Middle School
Mathematics
Grade 8

مـدرسـة ليـوا الـدوليـة للبنـات
LIWA INTERNATIONAL SCHOOL FOR GIRLS

TERM 1							
DATE	**WEEK**	**UNIT**	**STUDENT LEARNING OBJECTIVE**	**CORRESPONDING CCSS**	**SCF**	**ASSESSMENT**	**ASS DATE**
	Week 1	2	**The Number System** • Compare rational and irrational numbers to demonstrate that the decimal expansion of irrational numbers do not repeat; show that every rational number has a decimal expansion which eventually repeats and convert such decimals into rational numbers. • Use rational numbers to approximate and locate irrational numbers on a number line and estimate the value of expressions involving irrational numbers.	8.NS.1 8.NS.2			
	Week 2	2	• Apply the properties of integer exponents to simplify and write equivalent numerical expressions.	8.EE.1			
	Week 3	2	• Use scientific notation to estimate and express the values of very large or very small numbers and compare their values (how many times larger/smaller is one than the other). • Perform operations using numbers expressed in scientific notation, including problems where both decimals and scientific notation are used (interpret scientific notation generated when technology has been used for calculations).	8.EE.3 8.EE.4		MATH MAP EXAM	
	Week 4	2	• Perform operations using numbers expressed in scientific notation, including problems where both decimals and scientific notation are used (interpret scientific notation generated when technology has been used for calculations).	8.EE.4			

			• In real-world problem solving situations choose units of appropriate size for measurement of very small and very large quantities.				

Vocabulary:

Integers Negative numbers Positive numbers Whole numbers Cube root Irrational numbers Perfect cube Perfect square Principal square root Rational number Real numbers Repeating decimal Square root Terminating decimal Base exponent Integers Positive number Power Rational number Real numbers Scientific notation Standard notation Whole number

Unit Questions:

8.NS.1

☐ I CAN distinguish between rational and irrational numbers.

☐ I CAN write rational numbers as a decimal expansion.

☐ I CAN convert a repeating decimal expansion into a rational number.

☐ I CAN show informally that every number has a decimal expansion.

8.NS.2

☐ I CAN compare values of irrational numbers.

☐ I CAN label the approximate location of irrational numbers on a number line.

8.EE.1

☐ I CAN recall the properties of exponents.

☐ I CAN apply the properties of integer exponents to produce equivalent numerical expressions.

8.EE.2

☐ I CAN recall small perfect squares and cubes.

☐ I CAN identify small perfect squares, perfect cubes, square roots, and cube roots.

8.EE.3

☐ I CAN convert between standard form and scientific notation.

☐ I CAN compare numbers written in scientific notation.

8.EE.4

☐ I CAN solve expressions where numbers are written in both decimal and scientific notation.

Possible Resources:

Opening Tasks, Pearson, Mathletics, Brain Pop, Matching Cards

DATE	WEEK	UNIT	STUDENT LEARNING OBJECTIVE	CORRESPONDING CCSS	SCF	ASSESSMENT	ASS DATE
	Week 5	1	**Geometry** • Utilize the properties of rotation, reflection, and translation to model and relate pre-images of lines, line segments, and angles to their resultant image through physical representations and/or Geometry software.	8.G.1			
	Week 6	1	• Apply an effective sequence of rotations, reflections, and translations to prove that two dimensional figures are congruent.	8.G.2			
	Week 7	1	• Use the coordinate plane to locate pre-images of two-dimensional figures and determine the coordinates of a resultant image after applying dilations, rotations, reflections, and translations.	8.G.3		MID-TERM EXAM	
	Week 8	1	• Recognize dilation as a reduction or an enlargement of a figure and determine the scale factor. • Apply an effective sequence of transformations to determine that figures are similar when corresponding angles are congruent and corresponding sides are proportional. Write similarity statements based on such transformations.	8.G.3 8.G.4			
	Week 9	1	• Apply an effective sequence of transformations to determine that figures are similar when corresponding angles are congruent and corresponding sides are proportional. Write similarity statements based on such transformations.	8.G.4 8.G.5			

			• Justify facts about angles created when parallel lines are cut by a transversal.				
	Week 10	1	• Justify facts about the exterior angles of a triangle, the sum of the measures of the interior angles of a triangle and the angle-angle relationship used to identify similar triangles.	8.G.5			
	Week 11	1	• Justify facts about the exterior angles of a triangle, the sum of the measures of the interior angles of a triangle and the angle-angle relationship used to identify similar triangles.	8.G.5			

Vocabulary:
Coordinate plane Center of rotation Congruent Image Line of reflection Parallelogram Preimage Quadrilateral Reflection Rhombus Rotation Transformation Translation Trapezoid Center of dilation Coordinate plane Dilation Enlargement Image Origin Preimage Reduction Quadrants Scale, Scale factor Similar x-axis y-axis Acute angles Alternate exterior angles Alternate interior angles Angle Congruent Corresponding angles Exterior angles Interior angles Obtuse angles Parallel lines Remote interior angle Same-side interior angles

Unit Questions:
8.G.1
☐ I CAN write statements of congruence.
☐ I CAN write statements of congruence when comparing 2-D figures.
☐ I CAN identify rotations, reflections, and translations.
☐ I CAN identify corresponding sides and corresponding angles.
☐ I CAN identify parallel lines between the figures and its image.
8.G.2
☐ I CAN apply the concept of congruency to 2-D figures.
☐ I CAN write congruent statements when comparing two-dimensional figures.
8.G.3 ☐ I CAN use a scale factor to determine the coordinates of a figure.
☐ I CAN model with coordinates to describe the effects of translation, rotation, and reflections on two dimensional figures.
8.G.4
☐ I CAN apply the concept of similarity to write similarity statements.

☐ I CAN reason that a two-dimensional figure is similar to another if the second can be obtained by a sequence of rotations, reflections, translation, or dilation.

☐ I CAN describe the sequence of rotations, reflections, translations, or dilations that exhibits the similarity between two-dimensional figures using words and/or symbols.

8.G.5

☐ I CAN create a formula for the sum of the interior angles of a polygon.

☐ I CAN create a formula for the measurement of one interior angle of a regular polygon.

☐ I CAN create a method of determining the measurement of an exterior angle of a polygon.

☐ I CAN recognize the relationship of the angles formed when two parallel lines are cut by a transversal.

☐ I CAN determine the measurement of the angles formed by parallel lines that are cut by a transversal.

☐ I CAN apply the angle-angle theorem to prove similar triangles.

Possible Resources:

Opening Tasks, Pearson, Mathletics, Brain Pop, Matching Cards