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DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Mathematics

Quarter 1
Lesson
4

Lesson Exemplar for Mathematics Grade 4
Quarter 1: Lesson 4 (Week 4)
SY 2024-2025

Development Team

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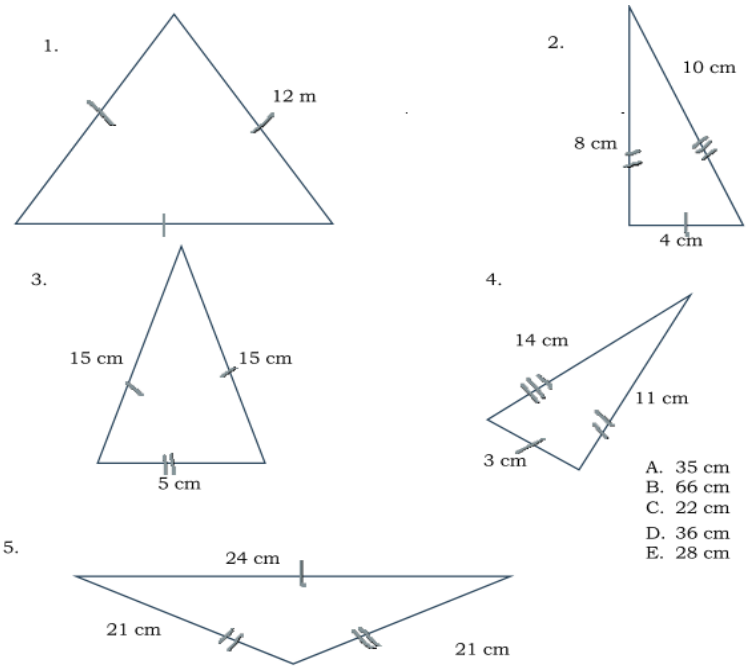
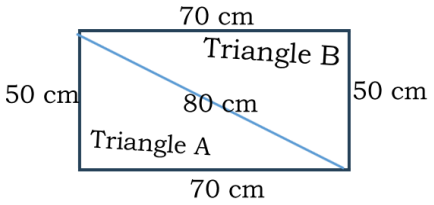
MATHEMATICS / QUARTER 1 / GRADE 4

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	The learners should have knowledge and understanding of the perimeter of quadrilaterals and composite figures composed of triangles and quadrilaterals.
B. Performance Standards	By the end of the quarter, the learners are able to… • find the perimeter of quadrilaterals and composite figures composed of triangles and quadrilaterals.
C. Learning Competencies and Objectives	**Find the perimeter of quadrilaterals that are not squares or rectangles** At the end of the lesson, the learners will be able to: 1. Give the meaning of composite figures; 2. give examples of composite figures; 3. solve for the perimeter of composite figures; 4. follow the correct formulas in solving for the perimeter of composite figures composed of triangles.
D. Content	Perimeter of Composite Figures Composed of Triangles and Quadrilaterals
E. Integration	Arts, Woodworking

II. LEARNING RESOURCES
Clapham, C., & Nicholson, J. (2009, January 1). The Concise Oxford Dictionary of Mathematics. Oxford University Press eBooks. https://doi.org/10.1093/acref/9780199235940.001.0001 Math With Mr. J. (2020, June 28). Perimeter of Composite Figures | Math with Mr. J. YouTube. https://www.youtube.com/watch?v=4c_-Q5gADcQ

III. TEACHING AND LEARNING PROCEDURE		**NOTES TO TEACHERS**
A. Activating Prior Knowledge	**DAY 1** **1. Short Review** Find Me! Answer the following.	**DAY 1** To determine learners' prior knowledge about the perimeter of triangles, let the learners answers Activity 1.Find Me! Answer:

	 **2. Feedback (Optional)**	1. D 2. C 3. A 4. E 5. B
B. Establishing Lesson Purpose	**DAY 1** **1. Lesson Purpose** Imagine you are designing a garden in the shape of a composite figure made up of triangles. If each triangle in your design has sides of 2 meters, 3 meters, and 4 meters, how would you calculate the total length of the garden's boundary? **2. Unlocking Content Vocabulary** Jumbled Words. 1. termeripe – perimeter 2. glerita – triangle 3. thgeln – length 4. posietcom – composite 5. guefir – figure	**DAY 1** The lesson's purpose is to help learners understand how to find the perimeter of composite figures made up of triangles. The goal is to apply the concept of perimeter to these complex shapes by breaking them down into simpler components. Introduce key vocabulary words such as "perimeter," "composite figure," "triangle," and "side length." Discuss the meaning of

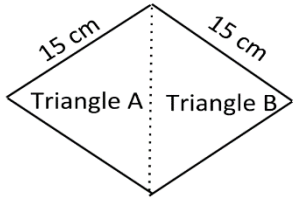
	1. Perimeter: The perimeter is the total distance around the edge of a two-dimensional shape. 2. Triangle: A triangle is a figure with three edges and three vertices. It is one of the basic shapes in geometry. 3. Length: Length is the measurement of something from end to end. It is the longest dimension of an object. 4. Composite Figure: A composite figure is a shape that is made up of two or more simple geometric shapes, such as triangles, rectangles, circles, and so on.	these terms and their relevance to the lesson.
C. Developing and Deepening Understanding	**DAY 2** **SUB-TOPIC 1: Perimeter of Composite Figures Composed of Triangles** **1. Explicitation** Mr. Rabang bought a cartolina for his Math Class. He needs two triangles of the same size without wasting any part of the cartolina. How will he divide it? What will be the perimeter of each triangle?  1. Who bought cartolina for his Math class? 2. How will he cut the cartolina into two triangles without wasting any part? 3. What do you call the figure cut into two equal triangles, like Mr. Rabang did to the Carolina he bought? 4. What do you think is the distance around each triangle? 5. What will be the perimeter of the two triangles? 6. How many triangles are there in the figure? 7. What figure was formed when the two triangles were combined? 8. How do we solve for the perimeter of two triangles? Since triangles have 3 sides, follow this formula. Triangle A= side1 + side2 + side3 or s1 + s2 + s3 Triangle A = 50 cm + 70 cm + 80 cm Triangle A = 200 cm Therefore, the Perimeter of Triangle A is 200 cm. Then, calculate the perimeter of Triangle B, following the same formula. Triangle B = side1 + side2 + side3 or s1 + s2 + s3	**DAY 2** **Explicitation Answers:** 1. Mr. Rabang 2. by equal triangles/2 right triangles 3. Composite Figures 4. 200 cm 5. 240 cm 6. two triangles 7. rectangle 8. To solve for the perimeter of the two triangles above, first calculate the perimeter of triangle A, then calculate the perimeter of Triangle B, then get the sum of the two triangles. The teacher should ensure that the learners properly identify the composite figure, which is the triangle, and that the values of their perimeters are different.

Triangle B = 50 cm + 70 cm + 80 cm
Triangle B = 200 cm Therefore, the Perimeter of Triangle B is 200 cm.

Now, add the perimeter of the two triangles.
P= Triangle A (200 cm) + Triangle B (200 cm)
P = 200 cm +200 cm
P= 400 cm
Therefore, the perimeter of the two triangles is 400 cm.

2. Worked Example

Example 1: The Grade 4 pupils of Pantay Elementary School were asked to draw a rhombus of 2 equal triangles with a side of 15 cm. What is the perimeter of the two triangles? What is the perimeter of the composite figure?



For Triangle A,
P = 15 cm + 15 cm + 15 cm.
P = 45 cm
Therefore, the perimeter of Triangle A is 45 cm.

For Triangle B,
P =15 cm + 15 m + 15 cm
P= 45 cm
Therefore, the perimeter of Triangle B is 45 cm.

Now, get the perimeters of the two triangles:
P = 45 cm + 45 cm P = 90 cm
Therefore, the perimeter of the two triangles is 90 cm.

