

Instructional Guide
Grade 6 – Mathematics
September 2022 through January 2023

Grade 6 Overview

Module	Standards
M1: Ratios and Unit Rates	6.RP.1, 6.RP.2, 6.RP.3
M2: Arithmetic Operations Including Dividing by a Fraction	6.NS.1, 6.NS.2 ^F , 6.NS.3 ^F , 6.NS.4 ^F = Required Fluency for Grade 6
M3: Rational Numbers	6.NS.5, 6.NS.6, 6.NS.7, 6.NS.8
M4: Expressions and Equations	6.EE.1, 6.EE.2, 6.EE.3, 6.EE.4, 6.EE.5, 6.EE.6, 6.EE.7, 6.EE.8, 6.EE.9
M5: Area, Surface Area, and Volume Problems	6.G.1, 6.G.2, 6.G.3, 6.G.4
M6: Statistics Gr. 7 M5: Various Lessons	6.SP.1, 6.SP.2, 6.SP.3, 6.SP.4, 6.SP.5, 7.SP.1, 7.SP.2, 7.SP.5, 7.SP.6, 7.SP.7

See PAGE 8 for your September to January PACING

K-8 MATHEMATICS - DIGITAL RESOURCES

	Zearn	Moby Max	i-Ready	First in Math (K-5)	IXL
Purpose	Zearn Math instructional resources are designed to mirror teacher instruction with Eureka/EngageNY.	Moby Max is designed to find and fix learning gaps using the power of personalized learning.	i-Ready provides teachers with individualized data and suggested differentiated instruction to support student learning.	First In Math provides self-paced activities to help students strengthen fact fluency, automaticity, computational thinking, and other critical skills that support STEM readiness.	IXL is a targeted learning tool used to provide personalized action plans and links related to the academic progress and areas of need for each student
District Expectations	<p>Zearn will be used to support grade level instruction. The independent digital lessons will be assigned following teacher instruction.</p> <p>Zearn may also be used for re-teach, in cases where students need review of previous grade level content.</p>	<p>Moby Max will be used to provide intervention in the areas where individual students are struggling.</p> <p>Every student will take the Moby Max diagnostic at the start of the year; providing each student with an individualized plan for learning.</p> <p>Moby Max may also be used to support grade level instruction.</p>	<p>i-Ready will be used as the district's math screener for grades K-8.</p> <p>Every student will take the digital math screener during the three identified testing windows: BOY, MOY and EOY.</p>	<p>First In Math will be used for fluency practice; to master facts, practice procedural skills and engage in problem-solving.</p>	<p>IXL will be used as a district benchmark for all high school math courses <u>and</u> grade 8 Algebra during three identified testing windows: BOY (diagnostic), MOY (snapshot) and EOY (snapshot).</p> <p>Students must also work in IXL diagnostic arena for 10 minutes <u>each week</u> in order to keep their levels and recommendations up to date.</p>
Available supports/webinars	about.zearn.org/school-account-resources password: Zearn2020	https://vimeo.com/mobymax	https://login.i-ready.com/educator/help	https://explore.firstinmath.com/program-content/educator-questions/?cc=us	https://www.ixl.com/userguides

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IMPORTANT Module 1 Notes:

Based on the **Next Generation Math Standards (to be implemented THIS YEAR)**, please be aware of the following:

- **6.RP.2** Clarification in the wording of the standard to include “ $b \neq 0$ (b not equal to zero)”.
- **6.RP.3** Clarification in the wording of the standard to include “Note: Strategies may include but are not limited to the following: tables of equivalent ratios, tape diagrams, double number lines and equations.” Double number line diagrams are now referred to as double number lines.
- **6.RP.3c** Modification includes “finding a part of the whole given the percent.”
- **6.RP.3d** Clarification in the wording of the standard to include “Note: Conversion of units can occur within a given measurement system and across different measurement systems.”

Additional Module 1 Notes (Math Pact Agreements):

- Be careful to not use the terms “fraction” and “ratio” interchangeably. (throughout the Module)
- Avoid tricks like the butterfly method that do not teach why it works. (Lessons 3 - 15)
- Teach students to make sense of mathematics context (SMP.1), rather than look for keywords (ex. “of” means multiply). (Lessons 26 - 29)

[Grade 6 Math Pact Agreements](#)

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Module 1 Vocabulary

Ratio	Equivalent ratio	Ratio table
Rate	Percent	Unit rate

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IMPORTANT Module 2 Notes:

Based on the **Next Generation Math Standards (to be implemented THIS YEAR)**, please be aware of the following:

- **6.NS.1:** Clarification in the wording of the standard to include “Note: Strategies may include but are not limited to the following: using visual fractions models, a standard algorithm, and equations to represent the problem.
- **6.NS.2b** and **6.NS.3:** Clarification in the wording of the standard from “the standard algorithm” to “**a standard algorithm**”.
- **6.NS.4:** Clarification in the wording of the standard from “no common factors” to “**no common factors other than 1**”.

