

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

Month	IB Unit/Topic	Assessments and Activities	Approaches to Learning	Curriculum Standards and IB Criterion and Strands
September Week One 1-3 days	Expectations	Activities: PRIDE for Math Classroom. PowerPoint on Teacher Expectations 3 Ring Binder Organization	In order for students to communicate complete and coherent mathematical lines of reasoning, students must negotiate ideas and knowledge with peers and teachers(Communication/communication)	IB Criterion/Strands: Criterion C: Communicating i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use different forms of mathematical representation to present information iv. communicate complete and coherent mathematical lines of reasoning
	Group Work Instruction Benchmark Measures Balanced Math Activities	Scramble Squares Numbers 1-100 AIMS testing will happen on a monthly basis for proficiency monitoring. Review Practice Mental Math	In order for students to use different forms of mathematical representation to present information, students must Help others to create success for themselves during group work. (Social/Collaboration)	
	The Number	Activities:	In order for students to	

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

	System (Chapter 1 in book) I. Rational Numbers II. Powers and Exponents III. Multiply and Divide Monomials IV. Powers of Monomials V. Negative Exponents VI. Scientific Notation VII. Compute with Scientific Notation VIII. Roots IX. Estimate Roots X. Compare Real Numbers	Vocabulary Word Study Are you ready? U1 Chapter 1: L1-10 Notes Packet: Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied as a packet for each student. (Modified version for special education students) Videos from youtube reinforcing some of the lessons Guided Practice modeled by the teacher Present material, provide examples, encourage independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to	apply the selected mathematics successfully when solving problems, students must demonstrate persistence and perseverance (Self-Management/Affective) In order for students to select appropriate mathematics when solving problems in both familiar and unfamiliar situations, students must interpret data (Thinking/Critical Thinking) In order for students to describe patterns as relationships and/or general rules consistent with findings, students must evaluate evidence and arguments (Thinking/Critical Thinking) In order for students to verify and justify relationships and/or general rules, students must Organize and depict information logically(Communication/Communication skills)	Standards: <u>CCSS.MATH.CONTENT.8.NS.A.1</u> Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. <u>CCSS.MATH.CONTENT.8.NS.A.2</u> Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). <i>For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.</i> <u>CCSS.MATH.CONTENT.8.EE.A.1</u> Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $32 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$. <u>CCSS.MATH.CONTENT.8.EE.A.2:</u> Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. <u>CCSS.MATH.CONTENT.8.EE.A.3:</u> Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. <i>For example, estimate the population of the United States as 3 times 10^8 and the</i>
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		participate in activities to reinforce the concept -Number System Ice Cream Task L1 -Sort 4 -KarJam -Exponents A Math Computation Activity -Crack the Code L2 -Exponents Expressions -Various Maze Activities Scientific Notation Square Roots/Cube - Roots (REVIEW)-10 minutes) to review past concepts that may prepare for future concepts -Math Tag Relay -ComputationNation.com -Various Pizzazz puzzles -Minute Reviews (GAME)-10 minutes) fun way to work on math facts -Farkle -Math skills Games -Prodigygame.com -Yahtzee -Math Facts Bingo Formative: -PreTest -U1 Ch 1 L2 Powers and Exponents Table -Homework Slips - 5 question review		<i>population of the world as 7 times 10⁹, and determine that the world population is more than 20 times larger.</i> <u>CCSS.MATH.CONTENT.8.EE.A.4</u>: Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology IB Criterion and Strands Criterion A: Knowing and understanding students should be able to: - i.select appropriate mathematics when solving problems in both familiar and unfamiliar situations - ii.apply the selected mathematics successfully when solving problems Criterion B: Investigating patterns: - ii.describe patterns as relationships and/or general rules consistent with findings - iii.verify and justify relationships and/or general rules.
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		Exit Ticket Summative: -U1 Mid Chapter Quiz -U1 Ch 1 L8 Perfect Square Quiz UNIT 1 TEST(CriterionA) PerformanceTask Scientific Notation Operations StellarPerformance (1) (CriterionB)		
Month	IB Unit/Topic	Assessments and Activities	ATL SKILLS	Curriculum Standards and IB Criterion and Strands
October	Equations in One Variable (Chapter 2) Lesson 1: Solve Equations with Rational Coefficients Inquiry Lab: Solve Two-Step Equations Lesson 2: Solve Two-Step Equations Lesson 3: Write Two-Step Equations Lesson 4: Solve Equations with Variables on Each	Activities: Vocabulary Word Study Are you ready? -Join khanacademy.com for resource -L1-5 Notes Packet -Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied as a packet for each student. (Modified version for special education students) Videos from youtube reinforcing some of the lessons Guided Practice modeled by the teacher Present material, provide examples, encourage	In order for a students to identify relevant elements of authentic real-life situations students must apply existing knowledge to generate new ideas, products, or processes. (Thinking/Creative) In order for a students to select appropriate mathematical strategies when solving authentic real-life situations students must apply skills and knowledge in unfamiliar situations (Thinking/ Transfer) In order for a students to apply the selected mathematical strategies successfully to reach a solution students must demonstrate persistence and perseverance	Standards: 8.EE.7 Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. IB Criterion/Strands: Criterion D: i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

