7

DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Mathematics

Quarter 1
Week
1

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Learning Activity Sheet for Mathematics Grade 7
Quarter 1: Week 1

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MATATAG **K to 10 Curriculum** **Weekly Lesson Log**	School		Grade Level	Grade 7
	Name of Teacher		Learning Area	Mathematics
	Teaching Dates and Time		Quarter	1

	DAY 1	DAY 2	DAY 3	DAY 4
I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES				
A. *Content Standards*	The learners demonstrate knowledge and understanding of 1. regular and irregular polygons and their features/properties; and 2. determination of measures of angles and the number of sides of polygons.			
B. *Performance Standards*	By the end of the quarter, the learners are able to: 1. draw and describe the features/properties of a regular and irregular polygon			
C. *Learning Competencies*	The learners 1. classify polygons according to the number of sides, whether they are regular or irregular, and whether they are convex or non-convex.	The learners 1. classify polygons according to the number of sides, whether they are regular or irregular, and whether they are convex or non-convex.	The learners 1. draw triangles, quadrilaterals, and regular polygons (5, 6, 8, or 10 sides) with given angle measures	The learners 1. draw triangles, quadrilaterals, and regular polygons (5, 6, 8, or 10 sides) with given angle measures
D. *Learning Objectives*	At the end of the lesson, the learners will be able to: 1. define polygon 2. identify polygon and non-polygon 3. identify polygons according to sides 4. define and identify the diagonals of a polygon 5. Identify convex and non-convex polygon	At the end of the lesson, the learners will be able to: 1. identify regular and irregular polygons 2. measure the angles and sides of the polygon	At the end of the lesson, the learners will be able to: draw triangles with given side and angle measures.	At the end of the lesson, the learners will be able to: 1. draw quadrilaterals, with given side and angle measures.
E. *Instructional Design framework feature (s)*	Context, Connection Collaboration, Creativity	Context, Connection Collaboration, Creativity	Context, Connection Collaboration, Creativity	Context, Connection Collaboration, Creativity
F. *21st Century Skills*	Visual Literacy Technological Literacy Digital Literacy	Visual Literacy Technological Literacy Digital Literacy	Visual Literacy Technological Literacy Digital Literacy	Visual Literacy Technological Literacy Digital Literacy

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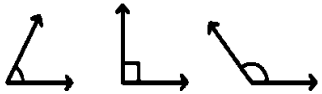
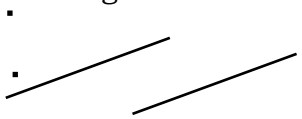
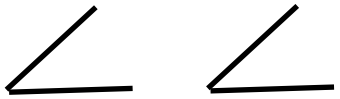
	Critical Thinking Problem-Solving	Critical Thinking Problem-Solving	Critical Thinking Problem-Solving	Critical Thinking Problem Solving
II. CONTENT	Classifying Polygons according to number of sides, according to convex and non-convex	Classifying Regular and Irregular Polygons	Drawing triangles with given side and angle measures	Drawing quadrilaterals with given side and angle measures
III. LEARNING RESOURCES				
A. References				
B. Other Learning Resources				
IV. TEACHING AND LEARNING PROCEDURES				
Before/Pre-Lesson Proper				
Activating Prior Knowledge	The teacher will post pictures of different types of angles, triangles, and quadrilaterals. The students will be asked what type of triangles and quadrilaterals are posted: **Activity #1** A. Name the angles:  Acute Angle Obtuse Angle Right Angle B. Match the given triangles with the names given below:	The teacher will post pictures: • What can you say about the 2 segments?  ANS. They are equal in measure. • How will you determine if they have equal measures? ANS. Using ruler 	The teacher will show the students a ruler and protractor and ask them if they can draw line segments using ruler and angles using a ruler and a protractor. The teacher will play the video. https://www.youtube.com/watch?v=27LHhakKL2Q **Activity #1** On their bond papers, the teacher will ask the students to work on the following tasks: a. Draw a line segment of length 7 cm	The teacher will use the interactive quadrilaterals website to review the properties of quadrilaterals: https://www.mathsisfun.com/quadrilaterals.html