But if we are solving for the perimeter of the composite figure which is the rhombus, we add all the sides around the figure using this formula.
P= s1 + s2 + s3 + s4 (since the rhombus has 4 sides)
P = 15 cm + 15 cm + 15 cm + 15 cm
P= 60 cm,
Therefore, the perimeter of the composite figure is 60 cm

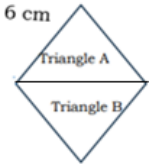
Worksheet No. 2 Answers:
I.
1. C 2. B 3. C 4. C 5. A 6. B

II.
1. P=3 x side or P=3 x s or P=3s
2. 36 cm
3. 36 cm
4. 72 cm
5. 48 cm

III.
1. D 2. D 3. C 4. A 5. B

The teacher prepares cutouts of different composite figures composed of quadrilaterals, with corresponding measurements of their sides. The cutouts may be placed in a mystery bag. The teacher can call some learners to draw at least one or two and let them solve for the perimeter. This can be done as a game. It may be used as an initial activity. Use the guide questions for processing.

Example 2. Compute the perimeter of the composite figure below. Find also the perimeter of the Triangle A and B.



Triangle A and Triangle B have the same measurements of their sides, which is 6 cm.

Triangle A:	P = 6 cm + 6 cm + 6 cm	OR	P = 3 x side
	P = 18 cm		P= 3 x 6 cm P = 18cm
Triangle B:	P = 6 cm+ 6 cm+6 cm	OR	P = 3 x side
	P = 18 cm		P = 3 x 6 cm P = 18 cm

What is the perimeter of the two triangles?

Triangle A + Triangle B P = 18 cm + 18 cm P= 36 cm

Therefore, the perimeter of the two triangles is 36 cm.

But if we are solving for the perimeter of the composite figure, which is the rhombus, we add all the sides around the figure using this formula.

P= s1 + s2 + s3 + s4 (since the rhombus has 4 sides)

P = 6 cm + 6 cm + 6 cm + 5 cm

P= 24 cm,

Therefore, the perimeter of the composite figure is 24 cm.

3. Lesson Activity

See Worksheet Activity No. 2

DAY 3

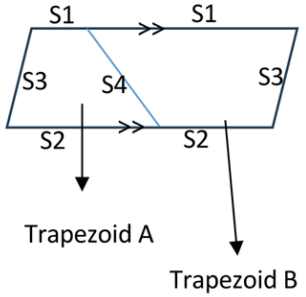
SUB-TOPIC 2: Perimeter of Composite Figures Composed of Quadrilaterals

1. Explicitation

Study the figure below.

Trapezoid A: S1 = 3 cm S2 = 9 cm S3 = 5 cm S4 = 8 cm

Trapezoid B: S1 = 12 cm S2 = 6 cm S3 = 5 cm S4 = 8 cm



1. How many trapezoids can you see in the figure?
2. What kind of figure is a trapezoid?
3. What are the measurements of the sides of the 2 trapezoids?
4. How do we solve for the perimeter of the two trapezoids?
5. How do we solve for the perimeter of the composite figure?

DAY 3

For advanced learners, present composite figures with irregular quadrilaterals or different combinations of quadrilaterals. For learners needing additional support, offer guided practice exercises with step-by-step assistance.

Explain how to solve for the perimeter of the two trapezoids and the perimeter of the whole composite figure. Since the figure has two quadrilaterals, follow these steps:
1. Identify all the quadrilaterals that make up the composite figure. * Trapezoid A and Trapezoid B

2. For each trapezoid, find the lengths of its sides.
Trapezoid A: S1 = 3 cm S2 = 9 cm S3 = 5 cm S4 = 8 cm
Trapezoid B: S1 = 12 cm S2 = 6 cm S3 = 5 cm S4 = 8 cm

3. Add up all the sides of each trapezoid. This gives you the perimeter of each trapezoid.

For Trapezoid A

P = s1 + s2 + s3 + s4
P= 3 cm + 9 cm + 5 cm + 8 cm P = 25 cm
Therefore, the perimeter of Trapezoid A is 25 cm

For Trapezoid B:

P = 12 cm + 6 cm + 5 cm + 8 cm P = 36 cm
Therefore, the perimeter of Trapezoid B is 31 cm

4. Then, sum up all the perimeters of the 2 trapezoids, this gives you the perimeter of the two quadrilaterals. Since the Perimeter of Trapezoid A is 25 cm and the Perimeter of Trapezoid B is 31 cm.

