TEKSING TOWARD STAAR

MATHEMATICS

GRADE 8

TEKS/STAAR-BASED
LESSONS

TEACHER GUIDE
General Information

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TEACHER GUIDE
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Overview

Guidelines for Lesson Components
in Grade 8 Lessons

Materials: Review the list of materials needed for each lesson and prepare materials prior to beginning a lesson. Make sure Grade 8 Math Notes sheets are available to all students.

Math Background

A small print version is provided for the teacher for each part of the lesson. These materials will be presented in a large print projection version for use with students. Students will take notes on these projection pages on the Math Notes page. They will be allowed to use their notes during lesson activities. This may be the first time students have experienced "note taking" . They are to record in their words and their own way. The information recorded may be words, symbols, or pictures.

As each page is projected, various students share what they think is important information on the page. The teacher does NOT read the math background to the students and students do NOT read the math background to the class. Each student reads the information himself or herself. After students share the information, they write their notes. Some pages may NOT need any notes taken by most or all students.

Problem-Solving

A Problem-Solving Model is in this lesson for use throughout the entire school year. This model addresses the Process Standards TEKS 8.1B. This model should be discussed during this lesson and a copy should be given to each student to keep in their math notebook.

A projection version of each Problem-Solving activity is provided and will follow each part of a lesson. A general set of questions that should be addressed by students as they solve the problems and during class discussion of the solution process for each problem is located before Problem-Solving Problem 1 in Lesson 1. Teachers should make a copy of these questions for each student and distribute prior to beginning Problem-Solving 1 in this lesson.

Teachers should discuss the questions and let students know they will be answering these questions for problem-solving activities during the entire school year. Each student should keep a copy of the questions in his/her math notebook.

Students work in partner pairs to answer the Problem-Solving questions. The teacher projects the problem, and then sets a time limit prior to the students beginning their work. Partner pairs are given specific "share" questions from 1-10 on the Problem-Solving Questions page. The process that should be followed by students for all Problem-Solving problems is to answer questions 1-3, then complete the solution to the problem, and then answer questions 4-10.

The teacher calls time and the partner pairs guide class discussion on their "share" assignments. Students who did not complete the solution to the problem prior to the time limit must complete recording in a different color.

Student Activity

A Student Activity follows a Problem-Solving Activity in each part of the lesson. Students work in pairs to complete a Student Activity, however, each student completes their own activity page(s). Math Notes are utilized to enable students to successfully complete the activity. If students did not take notes on materials they need to complete the activity, the teacher should invite them to view the Projection pages and take more detailed notes.

Various partner pairs should be assigned portions of the Student Activity for whole-class discussion. Before students begin the activity, the teacher should inform the class of time allotted for completion of the activity. Time should be called even if all partner pairs are not finished. Whole class discussion should begin with the partner pairs that had assignments leading the discussion. Partner pairs that did not complete the activity may complete the activity at this time by recording in a different color pencil or pen.

A Student Activity is **not** designed to be recorded as a grade, but should be recorded as a holistic score. A scale of 1-5 is appropriate as follows:
- 1 = little if any attempt
- 2 = no understanding evident
- 3 = minimal understanding evident
- 4 = mostly understood or slight mathematical errors
- 5 = complete understanding evident and no mathematical errors

Some lessons contain a Student Activity that is a hand-on activity. Teacher Notes prior to the student page(s) will contain questions that the teacher should ask before, during, and after the activity. It will also contain things for the teacher to look for during the activity.

Skills and Concepts Homework

Skills and Concepts Homework is provided for each lesson. More than one homework is provided if a lesson should be more than one instructional day in duration.

Each homework assignment includes 5 open-ended questions. The teacher should choose two or three questions to be scored by the teacher. The teacher should make written feedback comments for each student and should return the homework assignments within two days. Partial credit should be given if a student's work exhibits partial understanding, or if the student makes a minor mathematical mistake. Only ½ credit should be given for a correct answer if student work is not shown on the homework. The score on each Homework assignment may be recorded for each student. Periodically these scores should be combined and recorded as a grade.

Mini-Assessment

A lesson Mini-Assessment is completed by individual students and scored by the teacher. No assistance should be given during this time. Allow about 20 minutes for completion of the Mini-Assessment. The amount of time may vary for some assessments.

The teacher should score each Mini-Assessment with a score of 1-10. Partial credit may be given for each question if the student shows evidence of understanding but did not choose the correct answer due to minor mathematical error. Only ½ credit should be given for a correct answer if student work is not shown on the assessment. Scores should be periodically combined and recorded as a grade.

The teacher should record class data for this assessment in the Class Profile book. Students should record individual data in their Student Profile book.