Additional Module 2 Notes (Math Pact Agreements):

- Avoid tricks like “Keep Change Flip”. (Lessons 1 - 8)
- Connect multiple representations consistently (circles, tape diagrams and number lines) when showing operations with fractions and equivalence. (Lessons 1 - 8)
- Avoid reading fractions as words, i.e. “two over three” or “two out of three”. Instead read them as the value and attribute they represent, i.e “two thirds of the length of rope”. (Lessons 1 - 8)
- Use the language “simplifying” or “renaming” instead of “reducing”. (Lessons 1 - 8)

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Module 2 Vocabulary

Greatest common factor

Least common multiple

Multiplicative inverse

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IMPORTANT Module 3 Notes:

Based on the *Next Generation Math Standards (to be implemented THIS YEAR)*, please be aware of the following:

- **6.NS.6:** Clarification in the wording of the standard to include “Use number lines and coordinate axes to represent points on a number line and the coordinate plane with negative number coordinates.”
- **6.NS.7d:** Clarification in the wording of the standard to include a new example “Someone with a balance of \$100 in their bank account has more money than someone with a balance of -\$1,000 because $100 > -1,000$. But the second person’s debt is much larger than the first person’s credit because $|-1,000| > |100|$.”

Additional Module 3 Notes (Math Pact Agreements):

- Integers are all whole numbers and their opposites, including zero. (Lessons 1 - 13)
- Expose students to horizontal and vertical number lines. (Full Module)
- Teach students that numerals on a number line indicate the number of units of length from zero, not the amount of tick marks. (Full Module)
- Numbers and their opposite are equal distance from zero but in opposite directions on a number line; and, zero is its own opposite. (Full Module)
- Teach movement on the number line as increasing/decreasing in value as you move right/left or up/down. (Full Module)
- When comparing numbers use precise mathematical language (greater than, less than, longer than, shorter than, fewer, etc). Avoid using smaller or bigger. (Full Module)

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- When working with a number line, make sure it is drawn accurately (as a line with arrows on each end). (Full Module)
- Provide students with number lines to connect less than, greater than or equal to their respective symbol. Avoid tricks such as “alligator eats the larger number”. (Lessons 9 - 10)
- Reference to distance on a number line or coordinate plane should be grounded in absolute value. (Lessons 11 - 13)
- Use the definition of absolute value consistently to avoid confusion when students encounter situations such as $-|-5|$ in later grades. (Lessons 11 - 13)

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Module 3 Vocabulary

Absolute value	Charge	Credit	Debit
Elevation	Integers	Magnitude	Negative number
Opposite	Positive number	Quadrants	Rational number
Withdraw			

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PACING Plan for September 2022 – January 2023

Grade 6				
Quarter 1 - weeks	Quarter 1 -dates	Sept - Jan PACING	Zearn Digital Independent Lessons <i>Zearn's Grade 6 Missions are not in the same order as the Math Modules.</i>	Instructional Notes
Week 1	9/6 - 9/9			
Week 2	9/12 - 9/16	M1: Lesson 1, 2, 3/4	Mission 2: L4 Mission 2: L5 L3 may be used in place of L4, they cover the same concept using different contexts (recipes/paint mixtures)	Combine lessons 3 and 4, they have the same objective, to cover equivalent ratios. Omit lesson 3 exercise 1. Combine the problem sets.
Week 3	9/19 - 9/23	M1: Lesson 5/6, 7/8, 9	Mission 2: L15 Mission 2: L16	Combine Lessons 5 and 6, they have the same objective/cover the same concept, solving problems with equivalent ratios. Omit lesson 5 exit ticket. Combine the problem sets. Combine Lessons 7 and 8, they have the same objective/cover the same concept, equivalent ratios and the value of ratios. Omit lesson 7 exit ticket. Combine the problem sets.

