Number and Algebra**
Lesson 13: Compare numbers up to 10 000 using the symbols =, >, and <.

I. Learning Objectives
At the end of the lesson, the learners must be able to:
1. compare numbers up to 10 000 using the symbols =, >, and <.

II. Development of the Lesson
A. Motivation
1. Prepare strips of paper with different numerical values. Give each learner three strips at random.

2. Conduct the game using a modified "Bato-Bato Pick" game. Instruct learners to choose and reveal one number strip at the same time. The learner with the higher number advances to the next round, while the other learner sits down. Continue the game until only one learner remains.

B. Discussion
   1. Introduce the comparison symbols using a character to help learners remember which way the "mouth" points.
      a. The Story: Introduce Al the Alligator, who is always hungry and wants to eat the bigger number. Explain that when Al sees two numbers, his mouth opens toward the greater number.
      b. The Action: Have learners form an alligator's "mouth" using their hands (like a V shape on its side).
         i. Show two numbers, such as 500 and 8,000, and ask: "Which way does Al's mouth open?"
         ii. Explain that when two numbers are equal, Al's mouth stays closed and forms an equal sign (=).

   2. Explain that comparing large numbers is a process of elimination. Start by comparing the highest place value.
      a. Step 1: Count the Digits Before looking at the numbers, check how many digits they have.

         A 5-digit number is always greater than a 4-digit number. A 4-digit number is always greater than a 3-digit number, so on and so forth.

         For instance, 1,000 > 100. 100 eats 1,000 because it has more digits.

      b. Step 2: The Thousands Battle If both numbers have 4 digits, look at the first digit on the left.

         For instance, 2,500 < 4,500. 4 is bigger than 2, so 2,500 eats 4,500.

      c. Step 3: Moving to the Right If the Thousands are the same, move to the Hundreds. If those are the same, move to the Tens, and finally the ones.

C. Practice
   1. Ask the learners to compare each pair of numbers and complete the sentence using greater than, less than, or equal to.
      a. 8,091 is _____ 8,090
      b. 6,711 is _____ 699
      c. 912 is _____ 9,120
      d. 477 is _____ 477
      e. 1,234 is _____ 4,321

   2. Ask the learners to solve the following problem:

      Lolly wants to buy an electric fan. She has a budget of PhP 10,000. She is choosing between a fan worth PhP 7,849 and another fan worth PhP 8,999. Both fans have different designs, but Lolly does not have a design preference. With this, what should Lolly buy? Which fan costs less?

D. Reflection
   Ask the learners the following questions:
   - What did we learn today?
   - What do the symbols >, <, and = mean?

III. Homework
   Ask the learners to compare the values and write >, <, or =:
   1. 3 215 ___ 365
   2. 4 988 ___ 4 898
   3. 9 011 ___ 6 912
   4. 3 781 ___ 10 000
   5. 4 821 ___ 4 821

6. 7 351 ___ 7 514
7. 9 999 ___ 9 999
8. 1 010 ___ 1 001
9. 312 ___ 3 120
10. 8 765 ___ 4 321

Term 1 **Number and Algebra**
Lesson 14: Order numbers up to 10 000 from smallest to largest, and vice versa.

I. Learning Objectives
At the end of the lesson, the learners must be able to:

1. order numbers up to 10 000 from smallest to largest, and vice versa.

II. Development of the Lesson

A. Motivation
Conduct an **"Arrange Yourselves"** game to review the concept of arranging and ordering. Divide the learners into groups and ask each group to form a line. Give a prompt and have learners rearrange themselves according to the given order. Prompts may include:
   a. Alphabetical order of first names
   b. Birthday, from earliest to latest, without considering the year
   c. Alphabetical order of middle names

B. Discussion
1. Begin the discussion by asking learners which they think is taller: the barangay/city hall, their house, or their school. Ask them to share the highest place they have visited.