Notes Page

Name _____   Date_____

Grade 8 Math Notes

Materials List

GRADE 8 MATERIALS LIST - SIX WEEKS 1-6

| SIX WEEKS	LESSON	ITEM	QUANTITY
1	1	Math Notes Page Problem-Solving Plan Problem-Solving Questions Page	1 per student 1 per student 1 per student
1	2	Irrational Number Cards (copy on cardstock. Cut apart and put Irrational Number Cards in one zipper gallon plastic bag and w the 0, -10 and 10 cards in a snack size bag). Adding machine tape or blue painter tape	1 set 15-20 feet
1	3	Real Number Cards and Blank Number Cards (copy on cardstock, cut out, and laminate.) Put in a baggie. Wide blue painter's tape line. Ticky tack or tape to tape number cards on number line	1 set 15-20 feet 2 per pair of students
1	4	protractor ruler $\frac{1}{4}$-inch grid paper colored pens or pencils	1 per student 1 per student 1 per student 1 set per pair of student
1	5	Equation Cards (copy on cardstock cut apart and put in baggie Solution Set Cards (copy on cardstock, cut apart and put in baggie. white paper	1 set per Group of 4 students 1 set per pair of students 1-2 sheets per pair of students
1	6	No Materials Needed	
1	7	Scissors glue sticks colored construction paper (11 by 18) collection of newspapers, magazines, and old science books that may be cut up	1 per group of 4 students 1 per group of 4 students 1 per group of 4 students 1 per group of 4 students
1	8	Protractor	1 per student
1	9	Table Cards (copy on cardstock, cut apart and put in a baggie) Equation Cards (copy on cardstock, cut apart and put in a baggie) calculator	1 set per pair of students 1 set per pair of students 1 per student
1	10	No materials needed	
2	1	No materials needed	
2	2	No materials needed	

GRADE 8 MATERIALS LIST - SIX WEEKS 1-6

SIX WEEKS	LESSON	ITEM	QUANTITY
2	3	Table, Graph, and Equation cards (copy on cardstock, laminate, and cut apart, put in baggies) Graphing calculator per student	1 set per group of 3 students 1 per student
2	4	number cube Number cards (copy on cardstock, laminate, and cut apart, put in baggie)	1 per pair of students 1 set per pair of students
2	5	Toothpicks or Drink Stirrers	40 per pair of students
2	6	¼ inch grid paper Patty paper	1 sheet per student 1 sheet per student
2	7	No materials needed	
2	8	Grid paper Colored markers or crayons Ruler for straightedge	1 per student 3 per pair of students 1 per pair of students
2	9	No materials needed	
2	10	No materials needed	
3	1	Graphing Calculator	1 per student
3	2	Graphing Calculator	1 per student
3	3	Graphing Calculator	1 per student
3	4	Graphing Calculator	1 per student
3	5	Graphing Calculator sheets of patty paper rulers scissors colored pencils Pythagorean Theorem Patty Paper Proof for projection	1 per student 4-5 per student 1 per student 1 pair per student 2 per student 1
3	6	calculator	1 per student
3	7	rectangular prism, metric ruler, centimeter grid paper calculator	1 Per Pair of Students 1 Per Pair of Students 1 Per Student 1 Per Student
3	8	1-6 number cubes, calculator a marker Class Data Sheet	1 per student 1 per student 1 per pair of students 1
4	1	Graphing Calculator Grid Paper	1 per student 2-3 sheets per student
4	2	Graphing Calculator	1 per student
4	3	Graphing Calculator	1 per student
4	4	Rectangle Set (copy on cardstock) Triangle Set (copy on cardstock) Centimeter ruler (STAAR one if possible)	1 set per pair of students 1 set per pair of students 1 per student

GRADE 8 MATERIALS LIST - SIX WEEKS 1-6

SIX WEEKS	LESSON	ITEM	QUANTITY
4	5	Problem Cards and Equation/Inequality cards (copy on different color cardstock, cut apart, and put in baggies)	1 set per group of 4 students
4	6	Graphing Calculator	1 per student
4	7	Graphing Calculator	1 per student
4	8	Graphing Calculator	1 per student
5	1-7	Graphing Calculator	1 per student
6	1-2	No Materials Needed	