	Side Lesson 5: Solve Multi-Step Equations	independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to participate in activities to reinforce the concept -One Step Dance -Maze Two step -Face-It Multistep -Equation Pairs -2 Step Toucan (REVIEW-10 minutes) to review past concepts that may prepare for future concepts -Math Tag Relay -ComputationNation.com -Various Pizzazz puzzles -Graphing Pumpkins -Minute Reviews -ESCAPE ROOM Review (GAME-10 minutes) fun way to work on math facts...	(Self-Management/ Affective) In order for a students to explain the degree of accuracy of a solution students must practice flexible thinking- develop multiple opposing, contradictory and complementary arguments. (Thinking/Creative) In order for a students to describe whether a solution makes sense in the context of the authentic real-life situation students must propose and evaluate a variety of solutions. (Thinking/Critical Thinking)	life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. explain whether a solution makes sense in the context of the authentic real-life situation.
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		-Farkle -Math skills Games -Prodigygame.com -Yahtzee -Math Facts Bingo Formative; -PreTest Homework Slips - 5 question review Prodigygame.com Exit Tickets Summative: Mid-Chapter Quiz Chapter 2 Test Performance Task: Minecraft		
Month	IB Unit/Topic	Assessments and Activities	Approaches to Learning	Curriculum Standards and IB Criterion and Strands
November	Equations in Two Variables (chapter 3) Lesson 1: Constant Rate of Change Inquiry Lab: Graphing on marker boards: Rate of Change Lesson 2: Slope Lesson 3: Equations in $y =$	Activities: Vocabulary Word Study Are you ready? Notes Packet -Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied as a packet for each student. (Modified version for special education students)	In order for a students to use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations students must keep an organized and logical system of information files/notebooks. (Self-Management/ Organization) In order for a students to use different forms of mathematical	Standards: CCSS.MATH.CONTENT.8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed. CCSS.MATH.CONTENT.8.EE.B.6 Use similar triangles to explain why the slope