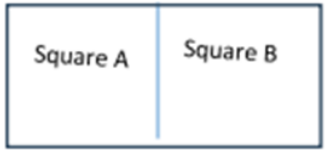
P = 25 cm + 31 cm P = 56 cm
Therefore, the perimeter of the two trapezoids is 56 cm.

5. But if we are solving for the perimeter of the composite figure, which is the trapezoid, we add all the sides around the figure using this formula:

P = (length1+length 2) + (width 1 + width 2)
P = (15 cm + 15 cm) + (5 cm + 5 cm) P = 30 cm + 10 cm P= 40 cm
Therefore, the perimeter of the composite figure above is 40 cm.

2. Worked Example

Example 1. Square A and Square B have 4 equal sides of 5 cm. Find the perimeter of square A, square B, and the composite figure.



Explicitation Answers:
1. 2
2. Quadrilateral with one pair of parallel sides
3. Trapezoid A: S1 = 3 cm S2 = 9 cm S3 = 5 cm S4 = 8 cm
Trapezoid B: S1 = 12 cm S2 = 6 cm S3 = 5 cm S4 = 8 cm
4. Add all the sides.
5. P = (length1+length 2) + (width 1 + width 2)

Worksheet No. 3 Answer:
I.
1. 6 sides
2. 18 cm, 17 cm,10 cm, 25 cm
3. 8 cm, 8cm
4. 18cm + 25cm+ 10cm +17cm+ 8cm+8cm = n
5. P= 86 cm

II.
1. 18 cm
2. 26 cm
3. 34 cm
4. 48 cm
5. 46 cm

III.
1. B 6.A
2. B 7. D
3. D 8. A
4. C 9. C
5. D 10.A

Since the composite figure has two equal squares and has the same lengths of its sides, we can also use this formula: P = 4x side or P = 4 x s or P = 4s

Ex. For Square A Side = 5 cm

P = 4 x side P = 4 x 5 cm

P = 20 cm

Therefore, the Perimeter of Square A is 20 cm.

For Square B P = 4 x side

P = 4 x 5 cm

P = 20 cm

Therefore, the perimeter of Square B is also 20 cm.

So, if you get the sum of the perimeter of the two squares.

Square A + Square B

P = 20 cm + 20 cm P = 40 cm.

Therefore, the perimeter of the 2 squares is 40 cm.

But if we are solving for the perimeter of the composite figure, composed of two squares, add all the sides.

P = (length 1 + length2) +(width1 + width 2)

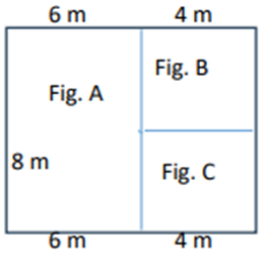
P = (10 cm + 10 cm) + (5 cm + 5 cm)

P = 20 cm + 10 cm

P = 30 cm

Therefore, the perimeter of the composite figure is 30 cm

Example 2. Find the perimeter of the composite figure, figure A, B, and C.



For Figure A, what are the measurements of its side?

Figure A Length = 8 m Width = 6 m

Simply add the measurements of the sides.

P = length 1 + length2 + width1 + width2

P= (8m + 8m) + (6m + 6m) P = 16 cm + 12 cm

P = 28m

Therefore, the perimeter of Figure A is 28 m.

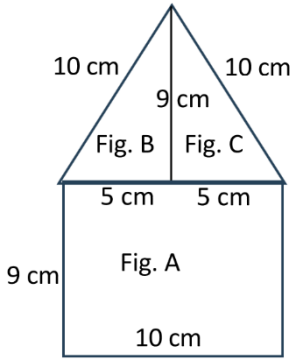
For Figure B, Side = 4 m P = side1 + side2 + side3 + side4
P = 4m + 4m + 4m + 4m
P = 16 m.
Therefore, the perimeter of Figure B is 16 m.