Profile Booklets

TEKSING TOWARD STAAR
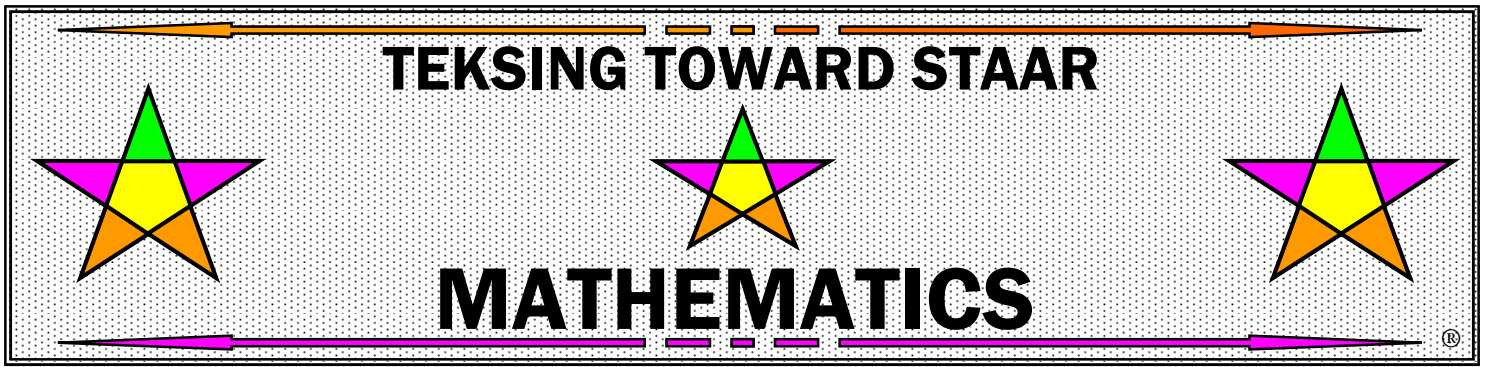
MATHEMATICS

Grade 8

Class Profile for Spiraled Practice

Teacher _____

Class _____

GRADE 8 TEKSING TOWARD STAAR MATHEMATICS CLASS PROFILE

STAAR REPORTING CATEGORY 1: NUMERICAL REPRESENTATIONS AND RELATIONSHIPS

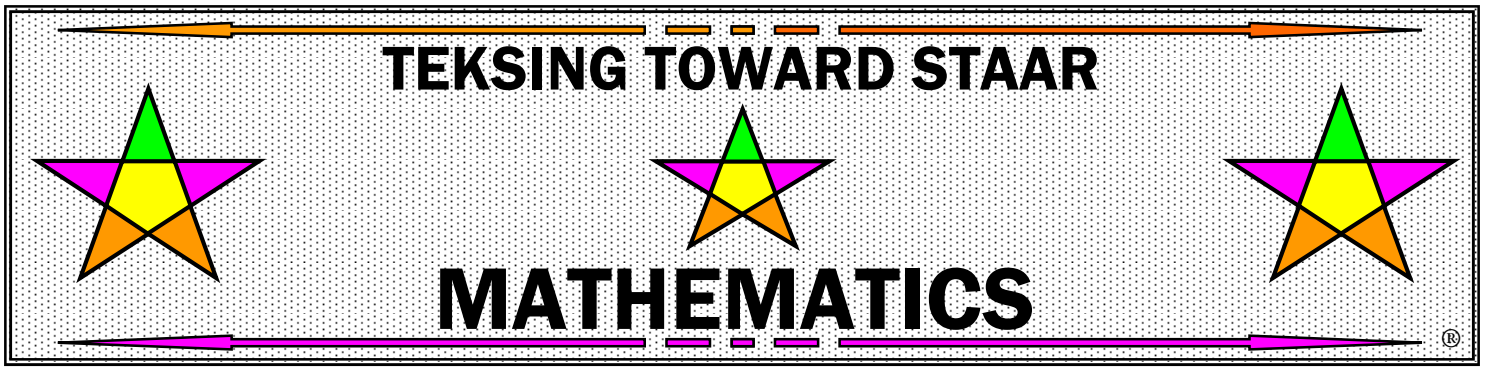| Standard	TEKS	Student Expectation	Class Performance									
Supporting	8.2(A)	extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers	21	54	71	81	101					
Supporting	8.2(B)	approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line	1	45	78	82	120					
Supporting	8.2(C)	convert between standard decimal notation and scientific notation	13	31	65	91	110	112				
Readiness	8.2(D)	order a set of real numbers arising from mathematical and real-world contexts	2	6	11	18	22	26	33	38	42	51
			53	55	62	67	73	86	93	98	105	117

STAAR REPORTING CATEGORY 2: COMPUTATIONS AND ALGEBRAIC RELATIONSHIPS

Standard	TEKS	Student Expectation	Class Performance									
Supporting	8.4(A)	use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, $(y_2 - y_1)/(x_2 - x_1)$, is the same for any two points (x_1, y_1) and (x_2, y_2) on the same line	25	59	68	118						
Readiness	8.4(B)	graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship	1	8	19	21	28	33	48	56	64	66
			76	85	92	97	103	108	111	116		
Readiness	8.4(C)	use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems	9	12	17	22	29	34	43	58	62	67
			73	81	89	95	101	104	109			
Supporting	8.5(A)	represent linear proportional situations with tables, graphs, and equation in the form of $y = kx$.	10	39	68	94	105					
Supporting	8.5(B)	represent linear non-proportional situation with tables, graphs, and equations in the form of $y = mx + b$, where $b \neq 0$	11	41	74	100	107					
Supporting	8.5(E)	solve problems using direct variation	2	24	44	70	90	114				
Supporting	8.5(F)	distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form of $y = kx$ or $y = mx + b$, where $b \neq 0$	14	39	43	88	120					
Readiness	8.5(G)	identify functions using sets of ordered pairs, tables, mappings, and graphs	3	8	17	23	28	40	45	48	63	57
			64	69	72	83	93	97	102	113	115	
Supporting	8.5(H)	identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems	4	40	55	79	96	118				
Readiness	8.5(I)	write an equation in the form $y = mx + b$, to model a linear relationship between verbal, numerical, tabular, and graphical representations	5	13	20	24	31	35	46	51	54	57
			61	65	71	82	91	99	103	110	118	
Supporting	8.8(A)	write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants	19	37	50	77	116					
Supporting	8.8(B)	write a real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants	15	30	52	63	86	107				
Readiness	8.8(C)	model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants	6	16	20	26	32	37	44	50	60	72
			75	77	84	88	89	112	119			
Supporting	8.9(A)	identify and verify the values of x and y that simultaneously satisfy two linear equations in the form $y = mx + b$, from the intersections of the graphed equations	18	36	60	79	86					