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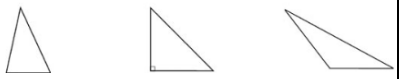
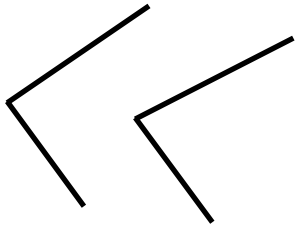
	Triangles according to angle:  Acute Obtuse Right Triangles according to sides:  Scalene Isosceles Equilateral C. The students will be asked to draw the following: 1. Square 2. Rectangle 3. Parallelogram 4. Rhombus 5. Trapezoids To enhance the learning experience, you can engage student's existing knowledge by posing the following questions: • How are angles measured? • Can you draw or construct an angle?	• What can you say about the angles? ANS. They are equal • How will you determine if they have equal measures? Do you know how to use protractors? ANS. By measuring using a protractor. Note to the teacher: Provide students with practice using a protractor. **Activity # 1** Using a ruler or protractor, determine if the following are equal in measure. 1.  2.  3. 	b. Draw a line segment AB of length 10 cm. c. Draw line segment CD with the same length as AB. The teacher will play another video. https://www.youtube.com/watch?v=dJPAOvD0jxs **Activity #2** On their bond papers, the teacher will ask the students to work on the following tasks: a. Draw an angle with a measure of 30° b. Draw an angle with a measure of 80° c. Draw an angle with a measure of 130° d. Draw an angle with a measure of 180°	

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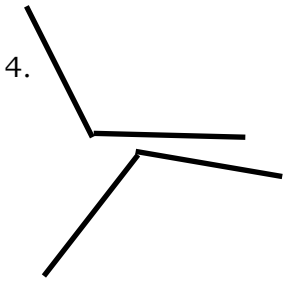
	• How are triangles classified? • How will you differentiate the different kinds of quadrilaterals?	4. 		
Lesson Purpose/ Intention	The lesson for the day is about classifying Polygons according to the number of sides, according to convex and non-convex	The lesson for the day is identifying a regular and irregular polygon.	The lesson for the day is drawing triangles with given side and angle measures.	The lesson for the day is drawing quadrilaterals with given side and angle measures.
Lesson Language Practice	To facilitate language practice, the learners will do **Activity#2:** Match the following words with the given definitions: SEGMENT POLYGON DIAGONAL CONVEX POLYGON CONCAVE POLYGON TRIANGLE QUADRILATERAL VERTICES INTERIOR ANGLES a. a flat or plane, two-dimensional closed	To facilitate language practice, the learners will do **Activity # 2**: UNSCRAMBLE the letters to find the correct word: 1. QEULA ASUMREE - when the amount of one thing is the same as the amount of another thing 2. ARTROPCTRO – used to measure angles 3. ERUALGR YGPLNOO all the sides and interior angles are equal	To facilitate language practice, the learners will do **Activity #3** Fill in the blank with the correct letters. 1. _ **E G** _ **E** _ **T -** the portion of a line between any two of its points. 2. _ **N** _ _ **E -** formed by two rays or lines that share a common endpoint. 3. _ **R** _ **T** _ **A** _ _ **T** _ **R -** used for drawing angles of known measures and finding angles of unknown measures	To facilitate language practice, the learners will do **Activity # 1.** Fill in the blank: _____sides are pairs of sides that have a common vertex. If two sides of a quadrilateral do not share an endpoint, they are referred to as its _____ sides. If the sides of a geometric shape do not

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	shape bounded with straight sides b. a polygon with 3 sides, 3 angles, and 3 vertices c. a line segment connecting the opposite vertices (or corners) of a polygon d. a polygon having four sides, four angles, and four vertices. e. a polygon having all the interior angles less than 180 f. angles that lie inside a polygon g. a polygon having at least one interior angle greater than 180 ° h. the points where two or more-line segments or edges meet (like a corner) i. sides of a polygon	4. ERURALIGR YGLOPNO The sides and interior angles are not equal	4. _ **R** _ **A** _ _ **L** _ - a three-sided polygon that consists of three edges and three vertices	cross or meet, and their distance from one another remains constant, then the sides are _____. _____ angles are the angles directly opposite each other where two lines cross _____ angles are those angles that sum up to 180 °. Adjacent Opposite Parallel Supplementary
During/Lesson Proper				
Reading the Key Idea/ Stem	To establish and understand the concepts, the teacher will present the key ideas and concepts: TRIANGLE is a polygon with 3 sides, 3 angles, and 3 vertices	To establish and understand the concepts, the teacher will present key ideas and concepts:	To establish and understand the concepts, the teacher will present key ideas and concepts: • The sum of the angles of a triangle is 180°	To establish and understand the concepts, the teacher will present the different key ideas and concepts such as:

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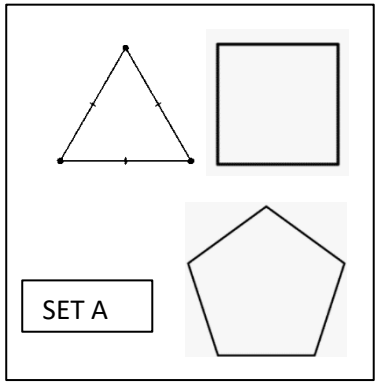
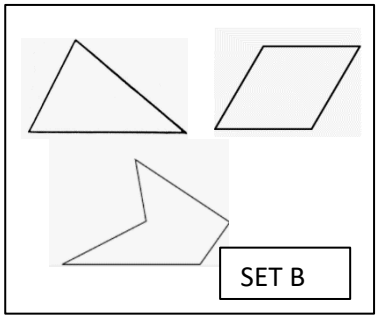
	QUADRILATERAL is a polygon having four sides, four angles, and four vertices. CONVEX polygon having all the interior angles less than 180°. CONCAVE polygon - a polygon having at least one interior angle greater than 180°.	• The teacher will post 2 sets of pictures.   • Describe the set of polygons.	• Triangles according to side – scalene, isosceles and equilateral • Triangles according to angles – right, acute, and obtuse	• The sum of the angles of a quadrilateral is 360° • In a square – all sides are equal; all angles are 90° • In a rectangle – opposite sides are parallel and equal; all angles are 90°. • In a rhombus – opposite sides are parallel, all sides are equal, and adjacent angles are supplementary. • In a parallelogram – opposite sides are parallel and equal, adjacent sides are supplementary, and opposite angles are equal. • We can draw a quadrilateral by using their properties.
Developing Understanding of the Key Idea/ Stem	To develop learners' understanding of the key ideas presented in the activity above, the teacher	To develop learners' understanding of the key ideas presented in the activity above, the teacher will ask the	To develop learners' understanding of the key ideas presented in the activity above, the teacher will play the video:	To develop learners' understanding of the key ideas presented in the activity above, the

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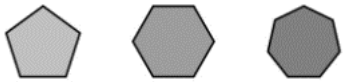
	will ask the following questions: • Based on the definition of the triangle and quadrilateral, what are the common words? ANS. Polygon, sides, angles, and vertices. • Again based on the definition, can we say that triangles and quadrilaterals are polygons? ANS. Yes. • How many sides does a triangle have? How about quadrilateral? ANS. 3, 4 • Can you draw polygons other than triangles and quadrilaterals? ANS. YES The students will be asked to draw polygons.  • The teacher will ask the students to describe the polygons which they have drawn.	following questions based on the pictures given: • Describe the figures in Set A. How do they differ? How are they similar? • Let the students measure the sides and the angles. ANS. The sides and angles of the given polygons in SET A have equal measures. • Describe the figures in Set B. How do they differ? How are they similar? • Let the students measure the sides and the angles. ANS. The sides and angles of the given polygons in SET B have unequal measures. • Compare Set A to Set B. ANS. Polygons in Set A are Regular Polygons while polygons in Set B are Irregular Polygons. Regular Polygons are polygons with equal sides and angles while Irregular Polygons are polygons with unequal sides and angles. • Is square a regular polygon? ANS. Yes, because all sides are equal and all angles are equal	Drawing a triangle with two sides given and the angle between them https://www.youtube.com/watch?v=aV4FFDj56Cg&t=34s The students will be asked to draw a given triangle: AB = 6 cm AC = 8 cm ∠CAB = 65° Drawing a triangle with two angles and their common side given. https://www.youtube.com/watch?v=j6bFLboSxxI The students will be asked to draw a given triangle: AB = 10 cm ∠CAB = 55° ∠CBA = 40° The teacher will ask students to explore other ways of drawing a triangle given the measure of sides and angles. Let's say given 3 angles.	teacher will play the video: Drawing a square using a protractor and ruler. https://www.youtube.com/watch?v=4HbPJGrOqb0 The students will be asked to draw a square with a side equal to 15 cm. Drawing a rectangle using a protractor and ruler. https://www.youtube.com/watch?v=3WayDQ4A2Jo&t=4s The students will be asked to draw a rectangle with sides equal to 15 cm and 10 cm. Drawing a rhombus using a protractor and ruler. https://www.youtube.com/watch?v=QQfZMHxtqrc&t=127s