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

	mx Form Lesson 4: Slope-Intercept Form Lesson 5: Graph a Line Using Intercepts Lesson 6: Write Linear Equations Inquiry Lab: Graphing Model Linear Behavior Inquiry Lab: Graphing Technology: Systems of Equation Lesson 7: Solve Systems of Equations by Graphing Lesson 8: Solve Systems of Equations Algebraically Inquiry Lab: Analyze Systems of Equations Chapter Review	Videos from youtube reinforcing some of the lessons Guided Practice modeled by the teacher Present material, provide examples, encourage independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Whole Group Activity Marker Boards $y = mx + b$ Investigative Lesson Point-Slope Form Reflective Activity Following investigation Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to participate in activities to reinforce the concept -Tis the Season Graphing -Proportional Ornaments -Airplane Folding from $y=mx=b$	representation to present information students must combine knowledge, understanding, and skills to create products or solutions. (Thinking/Transfer) In order for a students to communicate complete and coherent mathematical lines of reasoning students must organize and depict information logically. (Communication/Communication) In order for a students to organize information using a logical structure students must collect and analyse data to identify solutions and make informed decisions. (Research/Information Literacy)	m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b. <u>CCSS.MATH.CONTENT.8.EE.C.8.A</u> Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. <u>CCSS.MATH.CONTENT.8.EE.C.8.B</u> Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</i> <u>CCSS.MATH.CONTENT.8.EE.C.8.C</u> Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i> IB Criterion/Strands: Criterion C: Communicating i. use appropriate mathematical language (notation, symbols and
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		-Chasing Elves -Stained Glass -Equation Matching (REVIEW-10 minutes) to review past concepts that may prepare for future concepts -Math Tag Relay -ComputationNation.com -Various Pizzazz puzzles -Graphing Pumpkins -JEOPARDYLAB.COM for Test Review -Billybug.com -Mobeymax.com -Minute Reviews (GAME-10 minutes) fun way to work on math facts... -Farkle -Math skills Games -Prodigygame.com -Yahtzee -Math Facts Bingo - New Line Game -Integer Spoons Formative: -PreTest Quiz on Slope Mid-Chapter Check Homework Slips - 5 question review Exit Tickets		terminology) in both oral and written explanations ii. use different forms of mathematical representation to present information iii. move between different forms of mathematical representation iv. communicate complete and coherent mathematical lines of reasoning v. organize information using a logical structure.
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		Summative: Mid-Chapter Check Unit 3 TEST Performance Task: -Choose Your Own Journey		
Month	IB Unit/Topic	Assessments and Activities	ATL SKILLS	Curriculum Standards and IB Criterion and Strands
December	Functions (Chapter 4) Lesson 1: Represent Relationships Lesson 2: Relations Inquiry Lab: Relations and Functions Lesson 3: Functions Lesson 4: Linear Functions Lesson 5: Compare Properties of Functions Lesson 6: Construct	Activities: Notes Packet -Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied as a packet for each student. (Modified version for special education students) Videos from youtube reinforcing some of the lessons Guided Practice modeled by the teacher Present material, provide examples, encourage independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Investigative Lesson Graphing quadratics	In order for a students to select appropriate mathematics when solving problems in both familiar and unfamiliar situations students must interpret data (Thinking/Critical Thinking) In order for a students to apply the selected mathematics successfully when solving problems students must combine knowledge, understanding and skills to create products or solutions (Thinking /Transfer) In order for a students to solve problems correctly in a variety of contexts students must apply existing knowledge to generate new ideas, products or processes. (Thinking/Creative Thinking)	Standards: <u>CCSS.MATH.CONTENT.8.F.A.1</u> Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.1 <u>CCSS.MATH.CONTENT.8.F.A.2</u> Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i> <u>CCSS.MATH.CONTENT.8.F.A.3</u> Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. <i>For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.</i>

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

	Functions Lesson 7: Linear and Nonlinear Functions Lesson 8: Quadratic Functions Lesson 9: Qualitative Graphs	Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to participate in activities to reinforce the concept -Solving Equations Coloring -Domain/Range Coloring -Function Dot to Dot -Cut/paste function sort -Finding functions(green) (REVIEW-10 minutes) to review past concepts that may prepare for future concepts -Math Tag Relay -Graphing Turkeys -ComputationNation.com -Various Pizzazz puzzles -Graphing Pumpkins -ESCAPE ROOM Review -Billybug.com (GAME-10 minutes) fun way to work on math facts... -Multiply by Numbers Boxes--Lines -Divide by Numbers Boxes --Lines	Use functions to model relationships between quantities. <u>CCSS.MATH.CONTENT.8.F.B.4</u> Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. <u>CCSS.MATH.CONTENT.8.F.B.5</u> Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. IB Criterion/Strands: Criterion A: Knowing and understanding i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts.
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		-Farkle -Math skills Games -Prodigygame.com -Yahtzee -Math Facts Bingo -Integer Facts Spoons -Over the River Game Formative: -PreTest Homework Slips - 5 question review Poster Project...pairs Comparing Functions SPEED REVIEW for test study Exit Tickets Summative: Mid-Chapter Check Chapter 4 Test Performance Task: Twittering		
Month	IB Unit/Topic	Assessments and Activities	ATL SKILLS	Curriculum Standards and IB Criterion and Strands
January	Scatter Plots and Data Analysis (Chapter 9) Book: Glencoe Math Common Core Edition(CCSS) Course 3 Inquiry Lab:	Activities: Notes, Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied as a packet for each student. (Modified version for special education students)	In order for students to select appropriate mathematics when solving problems in both familiar and unfamiliar situations, students must combine knowledge understanding and skills to create products or solutions. (Thinking/Transfer). In order for students to apply the selected mathematics	Standards: 8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. 8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