For Figure C, Side = 4 m P = side1 + side2 + side3 + side4
P = 4m + 4m + 4m + 4m P = 16 m
Therefore, the perimeter of Figure C is also 16m,

What is the perimeter of the three quadrilaterals? *Add all the perimeter of 3 figures*
P= Fig. A + Fig. B + Fig. C
P = 28m + 16m + 16m P= 60 m
Therefore, the perimeter of the 3 quadrilaterals is 60 m

But if we are solving for the perimeter of the whole composite figure, we just simply add all the sides using this formula:
Ex. P = (length1 + length 2) + (width1 + width2)
P = (10 m + 10 m) + (8m + 8 m)
P = 20 m + 16 m
P = 36m
Therefore, the perimeter of the whole composite figure is 36 m.

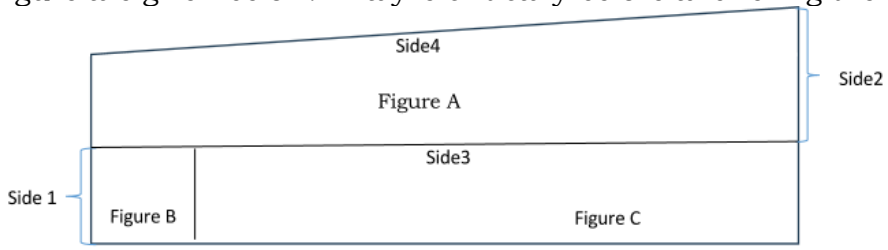
Example 3. Determine the perimeter of: a) Figure A, b) Figure B, c) Figure C, and d) composite figure.



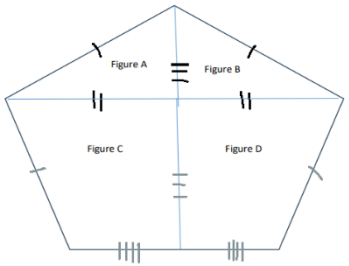
Given:
Figure A: Length= 10 cm Width = 9 cm
Figure B Side1 = 5cm Side2 = 9 cm Side 3 = 10 cm
Figure C Side1 = 5cm Side2= 9 cm Side3 = 10cm

For Figure A, Length = 10 cm Width = 9 cm
Add the measurements of the sides.
P = length 1 + length2 + width1 + width2
P= 10cm + 10cm + 9cm + 9cm
P = 38cm. Therefore, the perimeter of Figure A is 38 cm.

	For Figure B, Side1 = 5 cm Side2 = 9 cm Side3= 10 cm P = side1 + side2 + side3 P = 5cm + 9cm + 10cm P = 24 cm Therefore, the perimeter of Figure B is 24 cm. For Figure C, Side1 = 5 cm Side2 = 9 cm Side3 = 10 cm P = side1 + side2 + side3 P = 5cm + 9cm +10cm P = 24 cm. Therefore, the perimeter of Figure C is also 24cm. Then, add all the perimeter of the 3 figures. Fig. A + Fig. B + Fig. C P = 38cm + 24cm + 24cm P= 86 cm Therefore, the perimeter of the figure is 86cm. But if we are solving for the perimeter of the whole composite figure, we add all the sides around the figure. P = s1 + s2 + s3 + s4 + s5 P = 10cm + 10cm + 9cm + 9cm + 10 cm P= 48 cm Therefore, the perimeter of the whole composite figure above is 48 cm. **3. Lesson Activity** See Worksheet Activity No. 3	
D. Making Generalizations	**DAY 3** **1. Learners' Takeaways** How did breaking down these composite figures into simpler shapes help in calculating the perimeter accurately? **2. Reflection on Learning** Think about a real-world scenario where you might need to find the perimeter of a composite figure composed of triangles, such as designing a piece of art or planning a layout. How would understanding the properties of triangles help you in accurately determining the perimeter?	

