Mrs. Rayman's 6th Grade Math Weekly Lesson Plans

Common Core State Standards

6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.	6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g. by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.	6.RP.3a Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

Essential Question: *How do you use ratio concepts and ratio reasoning to solve problems?*

Monday Engage NY Lesson 1.6
Objective: Students will use tape diagrams to solve problems when given a ratio between two quantities and a change to those quantities that changes the ratio.

Agenda:
1. Warm up: Ratio of the Day AND "Writing equivalent ratios"
2. Classwork: Engage NY Lesson 1.6 Exercises 2-7
3. Exit Ticket: "Solving problems using equivalent ratios"
4. Homework: Equivalent Ratios Worksheet

Tuesday Engage NY Lesson 1.7
Objective: Students will understand the relationship between ratios and fractions. Students describe the fraction 3/5 associated with the ratio as the value of the ratio 3 to 5. Students will understand that when given a ratio, different ratios can be formed from the numbers and ratios are associated with the same ratio relationship.

Agenda:
1. Warm up: Ratio of the Day AND Fun Video for Ratios: https://www.youtube.com/watch?v=YFeU6SSmpv8
2. Classwork: Engage NY Lesson 1.7 Exercises 1-2
3. Exit Ticket: Use Equivalent Ratios to find unknown values
4. Homework: Engage NY Lesson 7: Associated Ratios and the Value of a Ratio

Wednesday: Engage NY Lesson 1.8

Objective: Students will understand that the value of A:B is the quotient A/B (as long as B is not equal to zero) and that if two ratios are equivalent, then their values are the same. Students will use the value of a ratio to solve ratio problems in a real-world context.

Agenda:
1. Warm up: Ratio of the Day AND "Simplifying Ratios" Video: https://www.youtube.com/watch?v=XD1NnVH-BCI OR https://www.youtube.com/watch?v=8IyHgIPxHYw
2. Classwork: Engage NY Lesson 8 Exercises 1-3
3. Exit Ticket: *You created a playlist, and 100 of your friends listened to it and shared if they liked the new playlist or not. Drew said the ratio of the number of people who liked the playlist to the number who did not like the playlist is 75:25. Emma said that for every three people who liked the playlist, one person did not. Do Drew and Emma agree? Prove your answer using the values of the ratios.*
4. Homework: Engage NY Lesson 8 Problem Set/Homework

Thursday: Engage NY Lesson 1.9

Objective: Students will understand that a ratio is often used to describe the relationship between the amount of one quantity and the amount of another quantity as in the cases of mixtures or constant rates. Students will understand that a ratio table is a table of equivalent ratios and that they can be used to solve problems.

Agenda
1. Warm up: Ratio of the Day AND "Ratio Tables" Video: https://www.youtube.com/watch?v=mQYv06QEotw
2. Classwork: Engage NY Lesson 9 Exercises 1-2
3. Exit Ticket: "Ratio Tables" Exit Slip: *A father and young toddler are walking along the sidewalk. For every 3 steps the father takes, the son takes 5 steps just to keep up. What is the ratio of the number of steps the father takes to the number of steps a son takes? Be sure to add labels and columns to your table, and place the ratio into the first row of data. Add equivalent ratios to build a ratio table.*
4. Homework: Engage NY Lesson 9 Problem Set/Homework

Friday: Engage NY Lesson 1.10

Objective: Students will identify both the additive and multiplicative structure of a ratio table and use the structure to make additional entries in the table. Students will use ratio tables to solve problems.

Agenda:
1. Warm up: Ratio of the Day AND "Additive and Multiplicative Ratio Tables" Video: https://www.youtube.com/watch?v=HYcMAFFTSdE
2. Classwork: Engage NY Lesson 10 Exploratory Challenge and Exercise 1
3. Exit Ticket:
4. Homework: Lesson 10 Problem Set/Homework