	Scatter Plots Lesson 1: Scatter Plots Lesson 2: Lines of Best Fit Lesson 3: Two-Way Tables Lesson 4: Descriptive Statistics Lesson 5: Measures of Variation Lesson 6: Analyze Data Distributions	Videos from youtube reinforcing some of the lessons including but not limited to: Learn Scatter Plots and Best Fitting Lines - YouTube Khanacademy.com Guided Practice modeled by the teacher Present material, provide examples, encourage independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to participate in activities to reinforce the concept (REVIEW-10 minutes) to review past concepts that may prepare for future concepts -Math Tag Relay -ComputationNation.com	successfully when solving problems, students must apply existing knowledge to generate new ideas products or processes. (Thinking/Creative Thinking). In order for students to Describe Patterns as Relationships and or general rules consistent with findings, students must interpret data. (Thinking/Critical Thinking). In order for student to Verify and justify relationships and/or general rules, students must collect and analyze data to identify solutions and make informed decisions. (Research/Information Literacy)	suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. 8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height. 8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. IB Criterion and Strands Criterion A.Knowing and Understanding i. Select appropriate mathematics when solving problems in both familiar and unfamiliar situations - ii.Apply the selected mathematics successfully when solving problems. Criterion B.Investigating Patterns - i.Describe Patterns as Relationships and or general rules consistent with findings - ii.Verify and justify relationships and/or general rules
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		-Various Pizzazz puzzles -Graphing Pumpkins -ESCAPE ROOM Review -Billybug.com (GAME-10 minutes) fun way to work on math facts... -Farkle -Math skills Games -Prodigygame.com -Yahtzee -Math Facts Bingo Formative: -Homework Slips - 5 question review -Inquiry Lab: Scatter Plots Exit Tickets Summative: -Mid-Chapter Check -Chapter 9 Test Performance Task -Monopoly Mania		
Month	IB Unit/Topic	Assessments and Activities	ATL SKILLS	Curriculum Standards and IB Criterion and Strands
February	Triangles and the Pythagorean Theorem (Chapter 5) Lesson 1: Lines Inquiry Lab: Triangles	Activities: Notes Packet -Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied as a packet for each student. (Modified version for special education students) Videos from youtube	In order for a students to identify relevant elements of authentic real-life situations students must apply existing knowledge to generate new ideas, products, or processes. (Thinking/Creative) In order for a students to select appropriate mathematical strategies when solving authentic real-life situations students must	Standards: 8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the three angles appear to form a line, and give an argument in terms of transversals why this is so. 8.G.6 Explain a proof of the Pythagorean Theorem and its converse.

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

	Lesson 3: Angles of Triangles Lesson 4: Polygons and Angles Inquiry Lab: Right Triangle Relationships Lesson 5: The Pythagorean Theorem Inquiry Lab: Proofs About the Pythagorean Theorem Lesson 6: Use the Pythagorean Theorem Lesson 7: Distance on the Coordinate Plane	reinforcing some of the lessons Guided Practice modeled by the teacher Present material, provide examples, encourage independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Whole Group Activity Triangle Ripping to 180 Highlighting Angles Investigative Activity Finding Exterior Angle Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to participate in activities to reinforce the concept -Pythagorean Puzzle -Angle Pairs Matching -Parallel/Trans Maze -Parallel/Trans Coloring -Missing Angles of Triangle -Quadrilateral Card Sort -Pythagorean Partner	apply skills and knowledge in unfamiliar situations (Thinking/Transfer) In order for a students to apply the selected mathematical strategies successfully to reach a solution students must demonstrate persistence and perseverance (:Self-Management /Affective) In order for a students to explain the degree of accuracy of a solution students must practice flexible thinking- develop multiple opposing, contradictory and complementary arguments.(Thinking/ Creative) In order for a students to describe whether a solution makes sense in the context of the authentic real-life situation students must propose and evaluate a variety of solutions. (Thinking/Critical Thinking)	8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. 8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. IB Criterion and Strands Criterion D: i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. explain whether a solution makes sense in the context of the authentic real-life situation.
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		-Pythagorea Doodle page -Pythagorean Solve and Snip -(REVIEW -10 minutes) to review past concepts that may prepare for future concepts -Math Tag Relay -ComputationNation.com -Various Pizzazz puzzles -Graphing Pumpkins -Pairs of Angles -Billybug.com (GAME -10 minutes) fun way to work on math facts... -Farkle -Math skills Games -Prodigygame.com -Yahtzee -Math Facts Bingo Formative: -PreTest -Homework Slips - 5 question review -ESCAPE ROOM Review Exit Tickets Summative: -Mid-Chapter Check -Chapter 5 Test -Performance Task: Speed Tiling		
Month	IB Unit/Topic	Assessments and Activities	ATL SKILLS	Curriculum Standards and IB Criterion and Strands
March	Transformatio	Activities:	In order for a student to apply	Standards:

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

	ns (Chapter 6) Inquiry Lab: Transformations Lesson 1: Translations Lesson 2: Reflections PSI: Act it Out Inquiry Lab: Rotational Symmetry Lesson 3: Rotations Inquiry Lab: Dilations Lesson 4: Dilations	Notes Packet -Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied as a packet for each student. (Modified version for special education students) Videos from youtube reinforcing some of the lessons Guided Practice modeled by the teacher Present material, provide examples, encourage independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to participate in activities to reinforce the concept (REVIEW-10 minutes) to	mathematical problem-solving techniques to recognize patterns students must apply existing knowledge to generate new ideas, products or processes (Thinking/ Creative Thinking) In order for a student to describe patterns as relationships or general rules consistent with correct findings students must evaluate evidence and arguments (Thinking/Critical Thinking) In order for a student to verify whether the pattern works for other examples. students must test generalizations and conclusions(Thinking/Critical Thinking)	8.G.1 Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines 8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. 8.G.3 Describe the effect of dilations, translations, rotations and reflections on two-dimensional figures using coordinates. 8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. IB Criterion/Strands: Criterion B: Investigating patterns i. apply mathematical problem-solving techniques to recognize patterns ii. describe patterns as relationships or general rules consistent with correct findings iii. verify whether the pattern works for
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Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

Textbook/Instructional Materials: GlencoeMath Common Core Edition(CCSS) Course 3

		review past concepts that may prepare for future concepts -Math Tag Relay -ComputationNation.com -Various Pizzazz puzzles -Graphing Pumpkins -ESCAPE ROOM Review -Billybug.com (GAME-10 minutes) fun way to work on math facts... -Farkle -Math skills Games -Prodigygame.com -Yahtzee -Math Facts Bingo Formative: -PreTest Homework Slips - 5 question review Exit Ticket Summative: Mid-Chapter Check Chapter 6 Test Performance Tasks: Picture Transformations		other examples.
Month	IB Unit/Topic	Assessments and Activities	ATL SKILLS	Curriculum Standards and IB Criterion and Strands
April	Congruence and Similarity (Chapter 7) Lesson 1: Congruence and	Activities: Notes Packet -Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied	In order for students to select appropriate mathematics when solving problems in both familiar and unfamiliar situations, students must combine knowledge understanding and skills to create products or	Standards: CCSS.MATH.CONTENT.8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations: CCSS.MATH.CONTENT.8.G.A.1.A