GRADE 8 TEKSING TOWARD STAAR MATHEMATICS CLASS PROFILE

STAAR REPORTING CATEGORY 3: GEOMETRY AND MEASUREMENT

Standard	TEKS	Student Expectation	Class Performance									
Supporting	8.3(A)	generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation	9	23	45	77	85					
Supporting	8.3(B)	compare and contrast the attributes of a shape and its dilations(s) on a coordinate plane	5	51	71	87	102					
Readiness	8.3(C)	use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation	2	14	20	22	39	41	47	55	61	65
			70	83	90	92	103	109	112			
Supporting	8.6(A)	describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height	27	29	57	69	87	120				
Supporting	8.6(C)	use models and diagrams to explain the Pythagorean Theorem	7	52	75	93	119					
Readiness	8.7(A)	solve problems involving the volume of cylinders, cones, and spheres	1	11	15	24	33	36	42	47	63	67
			84	91	96	106	111	116				
Readiness	8.7(B)	use previous knowledge of surface area to make connections to the formula for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms and cylinders	3	18	25	38	40	43	48	55	64	72
			81	94	101	107						
Readiness	8.7(C)	use the Pythagorean Theorem and its converse to solve problems	4	16	19	25	28	37	44	53	62	78
			88	97	104	110	114					
Supporting	8.7(D)	determine the distance between two points on a coordinate plane using the Pythagorean Theorem	8	34	50	80	99	117				
Supporting	8.8(D)	use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal and the angle-angle criterion for similarity of triangles	12	30	58	79	82					
Supporting	8.10(A)	generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane	7	31	60	98	108					
Supporting	8.10(B)	differentiate between transformations that preserve congruence and those that do not	10	32	68	100	115					
Readiness	8.10(C)	explain the effects translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation	13	17	21	35	45	49	56	66	80	89
			95	100	104	106						
Supporting	8.10(D)	model the effect on linear and area measurements of dilated two-dimensional shapes	5	27	59	66	86	118				

GRADE 8 TEKSING TOWARD STAAR MATHEMATICS CLASS PROFILE

STAAR REPORTING CATEGORY 4: DATA ANALYSIS AND FINANCIAL LITERACY

Standard	TEKS	Student Expectation	Class Performance									
Supporting	8.5(C)	contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation	16	42	74	89	113					
Readiness	8.5(D)	use a trend line that approximates the linear relationship between bivariate sets of data to make predictions	6	14	15	26	30	38	41	47	50	61
			69	70	83	90	98	102	105			
Supporting	8.11(A)	construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data	7	46	76	95	111					
Supporting	8.11(B)	determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points	9	29	58	94	106					
Supporting	8.12(A)	solve real-world problems comparing how interest rate and loan length affect the cost of credit	10	34	78							
Supporting	8.12(C)	explain how small amounts of money invested regularly, including money saved for college and retirement, grow over time	32	56	96	117						
Readiness	8.12(D)	calculate and compare simple interest and compound interest earnings	3	4	12	23	27	35	49	53	59	63
			73	75	84	87	92	107	114			
Supporting	8.12(G)	estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college	36	80	109	115						