Mrs. Rayman's Daily Instructional Plan- Grade 6 Math

	Monday	Tuesday	Wednesday	Thursday	Friday
Accessing Prior Knowledge - Where are your students headed? Where have they been? How will you make sure the students know where they are going?	Warm Up: Ratio of the Day Wednesday's Classwork & Homework	Warm Up: Ratio of the Day Thursday's Classwork & Homework	Warm Up: Ratio of the Day AND "Simplifying Ratios" Video: https://www.youtube.com/watch?v=XD1NnVH-BCI	Warm Up: Ratio of the Day AND "Ratio Tables" Video: https://www.youtube.com/watch?v=mQYv06QEotw	Warm Up: Ratio of the Day AND "Additive and Multiplicative Ratio Tables" Video: https://www.youtube.com/watch?v=HYcMAFFTSdE
Guided Practice - What events will help students experience and explore the big idea and questions in the unit? How will you equip them with needed skills and knowledge?	Direct Instruction: Engage NY Lesson 1.6 Exercises 2-7	Direct Instruction: Engage NY Lesson 1.7 Exercises 1-2	Direct Instruction: Engage NY Lesson 8 Exercises 1-3	Direct Instruction: Engage NY Lesson 9 Exercises 1-2	Direct Instruction: Engage NY Lesson 10 Exploratory Challenge and Exercise 1
Independent Practice - How will you cause students to reflect and rethink? How will you guide them in rehearsing, revising, and refining their work? How will students work together to ensure mastery for all?	Student Ratio Notes and Homework: Equivalent Ratio Worksheet	Student Ratio Notes and Homework: Engage NY Lesson 7: Associated Ratios and the Value of a Ratio	Student Ratio Notes and Homework: Engage NY Lesson 8 Problem Set/Homework	Student Ratio Notes and Homework: Engage NY Lesson 9 Problem Set/Homework	Student Ratio Notes and Homework: Lesson 10 Problem Set/Homework
Assessing Knowledge - How will you help students to exhibit and self-evaluate their growing skills, knowledge, and understanding throughout the unit?	Exit Ticket and Teacher Observations	Exit Ticket and Teacher Observations	Exit Ticket and Teacher Observations	Exit Ticket and Teacher Observations	Exit Ticket and Teacher Observations
Differentiation/Accommodation - How will you tailor and otherwise personalize the learning plan to optimize the engagement and effectiveness of ALL students, without compromising the goals of the unit?	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments
Learner Outcome - How will students demonstrate, as a result of lesson, their level of mastery? • Understand • Know • Do	Students will use tape diagrams to solve problems when given a ratio between two quantities and a change to those quantities that changes the ratio.	Students will understand the relationship between ratios and fractions and that when given a ratio, different ratios can be formed with the same ratio relationship.	Students will understand that the value of A:B is the quotient A/B (as long as B is not equal to zero) and that if two ratios are equivalent, then their values are the same. Students will use the value of a ratio to solve ratio problems in a real-world context.	Students will understand that a ratio is often used to describe the relationship between the amount of one quantity and the amount of another quantity as in the cases of mixtures or constant rates.	Students will identify both the additive and multiplicative structure of a ratio table and use the structure to make additional entries in the table. Students will use ratio tables to solve problems.

Common Core State Standards

6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.	**6.RP.3** Use ratio and rate reasoning to solve real-world and mathematical problems, e.g. by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.	**6.RP.3a** Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

Essential Question: *How do you use ratio concepts and ratio reasoning to solve problems?*

Monday: Engage NY Lesson 1.8

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3. Exit Ticket: *You created a playlist, and 100 of your friends listened to it and shared if they liked the new playlist or not. Drew said the ratio of the number of people who liked the playlist to the number who did not like the playlist is 75:25. Emma said that for every three people who liked the playlist, one person did not. Do Drew and Emma agree? Prove your answer using the values of the ratios.*
4. Homework: Engage NY Lesson 8 Problem Set/Homework

Monday: Engage NY Lesson 1.9

Objective: Students will understand that a ratio is often used to describe the relationship between the amount of one quantity and the amount of another quantity as in the cases of mixtures or constant rates. Students will understand that a ratio table is a table of equivalent ratios and that they can be used to solve problems.