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		NOTES TO TEACHERS
A. Evaluating Learning	**DAY 4** **1. Formative Assessment** I. Study the figure below and calculate the perimeter of each quadrilateral to find the perimeter of the whole composite figure. The measurements of the whole figure are given below. Analyze critically before answering the questions below.  Measurements: Side 2 = 5 m Side 3 = 16m Side 4 = 18m Square side = 4m 1. What are the measurements of the sides of the trapezoid (Figure A)? A.8m, 9m,15m and 12m C. 4m and 8m B. 4m, 5cm,16cm, and 18 cm D. 9m 2. What are the measurements of the sides of the square? A. 8m, 9m,15m and 12m C. 4m and 8m B. 4m D. 9m 3. What are the measurements of the sides of the rectangle? (Figure C) A. 8m, 9m,15m and 12m C. 4m and 12m B. 4m D. 9m 4. What is the perimeter of the rectangle? (Figure C) A. 32m C. 36m B. 34m D. 38m 5. What is the perimeter of the composite figure composed of 3 quadrilaterals? A. 48m C. 50m B. 49m D. 51m	**Answers:** Part I. 1. B 2. B 3. C 4. C 5. C Part II. 1. A 2. D 3. D 4. B 5. C 6. B 7. C 8. A 9. D 10. D

II. Analyze the figure below. Answer the following question.



Measurements:
Two Triangles: side 1= 20cm; side 2 = 18cm; side 3 = 15cm
Two trapezoids: side1 = 19cm; side2 = 18cm; side3= 17cm; side4 = 16cm

1. What are the measurements of the sides of the triangles?
   A. 20cm,18cm, and 15cm
   B. 19cm,18cm, and 15cm
   C. 19cm, 18cm,15cm and 16cm
   D. 20cm, 19cm, and 16cm

2. What is the perimeter of the triangle (Figure A)?
   A. 50 cm B. 51 cm C. 52 cm D. 53 cm

3. What is the perimeter of the triangle (Figure B)?
   A. 50 cm B. 51 cm C. 52 cm D. 53 cm

4. What are the measurements of the sides of the quadrilaterals?
   A. 19cm, 18cm, 15cm, and 14cm
   B. 19cm, 18cm,17cm, and 16cm
   C. 20cm, 19cm,18cm, and 15cm
   D. 18cm, 17cm,16cm, and 15cm

5. What is the perimeter of the trapezoid (Figure C)?
   A. 50 cm B. 60 cm C. 70 cm D. 80 cm

6. What is the perimeter of the trapezoid (Figure D)?
   A. 80 cm B. 70 cm C. 60 cm D. 50 cm

7. What is the perimeter of the two triangles?
   A. 102 cm B. 104 cm C. 106 cm D. 108 cm

8. What is the perimeter of the two quadrilaterals?
   A. 140 cm B. 150 cm C. 160 cm D. 170 cm

9. What is the perimeter of the trapezoids and Figure A?
   A. 163 cm B. 173 cm C. 183 cm D. 193 cm

<table>
<tr><td></td><td colspan="3">10. What is the perimeter of the composite figure composed of two triangles and two quadrilaterals?
A. 104 cm B. 106 cm C. 108 cm D. 110 cm

2. Homework (Optional)</td><td></td></tr>
<tr><td rowspan="5">B. Teacher's Remarks</td><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td><td rowspan="5">The teacher may take note of some observations related to the effective practices and problems encountered after utilizing the different strategies, materials used, learner engagement, and other related stuff.

Teachers may also suggest ways to improve the different activities explored/lesson exemplar.</td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>others</td><td></td><td></td></tr>
<tr><td>C. Teacher's Reflection</td><td colspan="3">Reflection guide or prompt can be on:
• <u>principles behind the teaching</u>
What principles and beliefs informed my lesson?
Why did I teach the lesson the way I did?

• <u>students</u>
What roles did my students play in my lesson?
What did my students learn? How did they learn?

• <u>ways forward</u>
What could I have done differently?
What can I explore in the next lesson?</td><td>Teacher's reflection in every lesson conducted/facilitated is essential and necessary to improve practice. You may also consider this as an input for the LAC/Collab sessions.</td></tr>
</table>