

7th grade MATH: Exceptional

Curriculum Guide

To support strong classroom instruction, the TDOE has created instructional focus documents for mathematics. These documents were developed to target the mathematics standards where statewide data indicated students struggled the most and are optional supplements for educators to consider. The purpose of these documents is to provide teachers with examples of learning across all performance levels to help educators determine the depth of a student's conceptual understanding of the Tennessee mathematics standards. You may access these documents using the **Best for All Central** website:

<https://bestforall.tnedu.gov/lessons-and-learning-item?content-id=7321>

Items in RED are 8th grade standards and lessons that should be covered in order to prepare students for Algebra 1. These lessons and assessments are found in the 8th grade SAVVAS curriculum.

*These lessons have been covered in 6th grade Exceptional math but should be reviewed since they are Major Work of the Grade.

1 st Quarter				
Standard(s)	Learning Objective(s)	Savvas Alignment	Assessments	Pacing
7.NS.A.1.a	-Understand how integers and their opposites are related	Lesson 1-1: Relate Integers and Their Opposites*		2
7.NS.A.2.d	-Identify rational numbers and write them in decimal form	Lesson 1-2: Understand Rational Numbers		2
7.NS.A.1.a 7.NS.A.1.b 7.NS.A.1.c	-Add positive and negative integers -Model integer addition in real-life application -Understand subtraction of integers as adding the additive inverse	Lesson 1-3: Add Integers* Lesson 1-4: Subtract Integers*		2
7.NS.A.1.a 7.NS.A.1.b 7.NS.A.1.c	Use properties of operations to add and subtract rational numbers	Lesson 1-5: Add and Subtract Rational Numbers		2
		Page 39	Mid-Topic Checkpoint and Performance Task	1
7.NS.A.2.a 7.NS.A.2.b	-Multiply positive and negative integers -Apply integer multiplication to real-life application	Lesson 1-6: Multiply Integers*		2

7.NS.A.2.c	-Understand how to divide integers by applying the rules of multiplying integers -Determine equivalencies among integers quotients.	Lesson 1-8: Divide Integers*		
7.NS.A.2.a 7.NS.A.2.c	Find the product of rational numbers	Lesson 1-7: Multiply Rational Numbers		2
7.NS.A.2.b 7.NS.A.2.c	Understand how the signs of integers in a multiplication sentence relate to the signs in a related division statement	Lesson 1-9: Divide Rational Numbers		2
7.NS.A.3 7.EE.B.3	-Decide which operations to use to solve problems -Use precision when solving problems with rational numbers	Lesson 1-10: Solve Problems with Rational Numbers		3
		Page 81	Topic Assessment and Performance Task	2
7.RP.A.1 7.RP.A.3	-Use ratios and rates to describe the relationship between two quantities -Find equivalent ratios and use unit rates to solve multi-step problems	Lesson 2-1: Connect Ratios, Rates, and Unit Rates		2
7.RP.A.1 7.RP.A.3	-Find unit rates with ratios of fractions -Use unit rates to solve multi-step problems	Lesson 2-2: Determine Unit Rates with Ratios of Fractions		2
7.RP.A.2.a	-Determine whether quantities are proportional by testing for equivalent ratios	Lesson 2-3: Understand Proportional Relationships: Equivalent Ratios*		2
7.RP.A.2.b 7.RP.A.2.c	-Use the constant of proportionality to write equations that represent proportional relationships -Use equations to solve problems involving proportional relationships	Lesson 2-4: Describe Proportional Relationships: Constant of Proportionality*		2
		Page 113	Mid-Topic Checkpoint and Performance Task	1
7.RP.A.1.a 7.RP.A.2 7.RP.A.3	- Use a graph to recognize proportionality -Identify a constant of proportionality from a graph -Interpret a point on a graph of a proportional relationship -Explain whether a situation represents a proportional relationship -Use representations to find entry points into problems	Lesson 2-5: Graph Proportional Relationships* Lesson 2-6: Apply Proportional Reasoning to Solve Problems*		3
8.EE.B.5	Analyze equations, linear graphs, and tables to find unit rates and compare proportional relationships	Lesson 2-5: Compare Proportional Relationships		2

8.EE.B.6	-Find the slope of a line using different strategies -Interpret a slope in context and relate it to steepness on a graph	Lesson 2-6: Connect Proportional Relationships and Slope		3
8.EE.B.6	-Understand how the constant of proportionality and the slope relate in a linear equation. -Write and graph a linear equation in the form $y = mx$.	Lesson 2-7: Analyze Linear Equations $y = mx$		2
8.EE.B.6	-Interpret and extend the table or graph of a linear relationship to find its y-intercept -Analyze graphs in context to determine and explain the meaning of the y-intercept	Lesson 2-8: Understand the y-Intercept of a Line		2
8.EE.B.6	-Graph a line from an equation in the form $y = mx + b$ -Write an equation that represents the given graph of a line	Lesson 2-9: Analyze Linear Equations $y = mx + b$		2
		Use Lesson Quizzes 2-5 – 2-9	Topic Assessment	1

2nd Quarter-42 school days

Standard(s)	Learning Objective(s)	Savvas Alignment	Assessments	Timeframe
7.RP.A.3	-Understand that equivalent rates can be used to find percents -Analyze percents of numbers in a real-world context	Lesson 3-1: Analyze Percents of Numbers		1
7.RP.A.2.c	-Construct a percent proportion -Use a percent proportion to find an unknown part, whole, or percent	Lesson 3-2: Connect Percent and Proportion		2
7.RP.A.2.c	-Understand the relationship between proportional reasoning and percent -Interpret the results of a percent equation in a real-life scenario	Lesson 3-3: Represent and Use the Percent Equation		2
		Page 161	Mid-Topic Checkpoint and Performance Task	1
7.RP.A.3	-Solve real-world problems involving percent change and percent error -Understand the percent equation and the different ways it can be used	Lesson 3-4: Solve Percent Change and Percent Error Problems		2
7.RP.A.3	-Understand and calculate markups and markdowns -Relate percent change to percent markups and markdowns	Lesson 3-5: Solve Markup and Markdown Problems		2
7.RP.A.3	-Identify the parts of interest problems and how the values are related	Lesson 3-6: Solve Simple Interest Problems		2

	-Understand what simple interest is and how it is calculated			
		Page 189	Topic Assessment and Performance Task	2
7.EE.B.3 7.EE.B.3.a 7.EE.B.4	Understand how variables are used to represent unknown values in problems	Lesson 4-1: Write and Evaluate Algebraic Expressions		1
7.EE.A.1	-Recognize when two expressions are equivalent -Use properties of operations to write equivalent expressions -Combine like integer and rational terms	Lesson 4-2: Generate Equivalent Expressions Lesson 4-3: Simplify Expressions		1
7.EE.A.1 7.EE.A.2	-Use the Distributive Property to expand expressions - Understand expanding an expression is the reverse of factoring -Identify the GCF of algebraic terms in expressions.	Lesson 4-4: Expand Expressions* Lesson 4-5: Factor Expressions*		1
		Page 227	Mid-Topic Checkpoint and Performance Task	1
7.EE.A.1 7.EE.A.2	-Use properties of operations to add expressions -Model addition of expressions in real-life applications -Use properties of operations to subtract expressions -Model subtraction of expressions in real-life applications	Lesson 4-6: Add Expressions Lesson 4-7: Subtract Expressions		2
7.EE.A.2	Write equivalent expression to show how quantities are related in real-life applications	Lesson 4-8: Analyze Equivalent Expressions		2
		Page 255	Topic Assessment and Performance Task	2
8.EE.A.2	Find square roots and cube roots of rational numbers	Lesson 1-4: Evaluate Square Roots and Cube Roots		1
8.EE.A.2	Solve equations and problems, in real world contexts, involving square roots and cube roots.	Lesson 1-5: Solve Equations Using Square Roots and Cube Roots		1
8.EE.A.1	-Understand the properties of exponents -Generate equivalent expressions with exponents	Lesson 1-6: Use Properties of Integer Exponents (Positive)		1
		Use Lesson Quizzes 1-4 – 1-6	Topic Assessment	1
7.EE.B.4 7.EE.B.3 7.EE.B.4.a	-Analyze word problems to write two step equations -Understand the relationship between the terms of the equation and the values they represent	Lesson 5-1: Write Two-Step Equations		3

	-Use models to solve two step equations -Compare algebraic and arithmetic solutions	Lesson 5-2: Solve Two-Step Equations		
7.EE.B.3 7.EE.B.3.a 7.EE.B.3.b 7.EE.B.4.a	Solve equations using the distributive property	Lesson 5-3: Solve Equations Using the Distributive Property		2
		Page 281	Mid-Topic Checkpoint and Performance Task	1
8.EE.C.7.b	-Combine like terms -Solve equations with like terms on one side of the equation -Make sense on scenarios and represent them with equations	Lesson 2-1: Combine Like Terms to Solve Equations		1
8.EE.C.7.b	-Solve equations with like terms on both sides of the equation -Make sense of scenarios and represent them with equations	Lesson 2-2: Solve Equations with Variables on Both Sides		2
8.EE.C.7.b	Plan multiple solution pathways and choose one to find the solution	Lesson 2-3: Solve Multistep Equations		2
8.EE.C.7.a	Determine the number of solutions to an equation.	Lesson 2-4: Equations with No Solutions or Infinitely Many Solutions		2
		Page 115	Mid-Topic Checkpoint and Performance Task	1

3rd Quarter-45 school days

Standard(s)	Learning Objective(s)	Savvas Alignment	Assessments	Timeframe
7.EE.B.4.b	-Graph the solution of inequalities on a number line -Solve inequalities using the Addition and Subtraction Properties of Inequality	Lesson 5-4: Solve Inequalities Using Addition or Subtraction		2
7.EE.B.4.b	-Write inequalities and solve them using the Multiplication and Division Properties of Inequality -Graph the solutions of an inequality on a number line	Lesson 5-5: Solve Inequalities Using Multiplication or Division		2
7.EE.B.4.b	-Write and solve a two-step inequality to solve a problem -Solve an inequality by multiplying or dividing by a negative rational number	Lesson 5-6: Solve Two Step Inequalities		2
7.EE.B.4.b	-Explore the relationship between two-step inequalities and multi-step inequalities -Apply the distributive property to simplify and solve multi-step inequalities	Lesson 5-7: Solve Multi-Step Inequalities		2

		Page 315	Topic Assessment and Performance Task	2
7.SP.A.1 7.SP.A.2 7.RP.A.2.c	-Distinguish between a population and a sample -Establish whether a sample is representative of its population -Generate random samples -Make qualitative inferences from a sample data set -Make quantitative inferences from a sample data set -Make estimates about a population based on a sample data set, and assess whether the inferences are valid	Lesson 6-1: Populations and Samples Lesson 6-2: Draw Inferences from Data		3
7.SP.D.8	-Calculate the mean absolute deviation and interquartile range of a data set -Summarize data using measures of variability	TN- 1*: Summarize Numerical Data		1
7.SP.D.8	-Select the most appropriate measure of center and variability for a data set -Use measures to describe data sets	TN-2*: Relate Measure of Center and Variability		2
		Page 339	Mid-Topic Checkpoint and Performance Task	1
7.SP.B.3 7.SP.B.4	-Use box plots to compare and make inferences about populations -Use the median and IQR of datasets to informally compare and make inferences about two populations -Use the mode, range, mean, and mean absolute deviation to compare populations	Lesson 6-3: Make Comparative Inferences About Populations Lesson 6-4: Make More Comparative Inferences About Populations		2
		Page 361 *TN standards assessed online and the very back of Volume 2	Topic Assessment and Performance Task	2
7.SP.C.5 7.EE.B.3.a	-Use probability to describe the likelihood that an event will occur -Relate probability to mathematical fairness	Lesson 7-1: Understand Likelihood and Probability		1
7.SP.C.6 7.SP.C.6.a 7.RP.A.2	-Understand theoretical probability and how it can be used -Use theoretical probability to predict an outcome	Lesson 7-2: Understand Theoretical Probability		2
7.SP.C.6 7.SP.C.6.a 7.SP.C.6.b 7.SP.C.6.c	-Compare theoretical probability and experimental probability -Use experimental probability to make predictions -Explain differences between theoretical probability and experimental probability	Lesson 7-3: Understand Experimental Probability		2
7.SP.C.6 7.SP.C.6.b	-Develop a probability model -Use a probability model to evaluate a situation	Lesson 7-4: Use Probability Models		1

7.SP.C.7 7.SP.C.7.a 7.SP.C.7.b 7.EE.B.3.a	-Use a probability model to make an estimate			
		Page 393	Mid-Topic Checkpoint and Performance Task	1
7.SP.C.7	Use a tree diagram, a table, or an organized list to represent the sample space for a compound event	Lesson 7-5: Determine Outcome of Compound Events		2
7.SP.C.7	-Organize information about a compound event on a table, a tree diagram, or an organized list -Find the probability of a compound event	Lesson 7-6: Find Probabilities of Compound Events		2
7.SP.C.7	-Use different tools to simulate a compound event -Model a real-world situation involving a compound event and predict its outcome using a simulation	Lesson 7-7: Simulate Compound Events		1
		Page 423	Topic Assessment and Performance Task	2
7.G.A.1	Use scale drawings as a representation of actual lengths and area	Lesson 8-1: Solve Problems Involving Scale Drawings		2
7.G.A.2	-Sketch quadrilaterals with given conditions -Name and classify quadrilaterals according to their properties	Lesson 8-2: Draw Geometric Figures		2
7.G.A.2	-Construct triangles with given conditions -Conclude whether or not a triangle is formed and what type of triangle it is	Lesson 8-3: Draw Triangles with Given Conditions		2
7.G.B.4	-Calculate the measures of angles by using angle relationships	Lesson 8-4: Solve Problems Using Angle Relationships		2
		Page 463 *Do not include questions from lesson 8-5	Mid-Topic Checkpoint and Performance Task	2
4th Quarter				
Standard(s)	Learning Objective(s)	Savvas Alignment	Assessments	Timeframe
7.G.B.3 7.EE.B.4.a	-Calculate the circumference, radius, or diameter of a circle	Lesson 8-5: Solve Problems Involving Circumference of a Circle		2

7.G.B.3 7.EE.B.3 7.EE.B.4.a	-Find the area of a circle -Use the area to find the radius and diameter -Solve problems involving area of a circle	Lesson 8-6: Solve Problems Involving Area of a Circle		2
7.G.B.5	-Describe cross sections of right rectangular prisms and pyramids -Solve problems involving cross sections	Lesson 8-7: Describe Cross Sections		2
7.G.B.5 7.NS.A.3 7.EE.B.3 7.EE.B.4.a	-Find the surface area of two-dimensional composite shapes -Find the surface area of three-dimensional composite shapes	Lesson 8-8: Solve Problems Involving Surface Area		2
7.G.B.5 7.NS.A.3 7.EE.B.3 7.EE.B.4.a	-Calculate the volume of various three-dimensional figures -Solve problems involving the volume of three-dimensional figures	Lesson 8-9: Solve Problems Involving Volume		2
		Page 499	Topic Assessment and Performance Task	2
Focus: Major Work standards	TNREADY REVIEW	<ul style="list-style-type: none"> Standards Practice sheets Assessment Readiness Practice Tests 		14
8.F.A.1 8.F.A.1 8.F.A.2 8.F.A.3 8.F.B.4 8.F.B.5	-Identify whether a relation is a function -Interpret a function -Identify functions in different representations: equations, tables, and graphs -Compare properties of linear functions in different representations -Compare properties of linear and nonlinear functions in different representations -Construct a linear function to model a relationship using an equation in the form $y = mx + b$ -Describe qualitatively the behavior of a function by analyzing its graph -Describe the graph of a function at each interval -Draw a qualitative graph of a function based on a verbal description -Analyze and interpret the sketch of a graph of a function	Lesson 3-1: Understand Relations and Functions Lesson 3-2: Connect Representations of Functions Lesson 3-3: Compare Linear and Nonlinear Functions Lesson 3-4: Construct Functions to Model Linear Relationships Lesson 3-5: Intervals of Increase and Decrease Lesson 3-6: Sketch Functions from Verbal Descriptions		11

8.EE.C.8.b 8.EE.C.8.a	-Examine graphs of linear systems of equations to determine the number of solutions, based on number of intersection points -Compare the equations in a linear system to look for a relationship between the number of solutions and the slopes and y-intercepts of the equations Create and examine graphs of linear systems of equations to determine the solution	Lesson 5-1: Estimate solutions by inspection Lesson 5-2: Solve system of equations by graphing		3
8.SP.A.1 8.SP.A.2 8.F.A.3 8.F.B.4 8.SP.A.3 8.F.A.3 8.F.B.4	-Construct a scatter plot graph to model paired data -Utilize a scatterplot to identify and interpret the relationship between paired data -Recognize whether the paired data has a linear association, a nonlinear association, or no association -Draw a trend line to determine whether a linear association is positive or negative and weak or strong -Use the slope and y-intercept of a trend line to make a prediction -Make prediction when no equation is given by drawing trend lines and writing the equation of a linear model	Lesson 4-1: Construct and Interpret Scatterplots Lesson 4-2: Analyze Linear Associations Lesson 4-3: Use Linear Models to Make Predictions		4