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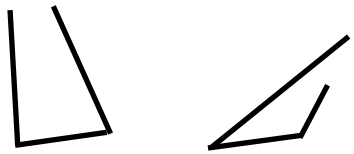
	• How are the figures drawn? ANS. Using lines that meet at certain points. • Are the figures closed? ANS. Yes • Based on the given figures how will you define a POLYGON? ANS. A Polygon is a closed figure consisting of line segments joined at their endpoints. The line segments are the sides and the vertex is the point at which the two sides meet. • Can we consider the figure below a polygon?  ANS. No, because those are not closed figures. • How do we name a polygon? The teacher will present the video (https://www.youtube.c	• Is the rhombus a regular polygon? ANS. No. because the angles are not equal though the sides are equal • Are convex polygons always regular polygons? ANS. No, Not always • Are concave polygons regular? Ans. No		The students will be asked to draw a rhombus with sides equal to 12 cm and one angle equal to 50° Drawing a parallelogram using a protractor and ruler. https://www.youtube.com/watch?v=FClYkrjtXHY The students will be asked to draw a parallelogram with sides equal to 15 cm and 10 cm and one angle equal to 110°

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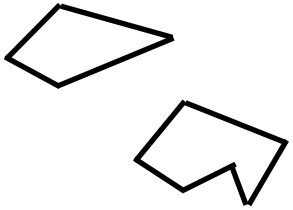
	om/watch?v=OjIj5hv93sk) **Activity # 3** ● The students will be asked to connect the vertices with a segment:  The teacher will ask the following questions: ● If we connect 2 vertices using segments on the 2 polygons, how are they different? ANS. In the first figure, all segments will be inside the polygon, in the second figure, one segment will be outside the polygon **Activity # 4** The students will be asked to determine the measure of the interior angles of the polygon.			

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	• What can you say about the measures of the interior angles? ANS. In the first figure, all interior angles are less than 180 °. In the second figure, one angle is more than 180 °. The teacher will state the following: CONVEX polygon having all the interior angles less than 180. CONCAVE polygon - a polygon having at least one interior angle greater than 180 °.			
Deepening Understanding of the Key Idea/ Stem	The students will accomplish **Learning Activity Sheets # 1 and 2.**	The students will accomplish **Learning Activity Sheet # 4**	The students will accomplish **Learning Activity Sheet # 5**	The students will accomplish **Learning Activity Sheet # 7**
After/Post-Lesson Proper				
Making Generalizations and Abstractions	The teacher will ask the students: • What is a polygon? • What are the different types of polygons based on the # of sides? • What is the difference between a convex and concave polygon?	The teacher will ask the students: • What is a regular polygon? • What is an irregular polygon? • Is convex always regular? Is concave always irregular?	The teacher will ask the students: • What tool can be used to draw a triangle? We can draw a triangle given what conditions?	The teacher will ask the students: • What tool can be used to draw quadrilaterals? In drawing quadrilaterals, it is important to _____.

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Evaluating Learning	The students will answer **Learning Activity Sheet #3**	The students will answer **Learning Activity Sheet #5**	The students will accomplish **Learning Activity Sheet # 6**	The students will accomplish **Learning Activity Sheet # 8**
Additional Activities for Application or Remediation (if applicable)	For students who do not score 75% on the assessment, supplementary exercises will be given.	For students who do not score 75% on the assessment, supplementary exercises are included within the activity sheet.	For those learners who do not score 75% on the assessment, extra exercises are available on the activity sheet as further practice.	In case learners do not score 75% on the assessment, an additional exercise is made available on the activity sheet to offer further practice and support.
Remarks	The lesson focuses on Classifying Polygons according to the number of sides, according to convex and non-convex. Other remarks can be noted as the need arises.	The lesson focuses on Regular and Irregular Polygons Other remarks can be noted as the need arises.	The lesson focuses on Drawing Triangles with given side and angle measures using a ruler and protractor. Other remarks can be noted as the need arises	The lesson focuses on Drawing quadrilaterals with given side and angle measures using a ruler and protractor. Other remarks can be noted as the need arises
Reflection				

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