    Agenda

1. Warm up: Ratio of the Day AND "Ratio Tables" Video: https://www.youtube.com/watch?v=mQYv06QEotw
2. Classwork: Engage NY Lesson 9 Exercises 1-2
3. Exit Ticket: "Ratio Tables" Exit Slip: *A father and young toddler are walking along the sidewalk. For every 3 steps the father takes, the son takes 5 steps just to keep up. What is the ratio of the number of steps the father takes to the number of steps a son takes? Be sure to add labels and columns to your table, and place the ratio into the first row of data. Add equivalent ratios to build a ratio table.*
4. Homework: Engage NY Lesson 9 Problem Set/Homework

Tuesday: Engage NY Lesson 1.10

Objective: Students will identify both the additive and multiplicative structure of a ratio table and use the structure to make additional entries in the table. Students will use ratio tables to solve problems.

    Agenda:
1. Warm up: Ratio of the Day AND "Additive and Multiplicative Ratio Tables" Video: https://www.youtube.com/watch?v=HYcMAFFTSdE
2. Classwork: Engage NY Lesson 10 Exploratory Challenge and Exercise 1
3. Exit Ticket:
4. Homework: Lesson 10 Problem Set/Homework

TuesdayEngage NY Lesson 1.11

    Objective: Students will solve problems by comparing different ratios using two or more ratio tables.

    Agenda:
1. Warm up: Ratio of the Day AND Comparing Ratios using Ratio Tables Videos: https://www.youtube.com/watch?v=u8_qTU3DbLM
2. Classwork: Engage NY Lesson 11 Exercises 1-2
3. Exit Ticket: "Beekeepers" Problem Exit Ticket
4. Homework: Engage NY Lesson 11 Problem Set/Homework

Wednesday: Engage NY Lesson 1-12

    Objective: Students create equivalent ratios using a ratio table and represent these ratios on a double number line diagram. Students will extend and use a double number line diagram to solve ratio problems related to the real world.

    Agenda:
1. Warm up: Ratio of the Day AND "Ratio tables to Double Number Lines" Video: https://www.youtube.com/watch?v=pammNnXs770
2. Classwork: Engage NY Lesson 12 Exercises 1-5
3. Exit Ticket: *Kyra is participating in a fundraiser walk-a-thon. She walks 2 miles in 30 minutes. If she continues to walk at the same rate, determine how many minutes it will take her to walk 7 miles. Use a double number line diagram to support your answer.*
4. Homework: Engage NY Lesson 12 Problem Set/Homework

Wednesday Engage NY Lesson 1-14

Objective: Students represent ratios as tables, equations, and double number line diagrams and then represent those ratios in a coordinate plane. Students associate with each ratio A:B and the ordered pair (A, B) and plot it in the x-y coordinate plane.

    Agenda:
1. Warm up: Ratio of the Day AND "Equal Ratios" Video: https://www.youtube.com/watch?v=VyhRv_MuxvA
2. Classwork: Engage NY Lesson 14 Exercises 1-2 and example 1
3. Exit Ticket: *Dominic works on the weekends and on vacations from school mowing lawns in his neighborhood. For every lawn he mows, he charges $12. Complete the table, then determine the ordered pairs, and create a labeled graph.*
4. Homework: Engage NY Lesson 14 Problem Set/Homework

Thursday Engage NY Lesson 1-15

Objective: Students associate with each ratio A:B and the ordered pair (A, B) and plot it in the x-y coordinate plane. Given a ratio table, students will plot the ratios in the plane and observe that they lie on the line through the origin and the coordinates in the line satisfy y=kx where k is the value of the associated ratio.

Agenda:
1. Warm up: Ratio of the Day AND "Equivalent Video (a review of equivalent fractions to help relate to finding equivalent ratios and the constant" Video: https://www.youtube.com/watch?v=vKXqzpz-G0s
2. Classwork: Engage NY Lesson 15 Exercises 1-7
3. Exit Ticket: "Ratio Tables" Exit Slip: *Explain the advantages and disadvantages of using each of the representations of equivalent ratios: table, double number line, equations, and graphs.*
4. Homework: Engage NY Lesson 15 Problem Set/Homework

Friday Engage NY Lesson 1-16

Objective: Students associate a description of a ratio relationship, such as "5 miles for every 2 hours" to a new quantity, "2.5miles/hour" called a *rate*. Students will be able to identify the unit rate and the rate unit.