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Week 4	9/26 - 9/30	M1: Lesson 10, 11/12, 13	Mission 2: L11 Mission 2: L12	Combine lessons 11 and 12, combine their problem sets. Include the double number line from Lesson 12 when teaching the concepts using lesson 11. Omit lesson 12 exercises 1 and 5.
i-Ready BOY SCREENING WINDOW (10/3-10/28)				
Week 5	10/3 - 10/7	M1: Lesson 14, 15, 16/17	Mission 2: L13 Mission 2: L8 *L8 is aligned to module L16/17	The Mid-Module Assessment follows Lesson 15. Combine lessons 16 and 17, they have the same objective. Omit the lesson 16 exploratory challenge letter a and exit ticket. Combine problem sets.
Week 6	10/11 - 10/14	M1: Lesson 18, 19/20	Mission 2: L9	Lesson 18 exercises can be completed at student desks rather than stations. Combine Lessons 19 and 20, they have the same objective. Omit exercise 3 from lesson 19. Exercise 3 activity may be used as support for struggling students. It can be used in NearPod as a matching activity. Omit exploratory challenge letters b, c, and d. Combine problem sets.
Week 7	10/17 - 10/21	M1: Lesson 21/22, 23, 24	Mission 2: L9	Combine Lessons 21 and 22, they have the same objective. Omit lesson 22 exploratory challenge and exercise 1. Combine problem sets. Link does not work in Lesson 24 Example 1 - Use this link instead: https://www.visnos.com/demos/percentage-fraction-decimals-grid
Week 8	10/24 - 10/28	M1: Lesson 25, 26, 27/28/29	Mission 3: L14 Mission 3: L15	Omit lesson 26 example 1 and exit ticket. Combine Lessons 27/28/29, they have the same concept/objective. Use 2 days to complete these lessons (week 8 & 9). Combine problem sets of Lesson 27/28/29.
Week 9	10/31 - 11/4	M1: Lesson 27/28/29 M2: Lesson 1	Mission 3: L16	Continuation of combining lessons 27/28/29. End of Module Assessment follows Lesson 29.

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Week 10	11/7 - 11/10	M2: Lesson 2, 3/4	Mission 4: L4-9 <i>*look at these lessons and choose those that best meet your students' needs.</i>	Combine lessons 3 and 4, they have the same objective. Use examples 1 and 2 from Lesson 3 and examples 2-4 from lesson 4. Omit Lesson 3 exit ticket and lesson 4 problem set.
Quarter 2 - weeks	Quarter 2 -dates	Sept - Jan PACING	Zearn Digital Independent Lessons <i>Zearn's Grade 6 Missions are not in the same order as the Math Modules.</i>	Instructional Notes
Week 11	11/14 – 11/18	M2: Lesson 5/6, 7, 8	Mission 4: L11	Combine Lessons 5 and 6, they have the same objective. Use example 1 from lesson 5 and example 1 from lesson 6. Omit lesson 5 exit ticket. Combine problem sets.
Week 12	11/21 – 11/23	M2: Lesson 9	Mission 4: L4-9 <i>*use remaining lessons from Week 10</i>	
Week 13	11/28 - 12/2	M2: Lesson 10, 11, 12	Mission 5: L5-8 <i>*look at these lessons and choose those that best meet your students' needs to support L10/11.</i>	The Mid-Module Assessment follows Lesson 11.
Week 14	12/5 - 12/9	M2: Lesson 13, 14/15, 16/17	Mission 5: L11-13 <i>*look at these lessons and choose those that best meet your students' needs to support L14/15.</i>	Combine Lessons 14 and 15, but provide support for division fluency, where necessary. Use example 1 from lesson 14 and examples 1, 2, and 4 from lesson 15. Omit lesson 15 exit ticket. Combine Lessons 16 and 17. Omit problem set from lesson 16. Use Lesson 17 example 2.
Week 15	12/12 - 12/16	M2: Lesson 18, 19 M3: Lesson 1		End of Module Assessment follows Lesson 19.

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Week 16	12/19 -12/23	M3: Lesson 2/3, 4/5, 6	Mission 7: L1 Mission 7: L2 <i>*Mission 7: L3 may be used if students require additional support plotting rational numbers on a number line</i>	Combine Lessons 2 and 3, they have the same objective. Omit Lesson 2 exit ticket and lesson 3 exploratory challenge. Combine problem sets. Combine Lessons 4 and 5 as they have the same objective/concept. Omit Lesson 4 exercise 1. Combine problem sets.
Week 17	1/3 - 1/6	M3: Lesson 7/8, 9	Mission 7: L4 Mission 7: L5	Combine Lessons 7 and 8, they have the same objective. Omit Lesson 7 exit ticket. Omit Lesson 8 opening exercise. Combine problem sets.
Week 18	1/9-1/13	M3: Lesson 10, 11, 12/13	Mission 7: L6 - 8 <i>*look at these lessons and choose those that best meet your students' needs.</i>	Combine Lessons 12 and 13 as Lesson 13 is application of the Lesson 12 concepts in real world problems. Combine problem sets and omit Lesson 12 exit ticket. The Mid-Module Assessment follows Lesson 15.
Week 19	1/17 – 1/20	M3: Lesson 14, 15	Mission 7: L11 Mission 7: L14	
i-Ready MOY SCREENING WINDOW (1/23-2/17)				
Week 20	1/23 – 1/27	M3: Lesson 16, 17, 18/19	Mission 7: L12 Mission 7: L15	Combine Lessons 18 and 19, they have the same objective. Omit Lesson 18 exit ticket and combine problem sets. End of Module Assessment follows Lesson 19.