Course: 8th Grade Math Curriculum Guide

Grade Level: 8th Grade

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	Transformations Inquiry Lab: Investigate Congruent Triangles Lesson 2: Congruence Inquiry Lab: Similar Triangles Lesson 3: Similarity and Transformations Lesson 4: Properties of Similar Polygons Lesson 5: Similar Triangles and Indirect Measurement Lesson 6: Slope and Similar Triangles Lesson 7: Area and Perimeter of Similar Figures	as a packet for each student. (Modified version for special education students) Videos from youtube reinforcing some of the lessons Guided Practice modeled by the teacher Present material, provide examples, encourage independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to participate in activities to reinforce the concept (REVIEW-10 minutes) to review past concepts that may prepare for future concepts -Math Tag Relay -ComputationNation.com -Various Pizzazz puzzles	solutions. (Thinking/Transfer). In order for students to apply the selected mathematics successfully when solving problems, students must apply existing knowledge to generate new ideas products or processes. (Thinking/Creative Thinking) In order for a students to use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations students must keep an organized and logical system of information files/notebooks. (Self-Management/ Organization) In order for a students to use different forms of mathematical representation to present information students must combine knowledge, understanding, and skills to create products or solutions. (Thinking/Transfer) In order for a students to communicate complete and coherent mathematical lines of reasoning students must organize and depict information logically.	Lines are taken to lines, and line segments to line segments of the same length. <u>CCSS.MATH.CONTENT.8.G.A.1.B</u> Angles are taken to angles of the same measure. <u>CCSS.MATH.CONTENT.8.G.A.2</u> Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. <u>CCSS.MATH.CONTENT.8.G.A.4</u> Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. <u>CCSS.MATH.CONTENT.8.G.A.5</u> Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give</i>
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		-Graphing Pumpkins -ESCAPE ROOM Review -Billybug.com (GAME-10 minutes) fun way to work on math facts... -Farkle -Math skills Games -Prodigygame.com -Yahtzee -Math Facts Bingo Formative: -PreTest Homework Slips - 5 question review Exit Tickets Formative: -PreTest -Homework Slips - 5 question review Summative: Mid-Chapter Check Chapter 7 Test Performance Task:	(Communication/ Communication)	<i>an argument in terms of transversals why this is so.</i> IB Criterion and Strands Criterion A.Knowing and Understanding i. Select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii.Apply the selected mathematics successfully when solving problems. Criterion C: Communicating i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use different forms of mathematical representation to present information iv. communicate complete and coherent mathematical lines of reasoning
Month	IB Unit/Topic	Assessments and Activities	ATL SKILLS	Curriculum Standards and IB Criterion and Strands
May	Volume and Surface Area (Chapter 8) Inquiry Lab: Three-Dimensional Figures	Activities: Notes Packet -Students are provided note sheets for the whole unit and are expected to keep in their 3 ring binder. Pre-typed outline copied as a packet for each student. (Modified	In order for a students to identify relevant elements of authentic real-life situations students must apply existing knowledge to generate new ideas, products, or processes. (Thinking/Creative) In order for a students to select	Standards: 8.G.9 Know the formulas for the volume of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. IB Criterion/Strands:

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	Lesson 1: Volume of Cylinders Lesson 2: Volume of Cones Lesson 3: Volume of Spheres Lesson 4: Surface Area of Cylinders Lesson 5: Surface Area of Cones Lesson 6: Changes in Dimensions	version for special education students) Videos from youtube reinforcing some of the lessons Guided Practice modeled by the teacher Present material, provide examples, encourage independent practice with support, allow the independent practice Additional exercises and discussion are engaged in to learn and reinforce the skills needed. Group Rotations (TEACHER-10 minutes) to practice the concept with teacher's direction and help - Lesson SKILLS sheets -Lesson Homework sheets - Book Assignments (ACTIVITY-10 minutes) to participate in activities to reinforce the concept (REVIEW-10 minutes) to review past concepts that may prepare for future concepts -Math Tag Relay -ComputationNation.com -Various Pizzazz puzzles -Graphing Pumpkins -Billybug.com	appropriate mathematical strategies when solving authentic real-life situations students must apply skills and knowledge in unfamiliar situations (Thinking/Transfer) In order for a students to apply the selected mathematical strategies successfully to reach a solution students must demonstrate persistence and perseverance (:Self-Management /Affective) In order for a students to explain the degree of accuracy of a solution students must practice flexible thinking- develop multiple opposing, contradictory and complementary arguments.(Thinking/ Creative) In order for a students to describe whether a solution makes sense in the context of the authentic real-life situation students must propose and evaluate a variety of solutions. (Thinking/Critical Thinking)	Criterion D: i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. explain whether a solution makes sense in the context of the authentic real-life situation.
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Month	IB Unit/Topic	Assessments and Activities	ATL SKILLS	Curriculum Standards and IB Criterion and Strands
June		Activities: Formative: Summative:		Standards: IB Criterion and Strands