

PLANNED COURSE

SUBJECT AREA: Mathematics **GRADE/COURSE:** 8
Standard And Strand 2.1: Numbers, Number Systems and Number Relationships

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Demonstrate a knowledge of whole numbers, fractions, decimals, percents, and their relationship to each other.</p> <ul style="list-style-type: none"> • Determine which number is evenly divisible by a given number. • Demonstrate an understanding of multiples. • Identify prime and composite numbers. • Demonstrate prime factorization and exponents. 	<ol style="list-style-type: none"> 1. Identify, order, compare and use whole numbers, fractions, decimals, and percents. 2. Identify rules that apply to divisibility of a given number. 3. List multiples of a given number. 4. List common multiples and the least common multiple of numbers. 5. List the factors of a number and identify it as prime or composite. 6. Illustrate prime factorization and exponents through the use of factor trees. 	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>C. Order real numbers on the number line.</p> <ul style="list-style-type: none"> • Recognize the relationships of fractions, decimals and percents. <p>G. Model and solve real-life situations.</p> <p>E. Model simple algebraic expressions using tiles or manipulatives.</p>	<p>1. Illustrate whole numbers and decimals on a number line.</p> <p>2. Write a decimal as a fraction and a fraction as a decimal.</p> <p>1. Write and solve an equation for a real-life situation.</p> <p>1. Model solutions to one-step equations using algebra tiles or block manipulatives.</p>	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

SUBJECT AREA: Mathematics
Standard And Strand 2.2 Computation and Estimation

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Calculate the value of expressions involving grouping symbols.</p> <ul style="list-style-type: none"> • Perform 4 basic operations with whole numbers, fractions and decimals. <p>B. Choose the appropriate operation to solve multi-step word problems.</p> <ul style="list-style-type: none"> • Solve word problems involving the four basic operations using decimals and fractions. 	<ol style="list-style-type: none"> 1. Know and use order of operations. 2. Solve problems involving mixed operations with and without parentheses, exponents, or fraction bars. <ol style="list-style-type: none"> 1. Compute sums, differences, products and quotients with whole numbers, fractions and decimals. 2. Create and solve word problems involving decimals, fractions and integers. 3. Choose the correct operations to solve multi-step problems. 4. Solve various word problems involving rational numbers and/or percents. 	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

SUBJECT AREA: Mathematics
Standard And Strand 2.3 Measurement and Estimation

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Choose the most suitable tools for measurement in metric and standard units.</p> <ul style="list-style-type: none"> • Draw, label, name and calculate perimeter and area of rectangles, triangles and parallelograms. <p>C. Draw, label and name angles as acute, right, obtuse, and straight using a calculator.</p> <p>D. Solve real-life problems that require converting units of measurement between systems.</p> <ul style="list-style-type: none"> • Identify and compare units of distance, time and rate. 	<p>1. Select the appropriate unit of measurement (standard or metric).</p> <p>2. Draw, label, name and calculate perimeter and area of rectangles, triangles, and parallelograms.</p> <p>1. Use a protractor to draw, label and name angles as acute, right, obtuse and straight.</p> <p>1. Identify and compare units of distance, time and rate.</p> <p>2. Apply appropriate conversions to measurement in real-life situations.</p>	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

SUBJECT AREA: Mathematics
Standard And Strand 2.4 Mathematical Reasoning and Connections

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Gather and sort data to make informed decisions.</p> <p>B. Formulate conjecture based on reasoning.</p> <p>C. Construct logical verifications or counter examples to test conjectures.</p> <p>D. Identify various strategies to solve problems.</p>	<p>1. Analyze the data collected to make informed decisions.</p> <p>1. Write statements believed to be true but not proven based on reasoning.</p> <p>1. Write logical and equivalent statements and their negations to test conjectures.</p> <p>1. Recognize rules that apply to various equations.</p> <p>1. Write statements with precise language of logic.</p>	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