TEKSING TOWARD STAAR

MATHEMATICS

Grade 8

Student Profile for Spiraled Practice

Student _____

Teacher _____

GRADE 8 TEKSING TOWARD STAAR MATHEMATICS STUDENT PROFILE

STAAR REPORTING CATEGORY 1: NUMERICAL REPRESENTATIONS AND RELATIONSHIPS

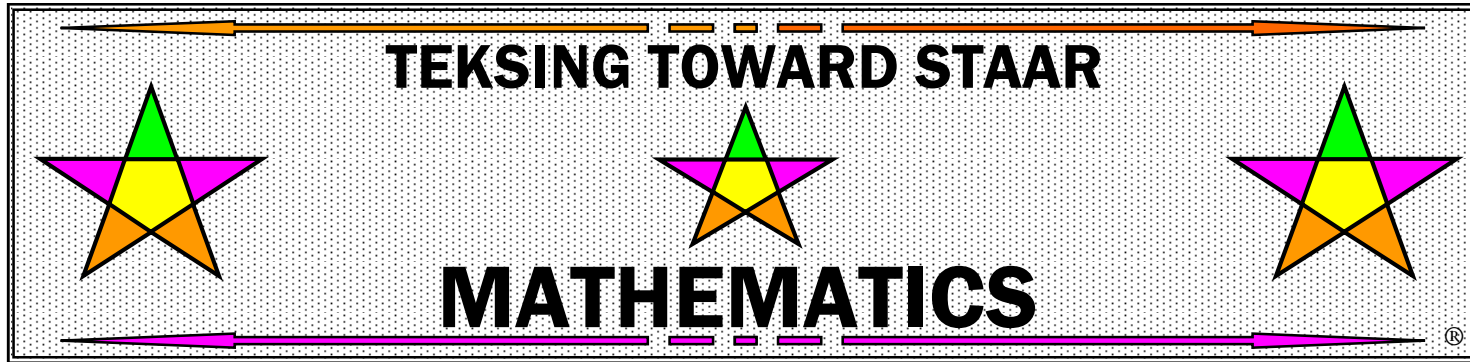| Standard	TEKS	Student Expectation	Student Performance									
Supporting	8.2(A)	extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers	21	54	71	81	101					
Supporting	8.2(B)	approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line	1	45	78	82	120					
Supporting	8.2(C)	convert between standard decimal notation and scientific notation	13	31	65	91	112	117				
Readiness	8.2(D)	order a set of real numbers arising from mathematical and real-world contexts	2	6	11	18	22	26	33	38	42	51
			53	55	62	67	73	86	93	98	105	110

GRADE 8 TEKSING TOWARD STAAR MATHEMATICS STUDENT PROFILE

STAAR REPORTING CATEGORY 2: COMPUTATIONS AND ALGEBRAIC RELATIONSHIPS

Standard	TEKS	Student Expectation	Student Performance									
Supporting	8.4(A)	use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, $(y_2 - y_1)/(x_2 - x_1)$, is the same for any two points (x_1, y_1) and (x_2, y_2) on the same line	25	59	68	118						
Readiness	8.4(B)	graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship	1	8	19	21	28	33	48	56	64	66
			76	85	92	97	103	108	111	116		
Readiness	8.4(C)	use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems	9	12	17	22	29	34	43	58	62	67
			73	81	89	95	101	104	109			
Supporting	8.5(A)	represent linear proportional situations with tables, graphs, and equation in the form of $y = kx$.	10	39	68	94	105					
Supporting	8.5(B)	represent linear non-proportional situation with tables, graphs, and equations in the form of $y = mx + b$, where $b \neq 0$	11	41	74	100	107					
Supporting	8.5(E)	solve problems using direct variation	2	24	44	70	90	114				
Supporting	8.5(F)	distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form of $y = kx$ or $y = mx + b$, where $b \neq 0$	14	39	43	88	120					
Readiness	8.5(G)	identify functions using sets of ordered pairs, tables, mappings, and graphs	3	8	17	23	28	40	45	48	63	57
			64	69	72	83	93	97	102	113	115	
Supporting	8.5(H)	identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems	4	40	55	79	96	118				
Readiness	8.5(I)	write an equation in the form $y = mx + b$, to model a linear relationship between verbal, numerical, tabular, and graphical representations	5	13	20	24	31	35	46	51	54	57
			61	65	71	82	91	99	103	110	118	
Supporting	8.8(A)	write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants	19	37	50	77	116					
Supporting	8.8(B)	write a real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants	15	30	52	63	86	107				
Readiness	8.8(C)	model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants	6	16	20	26	32	37	44	50	60	72
			75	77	84	88	89	112	119			
Supporting	8.9(A)	identify and verify the values of x and y that simultaneously satisfy two linear equations in the form $y = mx + b$, from the intersections of the graphed equations	18	36	60	79	86					

GRADE 8 TEKSING TOWARD STAAR MATHEMATICS STUDENT PROFILE

STAAR REPORTING CATEGORY 3: GEOMETRY AND MEASUREMENT												
Standard	**TEKS**	**Student Expectation**	**Student Performance**									
Supporting	8.3(A)	generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation	9	23	45	77	85					
Supporting	8.3(B)	compare and contrast the attributes of a shape and its dilations(s) on a coordinate plane	5	51	71	87	102					
Readiness	8.3(C)	use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation	2	14	20	22	39	41	47	55	61	65
			70	83	90	92	103	109	112			
Supporting	8.6(A)	describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height	27	29	57	69	87	120				
Supporting	8.6(C)	use models and diagrams to explain the Pythagorean Theorem	7	52	75	93	119					
Readiness	8.7(A)	solve problems involving the volume of cylinders, cones, and spheres	1	11	15	24	33	36	42	47	63	67
			84	91	96	106	111	116				
Readiness	8.7(B)	use previous knowledge of surface area to make connections to the formula for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms and cylinders	3	18	25	38	40	43	48	55	64	72
			81	94	101	107						
Readiness	8.7(C)	use the Pythagorean Theorem and its converse to solve problems	4	16	19	25	28	37	44	53	62	78
			88	97	104	110	114					
Supporting	8.7(D)	determine the distance between two points on a coordinate plane using the Pythagorean Theorem	8	34	50	80	99	117				
Supporting	8.8(D)	use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal and the angle-angle criterion for similarity of triangles	12	30	58	79	82					
Supporting	8.10(A)	generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane	7	31	60	98	108					
Supporting	8.10(B)	differentiate between transformations that preserve congruence and those that do not	10	32	68	100	115					
Readiness	8.10(C)	explain the effects translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation	13	17	21	35	45	49	56	66	80	89
			95	100	104	106						
Supporting	8.10(D)	model the effect on linear and area measurements of dilated two-dimensional shapes	5	27	59	66	86	118				