   Introduce the following scenario:
   "Imagine that you are an explorer studying the mountains of the Philippines. You recorded the heights of four mountains:"
   a. Mt. Pulag – 2,922 meters
   b. Mt. Kanlaon – 2,435 meters
   c. Mt. Dulang-dulang – 2,938 meters
   d. Mt. Apo – 2,954 meters

2. To discuss, explain that comparing numbers is like a competition between place values. We start with the "biggest" place value, which for now is the thousands.
   a. Step 1: Line Up the Numbers
   Have learners write the numbers so that the thousands, hundreds, tens, and ones are properly aligned.

   Our example will then be:

Mt. Pulag	2	9	2	2
Mt. Kanlaon	2	4	3	5
Mt. Dulang-dulang	2	9	3	8
Mt. Apo	2	9	5	4

   b. Step 2: The "Thousands" Battle
   Ask learners to compare the thousands digits first. If the digits are different, the number with the greater thousands digit is greater.

   In the example, all four mountains have **2** in the thousands place. Therefore, move to the next place value.

Mt. Pulag	**2**	9	2	2
Mt. Kanlaon	**2**	4	3	5
Mt. Dulang-dulang	**2**	9	3	8
Mt. Apo	**2**	9	5	4

   Therefore, move to the next place value.

   c. Step 3: The "Hundreds" Feud
   After the Thousands place, the learners should now look at the Hundreds place.

Mt. Pulag	2	**9**	2	2
Mt. Kanlaon	2	**4**	3	5
Mt. Dulang-dulang	2	**9**	3	8
Mt. Apo	2	**9**	5	4

   Since 4 is the smallest digit, Mt. Kanlaon is the shortest mountain among the four.

   d. Step 4: Keep Breaking the Tie
   To compare the remaining

mountains, look at the tens digits:

Mt. Pulag	2	9	**2**	2
Mt. Dulang-dulang	2	9	**3**	8
Mt. Apo	2	9	**5**	4

Since 2 < 3 < 5, Mt. Pulag is shorter than Mt. Dulang-dulang, while Mt. Apo is the tallest.

e. Step 5: Arrange the Numbers Guide learners in arranging the mountain heights from shortest to tallest:

2,435 < 2,922 < 2,938 < 2,954

Therefore:

- **Shortest:** Mt. Kanlaon
- **Tallest:** Mt. Apo

3. Introduce the formal terms for ordering numbers:
   a. Ascending order – arranging numbers from least to greatest or smallest to largest
   b. Descending order – arranging numbers from greatest to least or largest to smallest

C. Practice

1. Ask the learners to solve the following problem:

   Imagine that you are delivering products from Quezon City Memorial Circle. All your destinations are to the south, but you need to return to the Memorial Circle after completing all deliveries.

   The destinations and their estimated distances are:

Quezon City Hall	800 meters
Centris	2,414 meters
Ali Mall, Cubao	4,634 meters
Kamuning	2,501 meters
Cubao Expo	4,364 meters

   Ask: "If you decide to make your deliveries from the farthest destination to the nearest, what is the order of your deliveries?"

2. Ask the learners to solve the following problem:
   You are compiling your quiz scores and want to arrange them from highest to lowest.

Quiz 1	37
Quiz 2	43
Quiz 3	49
Quiz 4	34
Quiz 5	45

   Ask learners to answer the following questions:
   a. Which quiz has the **third-highest score**?
   b. Which quiz has the **lowest score**?
   c. How do you write your quiz scores in decreasing order?

D. Reflection

Ask the learners the following questions:

- What did we learn today?
- What are the steps to order numbers up to 10 000?

III. Homework

Ask the learners to answer the following activities on ordering and forming numbers.

Part 1: Arrange the numbers from largest to smallest:

1.	3 071	3 107	3 710
2.	4 579	5 012	3 598
3.	7 187	7 373	6 767

Part 2: Arrange the numbers from smallest to largest:

1.	9 378	8 645	6 172
2.	1 994	1 945	2 002
3.	6 234	6 432	6 342

Part 3: Form the greatest possible number using all the digits once for each set of digits. Then, answer the final question:

Set	Numbers	Greatest Number
1	4, 5, 9, 0	
2	9, 6, 8, 7	
3	3, 1, 9, 5	
4	7, 5, 1, 2	

What is the greatest number among the four sets?


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