SUBJECT AREA:
Standard And Strand

Mathematics
2.5 Mathematical Problem Solving and Communication

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Recognize and use a variety of strategies to solve problems.</p> <p>B. Support solutions with written and verbal communication.</p> <p>C. Apply organization methods and a variety of strategies to solve complex and non-routine problems.</p> <ul style="list-style-type: none"> • Solve real-world problems using number lines. • Create a visual representation of a problem and use it to solve the problem. <p>D. Identify necessary and unnecessary information in order to solve story problems.</p>	<p>1. Make an organized list to solve a problem.</p> <p>1. Verify solutions using written and verbal communication.</p> <p>1. List steps and write equations to solve word problems.</p> <p>1. Analyze word problems to identify needed or extra information in a problem, then solve.</p>	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

SUBJECT AREA:
Standard And Strand

Mathematics
 2.7 Probability and Predictions

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Define and find the number of combinations in a given situation.</p> <ul style="list-style-type: none"> • Analyze predictions. • Recognize that experimental results differ from mathematical calculations of probability. <p>B. Understand and use basic probability involving real-life situations.</p> <p>C. Solve real-life situations that involve probability.</p> <p>D. Recognize the validity of probability Outcome.</p>	<ol style="list-style-type: none"> 1. Choose combinations from a field of possible choices for a given situation. 2. Interpret what predictions were made for various problems. 3. Solve problems involving probability using experimental results and mathematical calculations. <ol style="list-style-type: none"> 1. Write the probability of an event as a percent. <ol style="list-style-type: none"> 1. Solve real-life situations that involve probability. <ol style="list-style-type: none"> 1. Find the validity of probability outcome. 	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

SUBJECT AREA: Mathematics
Standard And Strand 2.8 Algebra and Functions

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Recognize linear patterns.</p> <p>C. Write and evaluate simple algebraic expressions and solve simple equations.</p> <p>D. Use manipulatives to reinforce mathematical concepts.</p> <p>H. Plot, describe, and interpret points on a coordinate plane.</p> <p>J. Write function rules and create given data labels.</p>	<p>1. Create, describe and extend patterns.</p> <p>1. Write and solve simple algebraic expressions.</p> <p>2. Solve simple mathematical equations.</p> <p>1. Perform mathematical operations using manipulatives.</p> <p>1. Use an ordered pair to plot, describe and interpret a location on a coordinate plane.</p> <p>1. List function rules and create given data labels.</p>	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

SUBJECT AREA: Mathematics
Standard And Strand 2.9 Geometry

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Draw, label, name and describe points, lines, planes and their relationships.</p> <p>B. Construct line segments and angles.</p> <ul style="list-style-type: none"> • Differentiate between complementary and supplementary angles. <p>C. Recognize and identify different polygons.</p> <p>D. Identify and demonstrate the relationship between two and three dimensional figures.</p> <p>H. Identify and locate triangles, quadrilaterals, circles, prisms, cylinders, and cones.</p>	<p>1. Construct, label, name and describe points, lines and planes and their relationships.</p> <p>1. Draw lines, line segments and angles.</p> <p>2. Make a distinction between supplementary and complementary angles.</p> <p>1. Distinguish the difference between the various polygons with their various shapes and angles.</p> <p>1. Show the relationship between 2D and 3D figures.</p> <p>1. Recognize and locate triangles, quadrilaterals, circles, prisms, cylinders, and cones.</p>	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>

SUBJECT AREA: Mathematics
Standard And Strand 2.10 Trigonometry

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
A. Identify and use the right triangles in real-life applications through real and scale models.	1. Select right triangles from an assortment of triangles using real and scale models.	Homework Written work Teacher observation Projects Group work Quizzes Teacher made tests Standardized tests Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items

SUBJECT AREA: Mathematics
Standard And Strand 2.11 Concepts of Calculus

GRADE/COURSE: 8

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>B. Identify least and greatest values represented in graphs.</p> <p>C. Order data to locate maximum and minimum values.</p> <p>D. Compare rates of change in real-life situations.</p>	<p>1. Recognize least and greatest values shown in a variety of graphs.</p> <p>1. Compare numbers and real-life quantities using ordering symbols which include $>$, $<$, \geq, \leq.</p> <p>1. Compare rates of change.</p>	<p>Homework</p> <p>Written work</p> <p>Teacher observation</p> <p>Projects</p> <p>Group work</p> <p>Quizzes</p> <p>Teacher made tests</p> <p>Standardized tests</p> <p>Accommodations: small group instruction; un-timed testing; cueing to remain on task; teacher-read material; limited number of items</p>