Agenda:
1. Warm up: Ratio of the Day AND "Unit Rates" Video: https://www.youtube.com/watch?v=liW_ALj4Qj8 OR https://www.youtube.com/watch?annotation_id=2563e028-aff3-4a3f-bd3d-7bf8dcc45840&feature=cards&src_vid=IBP1TmBXlkY&v=ZejizwRUqgc
2. Classwork: Engage NY Lesson 16 Exploratory Challenge
3. Exit Ticket: *Angela enjoys swimming and often swims at a steady pace to burn calories. At this pace, Angela can swim 1,700 meters in 40 minutes. What is Angela's unit rate? What is the rate unit?*
4. Homework: Lesson 16 Problem Set/Homework

Mrs. Rayman's Daily Instructional Plan- Grade 6 Advanced Math

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Accessing Prior Knowledge - Where are your students headed? Where have they been? How will you make sure the students know where they are going?	Warm Up: Ratio of the Day AND "Ratio Tables" Video: https://www.youtube.com/watch?v=mQYv06QEotw	Warm Up: Ratio of the Day AND "Additive and Multiplicative Ratio Tables" Video: https://www.youtube.com/watch?v=HYcMAFFTSdE	Warm Up: Ratio of the Day AND Comparing Ratios using Ratio Tables Videos: https://www.youtube.com/watch?v=u8_qTU3DbLM	Warm Up: Ratio of the Day AND "Ratio tables to Double Number Lines" Video: https://www.youtube.com/watch?v=pammNnXs770	Warm Up: Ratio of the Day AND "Equal Ratios" Video: https://www.youtube.com/watch?v=VyhRv_MuxvA
Guided Practice - What events will help students experience and explore the big idea and questions in the unit? How will you equip them with needed skills and knowledge?	Direct Instruction: Engage NY Lesson 9 Exercises 1-2	Direct Instruction: Engage NY Lesson 10 Exploratory Challenge and Exercise 1	Direct Instruction: Engage NY Lesson 11 Exercises 1-2	Direct Instruction: Engage NY Lesson 1-12 Exercises 1-5	Direct Instruction: Engage NY Lesson 1-14 Exercises 1-2
Independent Practice - How will you cause students to reflect and rethink? How will you guide them in rehearsing, revising, and refining their work? How will students work together to ensure mastery for all?	Student Ratio Notes and Homework: Engage NY Lesson 9 Problem Set/Homework	Student Ratio Notes and Homework: Lesson 10 Problem Set/Homework	Student Ratio Notes and Homework: Engage NY Lesson 11 Problem Set/Homework	Student Ratio Notes and Homework: Engage NY Lesson 12 Problem Set/Homework	Student Ratio Notes and Homework: Engage NY Lesson 14 Problem Set/Homework
Assessing Knowledge - How will you help students to exhibit and self-evaluate their growing skills, knowledge, and understanding throughout the unit?	Exit Ticket and Teacher Observations	Exit Ticket and Teacher Observations	Exit Ticket and Teacher Observations	Exit Ticket and Teacher Observations	Exit Ticket and Teacher Observations
Differentiation/Accommodation - How will you tailor and otherwise personalize the learning plan to optimize the engagement and effectiveness of ALL students, without compromising the goals of the unit?	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments
Learner Outcome - How will students demonstrate, as a result of lesson, their level of mastery? • Understand • Know • Do	Students will understand that a ratio is often used to describe the relationship between the amount of one quantity and the amount of another quantity as in the cases of mixtures or constant rates.	Students will identify both the additive and multiplicative structure of a ratio table and use the structure to make additional entries in the table. Students will use ratio tables to solve problems.	Students will solve problems by comparing different ratios using two or more ratio table	Students associate with each ratio A:B and the ordered pair (A, B) and plot it in the x-y coordinate plane. Given a ratio table, students will plot the ratios in the plane and observe that they lie on the line through the origin and the coordinates in the line satisfy y=kx where k is the value of the associated ratio..	Students represent ratios as tables, equations, and double number line diagrams and then represent those ratios in a coordinate plane. Students associate with each ratio A:B and the ordered pair (A, B) and plot it in the x-y coordinate plane.