STAAR REPORTING CATEGORY 4: DATA ANALYSIS AND FINANCIAL LITERACY												
Standard	**TEKS**	**Student Expectation**	**Student Performance**									
Supporting	8.5(C)	contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation	16	42	74	89	113					
Readiness	8.5(D)	use a trend line that approximates the linear relationship between bivariate sets of data to make predictions	6	14	15	26	30	38	41	47	50	61
			69	70	83	90	98	102	105			
Supporting	8.11(A)	construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data	7	46	76	95	111					
Supporting	8.11(B)	determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points	9	29	58	94	106					
Supporting	8.12(A)	solve real-world problems comparing how interest rate and loan length affect the cost of credit	10	34	78							
Supporting	8.12(C)	explain how small amounts of money invested regularly, including money saved for college and retirement, grow over time	32	56	96	117						
Readiness	8.12(D)	calculate and compare simple interest and compound interest earnings	3	4	12	23	27	35	49	53	59	63
			73	75	84	87	92	107	114			
Supporting	8.12(G)	estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college	36	80	109	115						

TEKSING TOWARD STAAR

MATHEMATICS

TEKS/STAAR-BASED
LESSONS

Grade 8
Scope and Sequence

SIX WEEKS 1

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Problem Solving	Skills and Concepts Homework
Lesson 1 ____ days	**8.2A**/extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers.	Category 1 Supporting	SP 1 SP 2	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 2 ____ days	**8.2B**/approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line	Category 1 Supporting	SP 3 SP 4	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 3 ____ days	**8.2D**/order a set of real numbers arising from mathematical and real-world contexts	Category 1 Readiness	SP 5 SP 6	SA 1 SA 2	PS 1	Homework 1 Homework 2
Lesson 4 ____ days	**8.10A**/ generalize the properties of orientation and congruence of ….dilations of two-dimensional shapes on a coordinate plane **8.8D**/use informal arguments to establish facts about …the angle-angle criterion for similarity of triangles **8.3A**/generalize the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation	Category 3 Supporting Category 3 Supporting Category 3 Supporting	SP 7 SP 8	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 5 ____ days	**8.8A**/write one-variable equations and inequalities with variables on both sides that represent problems using rational number coefficients and constants **8.8C**/model and solve one-variable equations with variables on both sides that represent mathematical and real-world problems using rational number coefficients and constants	Category 2 Supporting Category 2 Readiness	SP 9 SP 10 SP 11	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 6 ____ days	**8.6A**/describe the volume formula $V = Bh$ of a cylinder in terms of its bases area and its height **8.6B**/model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect the relationship to the formula **8.7A**/solve problems involving the volume of cylinders, cones…	Category 3 Supporting NOT TESTED Category 3 Readiness	SP 12 SP 13	SA 1 SA 2 SA 3	PS 1 PS 2 PS 3	Homework 1 Homework 2
Lesson 7 ____ days	**8.2C**/convert between standard decimal notation and scientific notation	Category 1 Supporting	SP 14 SP 15	SA 1 SA 2	PS 1	Homework 1 Homework 2

SIX WEEKS 1

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Problem Solving	Skills and Concepts Homework
Lesson 8 ____ days	**8.8D/**use informal arguments to establish facts about the angle sum and exterior angles of triangles…	Category 3 Supporting	SP 16 SP 17	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 9 ____ days	**8.5A/**represent linear proportional relationships with tables, …. in the form of $y = kx$ **8.5E/**solve problems involving direct variation	Category 2 Supporting Category 2 Supporting	SP 18	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 10 ____ days	**8.12A/**solve real-world problems comparing how interest rate and loan length affect the cost credit	Category 4 Supporting	SP 19 SP 20	SA 1 SA 2	PS 1	Homework 1
Review Assessment 2 days	**Six Weeks 1 Open-Ended Review** **Six Weeks 1 Assessment**					

TEACHER NOTES:

TEKSING TOWARD STAAR SCOPE AND SEQUENCE
Grade 8 Mathematics

SIX WEEKS 2

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Problem Solving	Skills and Concepts Homework
Lesson 1 ____ days	**8.8D/**use informal arguments to establish facts about…, the angles created when parallel lines are cut by a transversal…	Category 3 Supporting	SP 21 SP 22	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 2 ____ days	**8.4A/**use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, is the same for any two points (x_1, y_1) and (x_2, y_2) on the same line	Category 2 Supporting	SP 23 SP 24	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
	8.4C/use data from a table or graph to determine the rate of change or slope and the y-intercept in mathematical and real-world problems	Category 2 Readiness				
Lesson 3 ____ days	**8.4B**/graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship	Category 2 Readiness	SP 25 SP 26	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
	8.5A/represent linear proportional relationships with…graphs and equations in the form of $y = kx$ Supplementary Calculator Use Lesson	Category 2 Supporting				
Lesson 4 ____ days	**8.5G/**identify functions using sets of ordered pairs, tables,…	Category 2 Readiness	SP 27 SP 28	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 5 ____ days	**8.5B/**represent linear non-proportional situations with tables,…and equations in the form of $y = mx + b,\ b \neq 0$	Category 2 Supporting	SP 29 SP 30	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
	8.5F/distinguidh between proportional and non-proportional situations using tables, …and equations in the form $y = kx$ or $y = mx + b,$ where $b \neq 0$	Category 2 Supporting				
	8.5H/identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems	Category 2 Supporting				
Lesson 6 ____ days	**8.10A/** generalize the properties of orientation and congruence of ….translations… of two-dimensional shapes on a coordinate plane	Category 3 Supporting	SP 31 SP 32	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
	8.10C/explain the effects of translations,…, as applied to two-dimensional shapes on a coordinate plane using an algebraic representation	Category 3 Readiness				

SIX WEEKS 2

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Problem Solving	Skills and Concepts Homework
Lesson 7 ____ days	**8.11A/**construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data	Category 4 Supporting	SP 33 SP 34	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 8 ____ days	**8.3B/**compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane **8.3C/**use an algebraic representation to explain the effect of a given positive scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation	Category 3 Supporting Category 3 Readiness	SP 35 SP 36	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 9 ____ days	**8.5I/**write an equation in the form $y = mx + b$, $b \neq 0$ to model a linear relationship between two quantities using verbal, numerical,….representations	Category 2 Readiness	SP 37 SP 38	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 10 ____ days	**8.12C/**explain how small amounts of money invested regularly, including money saved for college and retirement, grow over time **8.12D/**calculate and compare simple interest and compound interest earnings	Category 4 Supporting	SP 39 SP 40	SA 1 SA 2	PS 1	Homework 1 Homework 2
Review Assessment 2 days	**Six Weeks 2 Open-Ended Review** **Six Weeks 2 Assessment**					

TEACHER NOTES:

SIX WEEKS 3

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Problem Solving	Skills and Concepts Homework
Lesson 1 ____ days	**8.5B/**represent non-proportional linear relationships using … graphs, and equations that simplify to the form $y = mx + b,\ b \neq 0$.	Category 2 Supporting	SP 41 SP 42 SP 43	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
	8.5F/distinguish between proportional and non-proportional situations using graphs, and equations in the form $y = kx$ or $y = mx + b,\ b \neq 0$	Category 2 Supporting				
Lesson 2 ____ days	**8.5C/**contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a line relationship from a graphical representation	Category 4 Supporting	SP 44 SP 45 SP 46	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
	8.5D/use a trend line that approximates the linear relationship between bivariate sets of data to make predictions	Category 4 Readiness				
Lesson 3 ____ days	**8.5I/**write an equation in the form $y = mx + b,\ b \neq 0$ to model a linear relationship between two quantities using ….tabular, and graphical representations	Category 2 Readiness	SP 47 SP 48	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 4 ____ days	**8.5G/**identify functions using sets of … mappings and graphs	Category 2 Readiness	SP 49 SP 50	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 5 ____ days	**8.6C/**use models and diagrams to explain the Pythagorean Theorem	Category 3 Supporting	SP 51 SP 52 SP 53	SA 1 SA 2 SA 3	PS 1 PS 2 PS 3	Homework 1 Homework 2 Homework 3
	8.7C/use the Pythagorean Theorem and its converse to solve problems	Category 3 Readiness				
	8.7D/determine the distance between two points on a coordinate plane using the Pythagorean Theorem					
Lesson 6 ____ days	**8.7A/**solve problems involving the volume of…. spheres	Category 3 Readiness	SP 54 SP 55 SP 56	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2

TEKSING TOWARD STAAR SCOPE AND SEQUENCE
Grade 8 Mathematics

SIX WEEKS 3

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Problem Solving	Skills and Concepts Homework
Lesson 7 _____ days	**8.7B/**use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prism, triangular prisms, …	Category 3 Readiness	SP 57 SP 58	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 8 _____ days	**8.11B/**determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a set of no more than 10 data points	Category 4 Supporting	SP 59 SP 60	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Review Assessment 2 days	**Six Weeks 3 Open-Ended Review** **Six Weeks 3 Assessment**					

TEACHER NOTES:

TEKSING TOWARD STAAR SCOPE AND SEQUENCE
Grade 8 Mathematics

SIX WEEKS 4

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Problem Solving	Skills and Concepts Homework
Lesson 1 ____ days	**8.9A/**identify and verify the values of *x* and *y* that simultaneously satisfy two linear equations in the form $y = mx + b$ from the intersections of the graphed equations	Category 2 Supporting	SP 61 SP 62	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 2 ____ days	**8.10A/**generalize the properties of orientation and congruence of ….reflections… of two-dimensional shapes on a coordinate plane **8.10C/**explain the effects of …reflections over the *x*-and *y*-axis,…, as applied to two-dimensional shapes on a coordinate plane using an algebraic representation	Category 3 Supporting Category 3 Readiness	SP 63 SP 64 SP 65	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 3 ____ days	**8.10A/**generalize the properties of orientation and congruence of rotations… of two-dimensional shapes on a coordinate plane **8.10B/**differentiate between transformations that preserve congruence and those that do not **8.10C/**explain the effects of …rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation	Category 3 Supporting Category 3 Supporting Category 3 Readiness	SP 66 SP 67 SP 68 SP 69	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2
Lesson 4 ____ days	**8.10D/**model the effect on linear and area measurements of dilated two-dimensional shapes	Category 3 Supporting	SP 70 SP 71 SP 72	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 5 ____ days	**8.8B/**write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants	Category 2 Supporting	SP 73 SP 74	SA 1 SA 2 SA 3	PS 1 PS 2	Homework 1 Homework 2
Lesson 6 ____ days	**8.7B/**use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving …cylinders	Category 4 Supporting	SP 75 SP 76	SA 1 SA 2	PS 1 PS 2	Homework 1 Homework 2

SIX WEEKS 4

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Problem Solving	Skills and Concepts Homework
Lesson 7 ____ days	**8.12G/**estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college	Category 4 Supporting	SP 77 SP 78	SA 1 SA 2	PS 1	Homework 1
Lesson 8 ____ days	**8.12B/**calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest an over different periods using an online calculator **8.12E/**identify and explain the advantages and disadvantages of different payment plans	NOT TESTED NOT TESTED	SP 79 SP 80	SA 1 SA 2	PS 1	Homework 1
Review Assessment 2 days	**Six Weeks 4 Open-Ended Review** **Six Weeks 4 Assessment**					

TEACHER NOTES:

SIX WEEKS 5

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Skills and Concepts Homework
Lesson 1 ____ days	**8.1A/**apply mathematics to problems arising in everyday life, society, and the workplace	Category 1-4 Review of TEKS	SP 81 SP 82	SA 1 SA 2 SA 3 SA 4	Homework 1 Homework 2 Homework 3 Homework 4
Lesson 2 ____ days	**8.1B/**use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution	Category 1-4 Review of TEKS	SP 83 SP 84 SP 85	SA 1 SA 2 SA 3 SA 4	Homework 1 Homework 2 Homework 3 Homework 4
Lesson 3 ____ days	**8.1C/**select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems	Category 1-4 Review of TEKS	SP 86 SP 87 SP 88 SP 89	SA 1 SA 2 SA 3 SA 4	Homework 1 Homework 2 Homework 3 Homework 4
Lesson 4 ____ days	**8.1D/**communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate	Category 1-4 Review of TEKS	SP 90 SP 91 SP 92	SA 1 SA 2 SA 3 SA 4	Homework 1 Homework 2 Homework 3 Homework 4
Lesson 5 ____ days	**8.1E/**create and use representations to organize, record, and communicate mathematical ideas	Category 1-4 Review of TEKS	SP 93 SP 94 SP 95	SA 1 SA 2 SA 3 SA 4	Homework 1 Homework 2 Homework 3 Homework 4
Lesson 6 ____ days	**8.1F/**analyze mathematical relationships to connect and communicate mathematical ideas	Category 1-4 Review of TEKS	SP 96 SP 97 SP 98	SA 1 SA 2 SA 3 SA 4	Homework 1 Homework 2 Homework 3 Homework 4
Lesson 7 ____ days	**8.1G/**display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication	Category 1-4 Review of TEKS	SP 99 SP 100	SA 1 SA 2 SA 3 SA 4	Homework 1 Homework 2 Homework 3 Homework 4
Review Assessment 1 days	**Six Weeks 5 Assessment**				

TEACHER NOTES:

SIX WEEKS 6

Lesson	TEKS-BASED LESSON	STAAR Category Standard	Spiraled Practice	Student Activity	Skills and Concepts Homework
	NOTE: Begin the Six Weeks with Spiraled Practice 101-120 as a tool to review all TEKS – students should answer the problems on these spirals individually and should follow all testing rules in effect during the administration of the actual STAAR – sharing of student work on these problems should continue the procedure used throughout the school year	Category 1-4 Review of TEKS	SP 101-SP 120		
Lesson 1 ____ days	**8.11C/**simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it is selected	NOT TESTED		SA 1	Homework 1
Lesson 2 ____ days	**8.12F/**analyze situations to determine if they represent financially responsible decisions and identify the benefits of financial responsibility and the costs of financial irresponsibility	NOT TESTED		SA 1 SA 2	Homework 1

TEACHER NOTES: