6th Grade Go Math Guidance Documents

Grade 6 Module 1: Integers			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
Number: Title; Standard			
1.1 Identifying Integers and Their Opposites 6.NS.C.6.a	modify		Students need to be familiar with horizontal and vertical number lines. Lessons 1.1 and 3.2 could be combined as well
1.2 Comparing and Ordering Integers 6.NS.C.7	Modify		Ordering is not fully addressed in this lesson; students will have additional practice in 3.2
1.3 Absolute Value 6.NS.C.7c	Modify	RESOURCE EngageNY Lessons 11 - 12	Standard calls for comparing and ordering absolute values of rational numbers and using a number line to model the absolue value of a rational number showing the distance the number is from zero. There is very little practice of those skills in this lesson.
Students will need additional practice and exposure through other resources. 6.NS.C.6 http://tasks.illustrativemathematics.org/content-standards/6/NS/C/6 6.NS.C.7 http://tasks.illustrativemathematics.org/6.NS.C-3			

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Grade 6 Module 2: Factors and Multiples			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
Module 2 2.1 GCF and 2.2 LCM	Modify	I would create a sheet on key words for when students use GCF and when they use LCM. https://d3jc3ahdjad7x7.cloudfront.net/UPnaDTjGjhgaurGK3om8zhgYto52JS49SUoKEiRqntERM3uy.pdf	Students get confused on when to use GCF vs LCM.

Grade 6 Module 3: Rational Numbers			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
3.1 Classifying Rational Numbers 6.NS.C.7b	delete		
3.2 Identifying Opposites and Absolute Value of Rational Numbers 6.NS.C.6a 6.NS.C.6b	As is		

3.3 Comparing and Ordering Rational Numbers 6.NS.c.7	As is		
Additional Materials: EngageNY Module 3 Topics A & B			

Grade 6 Module 4: Operations with Fractions			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
Module 4 4.1 Applying GCF and LCM to fractional operations	Delete	Adding, subtracting, multiplying fractions were covered in 5th grade.	Use example 1 and/or essential question on 82 if needed as bellwork.
4.2 Dividing Fractions	Modify	Students need more model practice and more models lead students to understand that dividing by a number is the same as multiplying by its reciprocal.	In order to move to level 4 students need a chance to create textual problems (Create a story) involving division of fractions by fractions and interpret the solution using PRECISE MATH LANGUAGE. Ex: given 2 fractions explain a situation where division would be used and solve. https://www.engageny.org/resource/grade-6-mathematics-module-2-topic-overview
4.3 Dividing Mixed Numbers	As Is		
4.4 Solving Multistep with fractions and Mixed Numbers	As Is		

Grade 6 Module 5: Operations with Decimals			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
5.1 Dividing Whole Numbers 6.NS.B.2	Modify		Lesson focuses on using the standard algorithm; however, students will need additional practice interpreting quotients and remainders Students practice converting percents, fractions, and decimals more in lesson 8.2 (not really in the context of division problems though)
5.2 Adding and Subtracting Decimals 6.NS.B.3	As is		
5.3 Multiplying Decimals 6.NS.B.3	As is		
5.4 Dividing Decimals 6.NS.B.3	As is		
5.5 Applying Operations with Rational Numbers	modify		Use as an enrichment activity to prepare for 8.2 OR Modify word problems that contain decimals and fractions together
Additional Resources: EngageNY Module 2 Topic B & C			

Grade 6 Module 6: Representing Ratios and Rates			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
6.1 Ratios 6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2: 1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes." Conceptual	Modify	There is not a lot of talk about order and students forget to look at the order of the ratio they are asked to find. Example: There are 4 stars, 3 squares, and 5 triangles. What is the ratio of triangles to stars? Students tend to want to list what is given first not what is asked. Some answer 4:5 instead of 5:4. There is not many opportunities for students to create tables and complete tables.	Use Eureka Module 1 Topic A Lesson 1-6. https://www.engageny.org/resource/grade-6-mathematics-module-1-topic-lesson-2

6.2 Rates 6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b not equal to 0. Use rate language in the context of a ratio relationship Conceptual	Modify	Students are not given a lot of opportunities to use the ratio and rate language. With conceptual understanding, students should be able to make sense of why a mathematical idea is important and the kinds of contexts in which it is useful. Students should also be able to fill in missing information in tables.	Use Eureka Module 1 Topic C Lesson 16-22 https://www.engageny.org/resource/grade-6-mathematics-module-1-topic-c-overview Students should build on knowledge of ratios and equivalent fractions to understand that a unit rate is a special ratio relationship between two quantities where for every x units of one quantity there is 1 unit of another quantity. Students should explore real-world examples that can be expressed as a part- to-one ratio using ratio language such as *per* and *each* to compare different units or measures. Students should be able to distinguish and articulate between the concepts of ratios, rates, and unit rates. Additionally, students should model the mathematical process of converting between rates in fraction form to word form. Determining, interpreting, and modeling unit rate understanding will lead into future course work with proportionality and linear functions.
6.3 Using Ratios and Rates to Solve Problems Procedural skill and fluency, application, and Conceptual	Combine with 6.2	This lesson provides some table and double numberline practice.	

Grade 6 Module 7: Applying Ratios and Rates

Lesson	Action As Is, Delete, Modify	Details for the Action	Rationale
7.1 Ratios, Rates, Tables and Graphs 6.RP.A.3a	modify	Supplement with Engage NY	Students need work with tape diagrams, double number lines and equations. There is none of that in this lesson.

7.2 Solving Problems with Proportions 6.RP.A.3a 6.RP.3b			
7.3 Converting Within Measurement Systems 6.RP.A.3d	As is		
7.4 Converting Between Measurement Systems 6.RP.A.3d	As is		
Additional Resources: Engage NY: Grade 6 Mathematics Module 1, Topic A (6.3, 7.1 and 7.2) Grade 6 Mathematics Module 1, Topic B (6.3 and 7.1) Grade 6 Mathematics Module 1, Topic C (7.2) Grade 6 Mathematics Module 1, Topic D (8.1, 8.2 and 8.3)			

Grade 6 Module 8: Understanding Percent			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
8.1 Understanding Percent 6.RP.3c Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.	As Is	For the later part of the standard refer to lesson 8.3	8.1 Does not solve problems involving finding the whole, given part and the percent. That comes in lesson 8.3.
8.2 Percents, Fractions, and Decimals 6.RP.3	As Is		
8.23 Solving Percent Problems 6.RP.3 AND 6.RP.3c	As Is		

Grade 6 Module 9: Generating Equivalent Numerical Expressions

Lesson	Action As Is, Delete, Modify	Details for the Action	Rationale
9.1 Exponents	As is / modify		Students need to be comfortable with whole number bases before introducing fraction or decimal bases. The lesson mixes fractions and there aren't any decimals included
9.2 Prime Factorization	delete		Could be used as additional practice with GCF
9.3 Order of Operations	modify	Supplement	Students will need more error analysis practice, verbal and visual representations to create expressions and grouping symbols. This lesson only has one set of parentheses; students need to see brackets and multiple parentheses

Grade 6 Module 10: Generating Equivalent Algebraic Expressions

Lesson	Action As Is, Delete, Modify	Details for the Action	Rationale
10.1 Modeling and Writing Expressions 6.EE.2a, 6.EE.2B, 6.EE.4, 6.EE.6	Modify	**Engage NY Task:** Grade 6 Mathematics Module 4, Topic D (10.1) Grade 6 Mathematics Module 4, Topic C (10.2) Grade 6 Mathematics Module 4, Topic F (10.2) http://tasks.illustrativemathematics.org/6.EE	The tasks allow for better conceptual understanding and practice.

10.2 Evaluating Expressions 6.EE.2c	As Is		
10.3 Generating Equivalent Expressions 6.EE.2b, 6.EE.3, 6.EE.4	As Is		

Grade 6 Module 11: Equations and Relationships

Lesson	Action As Is, Delete, Modify	Details for the Action	Rationale
11.1 Writing Equations to Represent Situations 6.EE.B.5 6.EE.B.6 6.EE.B.7	As is		
11.2 Addition and Subtraction Equations	modify		Students will need to be able to explain the meaning of a variable; identify and interpret dependent and independent variables; these two lessons do not cover that very well
11.3 Multiplication and Division Equations	modify		The multiplication and division equations are not written with decimals; the IFD calls for one-step equations with fractions, zero, and decimals
11.4 Writing Inequalities 6.EE.B.8	As is		

Grade 6 Module 12: Relationships in Two Variables			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
12.1 Graphing on the Coordinate Plane 6.NS.6, 6.NS.6b	As Is		
12.2 Independent and Dependent Variables in Tables and Graphs 6.EE.9	As Is		
12.3 Writing Equations from Tables 6.EE.9	Modify		https://www.engageny.org/resource/grade-6-mathematics-module-4-topic-h-overview
12.4 Representing Algebraic Relationships in Tables and Graphs 6.EE.9	Modify		https://www.engageny.org/resource/grade-6-mathematics-module-4-topic-h-overview

Grade 6 Module 13: Area and Polygons			
Lesson	**Action As Is, Delete, Modify**	**Details for the Action**	**Rationale**
13.1 Area of Quadrilaterals 6.G.A.1	As is		
13.2 Area of Triangles 6.G.A.1	As is		
13.3 Solving Area Equations 6.G.A.1 6.EE.7	As is		However, the problems are multi-step
13.4 Area of Polygons	As is		

Grade 6 Module 14: Title: Distance in the Coordinate Plane			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
14.1 Distance in the Coordinate Plane	Modify		
14.2 Polygons in the Coordinate Plane			

Grade 6 Module 15: Surface Area and Volume of Solids			
Lesson	**Action As Is, Delete, Modify**	**Details for the Action**	**Rationale**
15.1 Nets and Surface Area 6.G.A.4	Modify		Students will need to be able to create prisms; there is only one opportunity for them to do that in this lesson. More practice problems would be beneficial
15.2 Volume of Rectangular Prisms 6.G.A.2	Modify		Add additional practice and have students use both formulas to calculate the volume so they will be able to explain the relationship between the two.
15.3 Solving Volume Equations 6.G.A.2	As is		

Grade 6 Module 16: Displaying, Analyzing, and Summarizing Data			
Lesson	**Action: As Is, Delete, Modify**	**Details for the Action**	**Rationale**
16.1 Measures of Center			
16.2 Mean Absolute Deviation			
16.3 Box Plots			
16.4 Dot Plots and Data Distribution			
16.5 Histograms			