**6th Grade Advanced**

**Instructional Plan 2014-2015**

**Mathematics Instructional Plan Writing Committee**

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We would like to express our appreciation for the time, effort and expertise contributed to the writing of the secondary Mathematics Instructional Plans by our team of Seminole County math teachers.

**Purpose:**

The purpose of the Seminole County Public Schools Instructional Plan is to present an organized, responsible strategy of Benchmark presentation that incorporates Math Florida Standards (MAFS) and the Glencoe Course 1 textbook. This document will serve as a guide for teachers of mathematics. Latitude in the execution of this document shall be determined by a school rather than by an individual teacher.

**Goals:**

* To establish a classroom environment that values mathematical student discourse
* To engage students in cognitively challenging mathematical tasks
* To promote discussions that focus on student thinking, reasoning, problem solving and student presentation
* To build on student thinking while ensuring the discussion remains focused on the mathematical ideas of the lesson
* Employ questioning techniques that require students to justify, defend and support their ideas

**Instructional Plan Caveats:**

* Suggested practice corresponds to the associated lesson and left at the discretion of the instructor to be used as additional practice or assignment. Problems within the suggested pages may be exhausted or selected for targeted skills.
* Descriptions of the Mathematical Practices can be found on pages 3 – 4. Teachers are encouraged to embed the Questions to Develop Mathematical Thinking on pages 5 – 6 in their daily lessons.
* Learning goals and scales can be accessed through the hyperlinks within the Instructional Plan.
* Each learning scale will include links for formative assessment tasks that teachers are encouraged to use while students are progressing through the learning scale.
* Extended time has been allocated for authentic assessment tasks. Recommendations are made within the instructional plan to include summative assessments and review, authentic assessments, as well as culminating tasks (Amplify projects). District training will be provided on successful implementation of the Amplify projects throughout the year.
* Teachers are encouraged to use appropriate questioning strategies to fully address the instructional standards and expectations, by paying attention to the recommended caveats included throughout the IP to include discussion that may not be included as part of the textbook.
* Please look ahead and plan accordingly for time and copy needs that may arise throughout this year so that all MAFS standards are thoroughly addressed.
* Due to the fact that we do not have Test Item Specifications at this time the targeted Mathematical Practices for each unit are a projection.
* Common Assessments need to be readdressed by PLCs to fit the new units and fully address the standards.
* **Each unit will include at least one learning goal listed under the unit heading. The learning goals and scales correspond to the grade/level specific clusters as defined by the MAFS.**
* **The learning goals and scales are a work in progress and may be modified as needed. They are meant to be a starting point for PLCs to use as they customize the learning goals and scales to best demonstrate student learning.**

**Test Items Specifications:** [fsassessments.org](http://fsassessments.org/)

**STANDARDS FOR MATHEMATICAL PRACTICE**

**1. (MAFS.K12.MP.1.1) Make sense of problems and persevere in solving them.**

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

**2. (MAFS.K12.MP.2.1) Reason abstractly and quantitatively.**

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

**3. (MAFS.K12.MP.3.1) Construct viable arguments and critique the reasoning of others.**

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

**4. (MAFS.K12.MP.4.1) Model with mathematics.**

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

**5. (MAFS.K12.MP.5.1) Use appropriate tools strategically.**

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

**6. (MAFS.K12.MP.6.1) Attend to precision.**

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, student’s give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

**7. (MAFS.K12.MP.7.1) Look for and make use of structure.**

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well-remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression *x*2 + 9*x* + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 – 3(*x* – *y*) 2 as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers *x* and *y*.

**8. (MAFS.K12.MP.8.1) Look for and express regularity in repeated reasoning.**

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation (*y* – 2)/(*x* – 1) = 3. Noticing the regularity in the way terms cancel when expanding (*x* – 1)(*x* + 1), (*x* – 1)(*x*2 + *x* + 1), and (*x* – 1)(*x*3 + *x*2 + *x* + 1) might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

| **Summary of Standards for Mathematical Practice** | **Questions to Develop Mathematical Thinking** |
| --- | --- |
| **1. Make sense of problems and persevere in solving them.** |
| * Interpret and make meaning of the problem to find a starting point. Analyze what is given in order to explain to them the meaning of the problem.
* Plan a solution pathway instead of jumping to a solution.
* Monitor their progress and change the approach if necessary.
* See relationships between various representations.
* Relate current situations to concepts or skills previously learned and connect mathematical ideas to one another.
* Continually ask them, “Does this make sense?” Can understand various approaches to solutions.
 | * How would you describe the problem in your own words?
* How would you describe what you are trying to find?
* What do you notice about...?
* What information is given in the problem?
* Describe the relationship between the quantities.
* Describe what you have already tried. What might you change?
* Talk me through the steps you’ve used to this point.
* What steps in the process are you most confident about?
* What are some other strategies you might try?
* What are some other problems that are similar to this one?
* How might you use one of your previous problems to help you begin?
* How else might you organize...represent... show...?
 |
| **2. Reason abstractly and quantitatively.** |
| * Make sense of quantities and their relationships.
* Decontextualize (represent a situation symbolically and manipulate the symbols) and contextualize (make meaning of the symbols in a problem) quantitative relationships.
* Understand the meaning of quantities and are flexible in the use of operations and their properties.
* Create a logical representation of the problem.
* Attends to the meaning of quantities, not just how to compute them.
 | * What do the numbers used in the problem represent?
* What is the relationship of the quantities?
* How is \_\_\_\_\_\_\_ related to \_\_\_\_\_\_\_\_?
* What is the relationship between \_\_\_\_\_\_and \_\_\_\_\_\_?
* What does\_\_\_\_\_\_\_mean to you? (e.g. symbol, quantity, diagram)
* What properties might we use to find a solution?
* How did you decide in this task that you needed to use...?
* Could we have used another operation or property to solve this task? Why or why not?
 |
| **3. Construct viable arguments and critique the reasoning of others.** |
| * Analyze problems and use stated mathematical assumptions, definitions, and established results in constructing arguments.
* Justify conclusions with mathematical ideas.
* Listen to the arguments of others and ask useful questions to determine if an argument makes sense.
* Ask clarifying questions or suggest ideas to improve/revise the argument.
* Compare two arguments and determine correct or flawed logic.
 | * What mathematical evidence would support your solution?
* How can we be sure that...? / How could you prove that...?
* Will it still work if...?
* What were you considering when...?
* How did you decide to try that strategy?
* How did you test whether your approach worked?
* How did you decide what the problem was asking you to find? (What was unknown?)
* Did you try a method that did not work? Why didn’t it work? Would it ever work? Why or why not?
* What is the same and what is different about...?
* How could you demonstrate a counter-example?
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| **4. Model with mathematics.** |
| * Understand this is a way to reason quantitatively and abstractly (able to decontextualize and contextualize).
* Apply the mathematics they know to solve everyday problems.
* Are able to simplify a complex problem and identify important quantities to look at relationships.
* Represent mathematics to describe a situation either with an equation or a diagram and interpret the results of a mathematical situation.
* Reflect on whether the results make sense, possibly improving/revising the model.
* Ask them, “How can I represent this mathematically?”
 | * What number model could you construct to represent the problem?
* What are some ways to represent the quantities?
* What is an equation or expression that matches the diagram, number line..., chart..., table..?
* Where did you see one of the quantities in the task in your equation or expression?
* How would it help to create a diagram, graph, and table...?
* What are some ways to visually represent...?
* What formula might apply in this situation?
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| **5. Use appropriate tools strategically.** |
| * Use available tools recognizing the strengths and limitations of each Unit
* Use estimation and other mathematical knowledge to detect possible errors.
* Identify relevant external mathematical resources to pose and solve problems.
* Use technological tools to deepen their understanding of mathematics.
 | * What mathematical tools could we use to visualize and represent the situation?
* What information do you have?
* What do you know that is not stated in the problem?
* What approach are you considering trying first?
* What estimate did you make for the solution?
* In this situation would it be helpful to use...a graph..., number line..., ruler..., diagram..., calculator..., manipulative?
* Why was it helpful to use...?
* What can using a \_\_\_\_\_\_ show us that \_\_\_\_\_may not?
* In what situations might it be more informative or helpful to use...?
 |
| **6. Attend to precision.** |
| * Communicate precisely with others and try to use clear mathematical language when discussing their reasoning.
* Understand the meanings of symbols used in mathematics and can label quantities appropriately.
* Express numerical answers with a degree of precision appropriate for the problem context.
* Calculate efficiently and accurately.
 | * What mathematical terms apply in this situation?
* How did you know your solution was reasonable?
* Explain how you might show that your solution answers the problem.
* What would be a more efficient strategy?
* How are you showing the meaning of the quantities?
* What symbols or mathematical notations are important in this problem?
* What mathematical language...,definitions..., properties can you use to explain...?
* How could you test your solution to see if it answers the problem?
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| **7. Look for and make use of structure.** |
| * Apply general mathematical rules to specific situations.
* Look for the overall structure and patterns in mathematics.
* See complicated things as single objects or as being composed of several objects.
 | * What observations do you make about...?
* What do you notice when...?
* What parts of the problem might you eliminate.., simplify..?
* What patterns do you find in...?
* How do you know if something is a pattern?
* What ideas that we have learned before were useful in solving this problem?
* What are some other problems that are similar to this one?
* How does this relate to...?
* In what ways does this problem connect to other mathematical concepts?
 |
| **8. Look for and express regularity in repeated reasoning.** |
| * See repeated calculations and look for generalizations and shortcuts.
* See the overall process of the problem and still attend to the details.
* Understand the broader application of patterns and see the structure in similar situations.
* Continually evaluate the reasonableness of their intermediate results
 | * Explain how this strategy works in other situations?
* Is this always true, sometimes true or never true?
* How would we prove that...?
* What do you notice about...?
* What is happening in this situation?
* What would happen if...?
* Is there a mathematical rule for...?
* What predictions or generalizations can this pattern support?
* What mathematical consistencies do you notice?
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| **FIRST QUARTER (August 11 – October 9)**  | **42 DAYS** |
| **Topic/Assessment** | **Dates Covered** | **Approximate # of Days** |
| **Unit 1: The Number System (Chapters 1, 2)** |  | 29 |
| **Unit 2: Ratios and Proportional Relationships (Chapter 4)** |  | 9 |
| District Assessment (2 days), 9 Weeks Exams (2 days) |  | 4 |
|  |
| **SECOND QUARTER (October 13 – December 18)**  | **46 DAYS** |
| **Topic/Assessment** | **Dates Covered** | **Approximate # of Days** |
| **Unit 2: Ratios and Proportional Relationships (Chapter 5, 12) cont.** |  | 18 |
| **Unit 3: Statistics and Probability (Chapter 3)** |  | 19 |
| **Unit 4: Expressions and Equations (Chapter 6, 7, 8, 11)** |  | 4 |
| District Assessment (2 days); 9 Weeks Exams (3 days) |  | 5 |
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| **THIRD QUARTER (January 6 – March 12)** | **46 DAYS** |
| **Topic/Assessment** | **Dates Covered** | **Approximate # of Days** |
| **Unit 4: Expressions and Equations (Chapter 6, 7, 8, 11) cont.** |  | 31 |
| **Unit 5: Geometry (Chapter 9, 10)** |  | 10 |
| District Assessment (2 days); 9 Weeks Exams (2 days) |  | 5 |
|   |
| **FOURTH QUARTER (March 23 – May 27)**  | **46 DAYS** |
| **Topic/Assessment** | **Dates Covered** | **Approximate # of Days** |
| **Unit 5: Geometry (Chapter 9) cont.** |  | 6 |
| **Unit 6: The Number System (Chapter 11, 12)/ Testing** |  | 25 |
| State Test Review (3 days); FSA Tests (7 days); Cumulative Review (2 days); 9 Weeks Exams (3 days) |  | 15 |

*\*Please note that the suggested number of instructional days per unit and quarter are designed to be a guide. Teachers are encouraged to work within their schools and their PLCs to make the most appropriate timing decisions for their students.\**

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| **Unit 1: Number Sense** |
| **MAFS Code** | **Mathematics Florida Standards** | **SMP** |
| 6.NS.1.1 | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. | 4,6 |
| 6.NS.2.2 | Fluently divide multi-digit numbers using the standard algorithm. | 6,7 |
| 6.NS.2.3 | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. | 6,7 |
| 6.NS.2.4 | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers with no common factor. | 2,6,7 |
| **Learning Goal and Scale**[**605:** Apply and extend previous understandings of multiplication and division to divide fractions by fractions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/605.docx)[**606:** Compute fluently with multi-digit numbers and find common factors and multiples.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/606.docx)[**607:** Apply and extend previous understandings of numbers to the system of rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/607.docx)**Instructional Strategies & Misconceptions*** Students should be shown both vertical and horizontal process when multiplying.
* In vertical work, students might prefer graph paper for visual spatial work to prevent alignment errors.
* When rounding to the tenths place, remind students to divide to the hundredths place.
* Emphasize that a change in decimal must be exactly the same between the divisor and dividend.
* The word about means to estimate the answer, concentrate on helpful math vocabulary.
* Before multiplying and dividing mixed or whole numbers, rewrite all as improper fractions.
* Use close read to dissect story problems.
* \*\*Add/subtract decimals is included in the 6th grade standards now.\*\* Make sure this is fully addressed in Ch. 0. (6.NS.2.3)
 |
| **Math Practices for Unit** | **Unit Connections** | **Instructional Resources** |
| 1. Make sense of problems and persevere in solving them. | 5. Use appropriate tools strategically. | **Fifth Grade Standards: Number and Operations in Base Ten and Number and Operations—Fractions** * Understand the place value system.
* Perform operations with multi-digit whole numbers and with decimals to hundredths.
* Use equivalent fractions as a strategy to add and subtract fractions.
* Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
 | Base 10 Blocks 10 x 10 grids Grid Paper Index Cards  | Play Money Chapter Resource Masters Number Lines Thermometer  |
| 2. Reason abstractly and quantitatively. | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | 7. Look for and make use of structure. |
| 4. Model with mathematics. | 8. Look for and express regularity in repeated reasoning. |

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| **FIRST QUARTER** |
| **Unit 1: Number Sense** |
| **Learning Goal** | [**605:** Apply and extend previous understandings of multiplication and division to divide fractions by fractions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/605.docx)[**606:** Compute fluently with multi-digit numbers and find common factors and multiples](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/606.docx)[**607:** Apply and extend previous understandings of numbers to the system of rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/607.docx) | **Suggested # of Days** | **29** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Assignments/Assessments** | **Ancillary Materials** |
| 3 Days | 6.NS.2.3\* | Diagnostic Test Chapter 0 (Add & Subtract Decimals + other review as needed)  |  |  |
| 3 Days | 6.NS.1.16.NS.2.26.NS.2.36.NS.2.4 | * 1. A TEXT Estimate Products p27-31

1-1 B TEXT Multiply Decimals by Whole Numbers p32-331-1 C IMPACT Unit A Investigation 1 Multiply and Divide Decimals p2-5 (text corr. p34-37)1-1 D and E IMPACT Unit A Investigation 2 and 3 Multiply Decimals as Fractions and Real Life p5-10 (text corr. p38-43) | WB p7-8WB p10WB p9WB p11-12 |  |
| 3 Days | 6.NS.1.16.NS.2.26.NS.2.3 | 1-2 A TEXT Estimate Quotients p44-481-2 B TEXT Divide Decimals by Whole Numbers p49-501-2 C TEXT Divide Decimals by Whole Numbers p51-551-2 D and E IMPACT Unit A Investigation 4 Divide Decimals p11-16 (text corr. p56-62) | WB p13-14WB p15WB p16-17 |  |
| 1 Day  |  | **Mid-Chapter Check TEXT p63** |  |  |
| 1 Days | 6.NS.1.16.NS.2.2 | 1-3 A and B TEXT Multiply and Divide by Powers of 10 p64-71 | WB p19-20WB p21-22 |  |
| 2 Days |  | Chapter 1 Practice Test p80**Chapter 1 Test** | TEXT Study Guide p76-79TEXT Are You Ready p86 |  |
| 3 Days | 6.NS.1.16.NS.2.26.NS.2.36.NS.2.4\* | 2-1 A TEXT Part of a Number p882-1 B TEXT Estimate Products of Fractions p90-932-1 C/D IMPACT Unit B Investigation 1 Multiply & Divide Fractions p24-27 (text corr. p94-99)2-1 E TEXT Problem Solving Investigation p100-101 | TEXT p89WB p25-26WB p27-28 |  |
| 2 Days | 6.NS.1.1 | 2-2 A/B IMPACT Unit B Investigation 2 Model Fraction Multiplication p27-29 (text corr. p102-108)2-2 C/D IMPACT Unit B Investigation 3 Multiply with Fractions p30-33 (text corr. p109-113) | WB p31-32 |  |
| 1 Days |  | **Mid Chapter Check TEXT p114** |  |  |
| 5 Days | 6.NS.1.16.NS.2.4\* | 2-3 A and B IMPACT Unit B Investigation 4 Divide Whole Numbers by Fractions p34-37 (text correlation p115-121)2-3 C and D IMPACT Unit B Investigation 5 Divide Fractions by Fractions p37-40 (text correlation p122-127)2-3 E TEXT Divide Mixed Numbers p128-131 |  |  |
| 5 Days |  | Chapter 2 Practice Test p138**Chapter 2 Test** AND/OR Platform to Stand On (Amplify Project) – 6.NS.A.1 | TEXT Study Guide134-137**Resources found on Amplify Website** |  |

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| **Unit 2: Ratios & Proportional Relationships** |
| **MAFS Code** | **Mathematics Florida Standards** | **SMP** |
| 6.RP.1.1 | Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.  | 2 |
| 6.RP.1.2 | Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.  | 2 |
| 6.RP.1.3 | 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. 1. 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.
2. Solve unit rate problems including those involving unit pricing and constant speed.
3. 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.
4. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.
5. Understand the concept of Pi as the ratio of the circumference of a circle to its diameter.
 | 2,4,5,6,7,8 |
| 6.NS.3.7 | Understand ordering and absolute value of rational numbers. 1. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.
2. Write, interpret, and explain statements of order for rational numbers in real-world contexts
3. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.
4. Distinguish comparisons of absolute value from statements about order.
 | 2,3,5 |
| **Learning Goal and Scale**[**604:** Understand ratio concepts and use ratio reasoning to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/604.docx)[**607:** Apply and extend previous understandings of numbers to the system of rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/607.docx)**Instructional Strategies & Misconceptions*** When comparing unlike quantities, be sure to distinguish between relationships that are part to part versus part to whole.
* Use error analysis to address writing correct proportions.
* When writing ratios for similar figures, make sure that each ratio uses the same comparison (ex. Height to height, and width to width).
* Annex zeroes when ordering and comparing decimals and expressing decimals as a percent.
* Ensure understanding that fractions can be compared using like denominators as well as like numerators; use fraction tiles if needed.
* Students should rewrite repeating decimals using correct bar notation (the bar is placed over only those digits that repeat.)
* Note that order of operations is no longer a fifth grade standard.
* When teaching 5-4C/D, in order to meet standard 6.RP.1.3c make sure to teach finding the whole, given a part and the percent (working backwards).
 |
| **Math Practices for Unit** | **Unit Connections** | **Instructional Resources** |
| 1. Make sense of problems and persevere in solving them. | 5. Use appropriate tools strategically. | **Fifth Grade Standard: Measurement** * Convert like measurement units within a given measurement system.
 | Play money Grid paper Paper plates Pennies Nickels Counters100 Small Objects  | Chapter Resource Masters Number Lines Thermometer Index Cards Scissors |
| 2. Reason abstractly and quantitatively. | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | 7. Look for and make use of structure. |
| 4. Model with mathematics. | 8. Look for and express regularity in repeated reasoning. |

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| **FIRST/SECOND QUARTER** |
| **Unit 2: Ratios and Proportional Relationships** |
| **Learning Goal** | [**604:** Understand ratio concepts and use ratio reasoning to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/604.docx)[**607:** Apply and extend previous understandings of numbers to the system of rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/607.docx) | **Suggested # of Days** | **Q1: 9 (4)****Q2: 18** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Assignments/Assessments** | **Ancillary Materials** |
| 4 Days | 6.RP.1.16.RP.1.26.RP.1.3b6.RP.1.3e | 4-1 A IMPACT Unit D Investigation 1 Ratios p72-76 (text correlation p198-199)4-1 B IMPACT Unit D Investigation 2 Compare and Scale Ratios p76-78 (text corr. p200-205)*Pi as a Ratio IMPACT Unit I Investigation 2 p166-167*4-1 C and D IMPACT Unit D Investigation 4 Comparison Shopping p81-83 (text corr. p206-212) | TEXT p198-199WB p55-56WB p57-58 |  |
| 1 Day | 6.RP.1.3d | [Measurement Conversions](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/6th_grade_adv_measurement_conversion_supplement.pdf.docx) (Supplement on Blackboard) |  |  |
| 1 Day | 6.RP.1.3a | 4-2 A IMPACT Unit D Investigation 3 Ratio Tables p78-81 (text correlation p213-218) | WB p59-60 |  |
| 1 Day |  | **Mid Chapter Check TEXT p222** | TEXT p221 |  |
| 2 Days | 6.RP.1.16.RP.1.26.RP.1.3a6.RP.1.3b | 4-3 A TEXT Equivalent Ratios p223-2274-3 B TEXT Ratio and Rate Problems p228-2294-3 C TEXT Ratio and Rate Problems p230-235 | WB p63-64WB p65WB p66 |  |
| 4 Days |  | TEXT Practice Test p244-245 and **Chapter 4 Test** OR Nine Weeks Exam**District Assessment** (Dates TBA) END QUARTER ONE | TEXT Study Guide p238-241TEXT Are You Ready p248 |  |
| 2 Days | 6.A.5.1 | 5-1 A IMPACT Unit E Investigation 2 Changing Decimals to Fractions p93-95 (text corr. p250-253)5-1 B IMPACT Unit E Investigation 3 Change Fractions to Decimals p96-99 (text corr. p254-257) | WB p67-68WB p.69 |  |
| 3 Days | 6.A.5.1 | 5-2 A TEXT Model Percents p258-2595-2 B TEXT Percents as Fractions p260-2635-2 C TEXT Fractions as Percents p264-2675-2 D TEXT Percents and Decimals p268-271 | WB p70WB p71-72WB p73-74WB p75-76 |  |
| 1 Day |  | **Mid Chapter Check TEXT p276** |  |  |
| 4 Days | 6.RP.1.3a6.RP.1.3b6.NS.3.7b6.NS.3.7d | 5-3 A IMPACT Unit E Investigation 1 Estimate Equivalents p90-93 (text correlation p277-278)5-3 B TEXT Compare and Order Fractions p279-2835-3 C TEXT Fractions, Decimals, and Percents on the Number Line p284-2855-3 D TEXT Compare and Order Fractions, Decimals, and Percents p286-291 | TEXT p277-278WB p79WB p80WB p81 |  |
| 1 Day | 6.RP.1.3c | 5-4 A TEXT Find Fractional Parts p2925-4 B TEXT Estimate with Percents p293-296 | WB p83-84 |  |
| 1 Days | 6.RP.1.3c | 5-4 C TEXT Find Percent of a Number p2975-4 D TEXT Percent of a Number p298-301 | WB p85-86 |  |
| 6 Days | 6.RP.1.16.RP.1.26.RP.1.3 | TEXT Problem Solving in Movies “The Effects Are Amazing” p304-305TEXT Problem Solving Investigation p302-303TEXT Practice Test p313-315**Chapter 5 Test**AND/OR Sal’s Pizzeria (Amplify Project) | TEXT p312TEXT Study Guide p306-311TEXT Are You Ready? p318**Resources found on Amplify Website** |  |

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| **Unit 3: Statistics & Probability** |
| **MAFS Code** | **Mathematics Florida Standards** | **SMP** |
| 6.SP.1.1 | Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. |  |
| 6.SP.1.2 | Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.  | 4 |
| 6.SP.1.3 | Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.  | 4 |
| 6.SP.2.4 | Display numerical data in plots on a number line, including dot plots, histograms, and box plots. | 2,5 |
| 6.SP.2.5 | Summarize numerical data sets in relation to their context, such as by: 1. Reporting the number of observations.
2. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.
3. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
4. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
 | 4 |
| **Learning Goal and Scale**[**608:** Develop understanding of statistical variability.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/608.docx)[**609:** Summarize and describe distributions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/609.docx)**Instructional Strategies & Misconceptions*** Remind students to use the key when analyzing a pictograph.
* When finding the median, remind students to rewrite the data in numerical order.
* Remember the difference between part to a part and part to a whole
* Reinforce students when determining range off a dot plot; use the range from the data, not the actual graph intervals.
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| **Math Practices for Unit** | **Unit Connections** | **Instructional Resources** |
| 1. Make sense of problems and persevere in solving them. | 5. Use appropriate tools strategically. | **Fifth Grade Standards: Data** * Represent and interpret data.
 | Grid Paper  | Centimeter cubes |
| 2. Reason abstractly and quantitatively. | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | 7. Look for and make use of structure. |
| 4. Model with mathematics. | 8. Look for and express regularity in repeated reasoning. |

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| **SECOND QUARTER** |
| **Unit 3: Statistics and Probability** |
| **Learning Goal** | [**608:** Develop understanding of statistical variability.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/608.docx)[**609:** Summarize and describe distributions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/609.docx) | **Suggested # of Days** | **19** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Assignments/Assessments** | **Ancillary Materials** |
| 1 | 6.SP.1.1 | Posing Statistical Questions |  | **EngageNY Grade 6 - Module 6****Topic A: Lesson 1 –** [**TV**](https://www.engageny.org/file/45546/download/math-g6-m6-topic-a-lesson-1-teacher.pdf?token=9GCcCW4g_9HIKM_8uWHr7ykCD73jmWend_Bu688qYbg) **and** [**SV**](https://www.engageny.org/file/45541/download/math-g6-m6-topic-a-lesson-1-student.pdf?token=teY9Mn6VAxpPd_KKxzy31XTI_kJW1hgwk4CoqVK7SGY) |
| 4 Days | 6.SP.1.26.SP.1.3 | 3-1 A and B TEXT Find the Mean p145-1503-1 D TEXT Median, Mode, and Range p152-1563-1 F TEXT Appropriate Measures p159-162 | WB p41-42WB p43-44WB p45-46 |  |
| 1 Day |  | **Mid Chapter Check TEXT p163** | TEXT p162 |  |
| 3 Days | 6.SP.2.46.SP.1.3 | 3-2 B TEXT Frequency Tables p166-1703-2 D TEXT Line Plots p172-1763-2 E TEXT Select an Appropriate Display p177-181 | WB p49-50WB p53-54 |  |
| 5 Days | 6.SP.2.46.SP.2.5 | Create and Analyze Histograms Box Plots (Interquartile Range- on Blackboard)Calculate Mean Absolute DeviationMean Absolute Deviation Measures of Variation  | (Use Blackboard Resources)[Box Plot Supplement](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/6th_grade_advanced_box_plot_supplement.pdf)[Mean Abs. Dev. Supplement](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/6th_grade_advanced_mean_absolute_deviation_supplement.pdf)[Box Plots & Histograms](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/6th_grade_box_plots_and_histograms.doc) | IMPACT Unit C Investigation 3 p57-59 [Histogram Supplement](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/6th_grade_advanced_histogram_supplement.pdf)[Shape of Data Distributions Lesson 13](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/6th_grade_advanced_shape_of_data_distributions.pdf) (Blackboard) |
| 5 Days | 6.SP.1.16.SP.1.26.SP.1.36.SP.2.46.SP.2.5 | TEXT Practice Test p191-193**Chapter 3 Test** AND/OR Straw Rockets (Amplify Projects)  | TEXT Study Guide p186-189TEXT Are You Ready p196**Resources found on Amplify Website** |  |

***\*TV = “Teacher Version”***

***\*SV = “Student Version”***

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| **Unit 4: Expressions & Equations** |
| **MAFS Code** | **Mathematics Florida Standards** | **SMP** |
| 6.EE.1.1 | Write and evaluate numerical expressions involving whole-number exponents.  | 8 |
| 6.EE.1.2  | Write, read, and evaluate expressions in which letters stand for numbers. 1. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation “Subtract y from 5” as 5 – y.*
2. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.
3. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order
 | 7,8 |
| 6.EE.1.3  | Apply the properties of operations to generate equivalent expressions.  | 8 |
| 6.EE.1.4  | Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).  | 7 |
| 6.EE.2.5  | Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.  | 5,6 |
| 6.EE.2.6  | Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.  | 2,6,7 |
| 6.EE.2.7  | Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all non-negative rational numbers.  | 1,2,6,7 |
| 6.EE.2.8  | Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.  | 2,6,7 |
| 6.EE.3.9 | Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.  | 2,4,6,8 |
| 6.NS.2.4 | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers with no common factor. | 6,7 |
| 6.NS.3.5 | Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. | 2,5 |
| 6.NS.3.6 | Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. 1. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite.
2. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
3. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
 | 5,8 |
| 6.NS.3.7 | Understand ordering and absolute value of rational numbers. 1. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.
2. Write, interpret, and explain statements of order for rational numbers in real-world contexts.
3. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. d. Distinguish comparisons of absolute value from statements about order.
 | 2,3,5 |
| 6.NS.3.8 | Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. | 1,2,5 |
| **Learning Goal and Scale**[**601:** Apply and extend previous understanding of arithmetic to algebraic expressions](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/601.docx).[**602:** Reason about and solve one-variable equations and inequalities.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/602.docx)[**603:** Represent and analyze quantitative relationships between dependent and independent variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/603.docx)[**606:** Compute fluently with multi-digit numbers and find common factors and multiples.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/606.docx)[**607:** Apply and extend previous understandings of numbers to the system of rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/607.docx)**Instructional Strategies & Misconceptions*** The absolute value symbol applies only to integers within the absolute value symbol (not parentheses).
* When solving expressions, you may want to suggest to students that when they first read a problem, they underline or circle the multiplication and division to remind them to perform those operations first.
* Reinforce inverse operations when solving equations.
* A strategy to use for solving multistep equations would be to teach the order of operations backwards.
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| **Math Practices for Unit** | **Unit Connections** | **Instructional Resources** |
| 1. Make sense of problems and persevere in solving them. | 5. Use appropriate tools strategically. | **Fifth Grade Standards: Operations and Algebraic Thinking** * Write and interpret numerical expressions.
* Analyze patterns and relationships
 | Two color counters Number cubesMath tiles Grid paper Algebra tiles CupsEquations matsIndex cards Rubber bandsPaper clips  | RulersModel car parts Maps String Dry erase markers Page protectors Balance scales Number cube spinnersSticky notes  |
| 2. Reason abstractly and quantitatively. | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | 7. Look for and make use of structure. |
| 4. Model with mathematics. | 8. Look for and express regularity in repeated reasoning. |

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| **SECOND/THIRD QUARTER** |
| **Unit 4: Expressions and Equations** |
| **Learning Goal** | [**601:** Apply and extend previous understanding of arithmetic to algebraic expressions](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/601.docx).[**602:** Reason about and solve one-variable equations and inequalities.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/602.docx)[**603:** Represent and analyze quantitative relationships between dependent and independent variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/603.docx)[**606:** Compute fluently with multi-digit numbers and find common factors and multiples.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/606.docx)[**607:** Apply and extend previous understandings of numbers to the system of rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/607.docx) | **Suggested # of Days** | **Q2: 4** **(5)****Q3: 31** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Assignments/Assessments** | **Ancillary Materials** |
| 4 Days | 6.EE.1.16.EE.1.2 | 6-1 A TEXT Write and Evaluate Expressions p320-3236-1 B and C IMPACT Unit F Investigation 1 Write and Evaluate Expressions p107-112 (text corr. p324-331)6-1 D IMPACT Unit F Investigations 2and3 Variables, Sequences, and Rules p113-120 (text corr. p332-335) | WB p89-90WB p91-92WB p93-94 |  |
| 5 Days |  | **District Assessment** (2 Days - Dates TBA); Semester Exams (3 days)END QUARTER TWO |  |  |
| 1 Day | 6.EE.1.2 | 6-1 E IMPACT Unit F Investigation 4 Crossing a Bridge p121-123 (text correlation p336-337) | WB p95-96 |  |
| 1 Day |  | **Mid Chapter Check TEXT p338** | TEXT p337 |  |
| 2 Days | 6.EE.1.36.EE.1.4 | 6-2 A TEXT Algebra: Properties p339-3436-2 C TEXT The Distributive Property p346-349 | WB p97-98WB p99-100 |  |
| 2 Days |  | TEXT Practice Test p358-359**Chapter 6 Test** | TEXT Study Guide p352-355 |  |
| 3 Days | 6.EE.2.56.EE.2.66.EE.2.7 | 7-1 A IMPACT Unit G Investigation 2 Equations with Variables p140-142 (text correlation p364-367)7-1 C and D TEXT Solve and Write Addition Equations p370-3767-1 E and F TEXT Subtraction Equations p377-381 | WB p101-102WB p105-106WB p107 |  |
| 1 Day | **Mid Chapter Check TEXT p382** | WB p108 |  |
| 2 Days | 7-2 A and B TEXT Multiplication Equations p383-3887-2 C and D TEXT Solve and Write Division Equations p389-393 | TEXT p109-110WB p111-112 |  |
| 3 Days | 6.EE.2.6 | 7-3 A TEXT Two-Step Equations p394-3957-3 B TEXT Solve and Write Two-Step Equations p396-401 | WB p113WB p114 |  |
| 2 Days |  | TEXT Practice Test p410-411**Chapter 7 Test** | TEXT Study Guide p404-407TEXT Are You Ready? p414 |  |
| 4 Days | 6.EE.3.9 | 8-1 A TEXT Graph Relations p416-4208-1 C TEXT Function Tables p423-4268-1 D TEXT Function Rules p427-4328-1 E TEXT Functions and Equations p433-4378-1 F TEXT Multiple Representations of Functions p438-443 | WB p115-116WB p117-118WB p119-120WB p121-122WB p123 |  |
| 1 Day |  | **Mid Chapter Check TEXT p444** | WB p124 |  |
| 3 Days | 6.EE.2.66.EE.2.76.EE.2.8 | 8-2 A and B TEXT Inequalities p445-4498-2 D TEXT Write and Graph Inequalities p452-4558-2 F TEXT Solve One-Step Inequalities p456-4618-2 G TEXT Two-Step Inequalities p462-465 | WB p125-126WB p129-130WB p131-132WB p133-134 |  |
| 4 Days | 6.NS.3.56.NS.3.66.NS.3.76.NS.3.8 | 11-1 A IMPACT Unit K Investigation 1 Understand Integers p189-19211-1 B IMPACT Unit K Investigation 2 Absolute Values p192-194 (text correlation p615-619)11-1 C IMPACT Unit K Investigation 3 Plot Points with Negative Coordinates p195-19811-1 C IMPACT Unit K Investigation 4 Parts of the Coordinate Plane p199-201 (text correlation p620-624) | WB p169-170WB p171-172 |  |
| 2 Days |  | Practice Test TEXT p 472**Chapter 8 TEST** | TEXT Study Guide p468-471 |  |

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| **Unit 5: Geometry** |
| **MAFS Code** | **Mathematics Florida Standards** | **SMP** |
| 6.G.1.1 | Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.  | 1,2,5,7 |
| 6.G.1.2 | Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.  | 2 |
| 6.G.1.3 | Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.  | 1,5 |
| 6.G.1.4 | Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.  | 1,4,5 |
| 6.RP.1.3d | Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.  | 2,4,5,6,7,8 |
| 6.EE.1.2c | Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).  | 7,8 |
| **Learning Goal and Scale**[**610:** Solve real-world and mathematical problems involving area.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/610.docx)[**611:** Solve real-world and mathematical problems involving volume.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/611.docx)[**612:** Solve real-world and mathematical problems involving surface area.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/612.docx)[**601:** Apply and extend previous understandings of arithmetic to algebraic expressions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/601.docx)[**604:** Understand ratio concepts and use ratio reasoning to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/604.docx)**Instructional Strategies & Misconceptions*** To help students learn formulas, create a graphic organizer.
* Be careful with word problems, student may need to convert measurement within the problem.
* Show shapes with different orientations for better understanding.
* The areas of two-dimensional shapes can be derived from the area of a parallelogram or triangle.
* Use highlighting and/or colors as a strategy to help students solve problems involving composite figures.
* Students should be able to decompose or compose any composite shape into parallelograms and/or triangles.
* Be sure when using resources to omit area and circumference of circles.
* Reinforce inverse operations and working backward when solving equations.
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| **Math Practices for Unit** | **Unit Connections** | **Instructional Resources** |
| 1. Make sense of problems and persevere in solving them. | 5. Use appropriate tools strategically. | **Fifth Grade Standards: Geometry** * Graph points on the coordinate plane to solve real-world and mathematical problems.
* Classify two-dimensional figures into categories based on their properties.
* Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.
 | ScissorsColored Pencils Nets String Copies of auditorium floor Cut out triangles  | Metric RulerCereal Boxes Tape Three dimensional models with netsGrid paper  |
| 2. Reason abstractly and quantitatively. | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | 7. Look for and make use of structure. |
| 4. Model with mathematics. | 8. Look for and express regularity in repeated reasoning. |

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| **THIRD/FOURTH Quarter**  |
| **Unit 5: Geometry**  |
| **Learning Goal** | [**610:** Solve real-world and mathematical problems involving area.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/610.docx)[**611:** Solve real-world and mathematical problems involving volume.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/611.docx)[**612:** Solve real-world and mathematical problems involving surface area.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/612.docx)[**601:** Apply and extend previous understandings of arithmetic to algebraic expressions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/601.docx)[**604:** Understand ratio concepts and use ratio reasoning to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/604.docx) | **Suggested # of Days** | **Q3: 10** **(5)****Q4: 6** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Assignments/Assessments** | **Ancillary Materials** |
| 3 Days | 6.EE.1.2c6.G.1.1 | 9-1 A TEXT Area of Parallelograms p480-4859-1 B and C TEXT Area of Triangles p486-4929-1 D TEXT Area of Trapezoids p493-497 | WB p135-136WB p137-138WB p139-140 | 9-3 A IMPACT Unit I Inv. 1 Perimeter p162-166 (text corr. p512-516, if needed)  |
| 1 Day |  | **Mid Chapter Check TEXT p511 (Omit circles)**  |  |  |
| 2 Days | 6.EE.1.2c6.G.1.1 | 9-3 B TEXT Area of Irregular Figures p517-5189-3 C TEXT Area of Composite Figures p519-523 | WB p147-148 |  |
| 1 Day | 6.EE.1.2c6.G.1.2 | 9-4 A IMPACT Unit J Investigation 1 Volume p174-177 (text corr. p526)9-4 B IMPACT Unit J Investigation 2 Volume of a Rectangular Prism p177-180 (text correlation p527-532) | TEXT p524-525WB p151-152 |  |
| 1 Day |  | **Chapter 9 Test** | TEXT Study Guide p537-541 (omit 9-2, all circles) |  |
| 2 Days | 6.G.1.3 | [Area of Polygons on a Coordinate Plane](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/6th_grade_advanced_polygons_on_a_coordinate_plane.docx)(Supplement on Blackboard) |  |  |
| 5 Days |  | **District Assessment** (Dates TBA) (2 days); FSA ELA/Writing (1 day); 9 Weeks Exams (2 days)END OF THIRD QUARTER |
| 5 Days | 6.G.1.4 | 10-3 A TEXT Surface Area of Prisms and Pyramids p582-58310-3 B TEXT Surface Area of Rectangular Prisms p584-58810-4 A TEXT Composite Figures p59810-4 B ~~Volume and~~ Surface Area of Composite Figures p599-602 (omit circles and volume) | TEXT p583 (10-12)WB p161-162WB p167(#4-6)-168 (#3, 4)TEXT Study Guide p696-607 (omit circle problems) | Nets available on Blackboard[Rectangular Prism Net](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/rectangular_prism_net_pattern.pdf)[Triangular Prism Net](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/triangular_prism_nets.pdf)[Pyramid Net](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/pyramid_net_pattern.pdf)[Triangular Pyramid Net](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/triangular_pyramid_net.pdf) |
| 1 Day |  | **Chapter 10 Assessment** |  |  |

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| **Unit 6: Number Sense** |
| **MAFS Code** | **Mathematics Florida Standards** | **SMP** |
| 7.EE.1.1 | Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. | 7 |
| 7.EE.1.2 | Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.  | 7 |
| 7.NS.1.1 | Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. 1. Describe situations in which opposite quantities combine to make 0.
2. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
3. Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
4. Apply properties of operations as strategies to add and subtract rational numbers.
 | 4,6 |
| 7.NS.1.2 | Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. 1. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
2. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then –(p/q) = (–p)/q = p/(–q). Interpret quotients of rational numbers by describing real-world contexts.
3. Apply properties of operations as strategies to multiply and divide rational numbers.
4. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
 | 7 |
| 7.NS.1.3 | Solve real-world and mathematical problems involving the four operations with rational numbers.  | 1,4 |
| 7.RP.1.1 | Compute unit rates associated with ratios of fraction, including ratios of lengths, areas and other quantities measured in like or different units.  | 2,4,6 |
| 7.RP.1.2 | Recognize and represent proportional relationships between quantities. 1. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
2. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
3. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*
4. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.
 | 2,4,5,8 |
|  7.RP.1.3 | Use proportional relationships to solve multistep ratio and percent problems.  | 1,2,6 |
| **Learning Goal and Scale**[**701:** Analyze proportional relationships and use them to solve real-world and mathematical problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/701.docx)  [**702:** Apply and extend previous understandings of operations to add and subtract rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/702.docx)[**703:** Apply and extend previous understandings of operations to multiply and divide rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/703.docx)**Instructional Strategies & Misconceptions*** Strategy using foldable/graphic organizer
* A strategy to use for subtracting integers is to rewrite the subtraction problem as adding the opposite.
* Strategies for calculating sums and differences include highlighting or circling the signs, and/or using a number line.
* If students continue to forget to write the negative sign in the product or quotient, encourage them to determine the sign of the product or quotient before they solve the problem.
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| **Math Practices for Unit** | **Unit Connections** | **Instructional Resources** |
| 1. Make sense of problems and persevere in solving them. | 5. Use appropriate tools strategically. | **Sixth Grade Standards: Number and Operations in Base Ten and Number and Operations—Fractions** * Understand the place value system.
* Perform operations with multi-digit whole numbers and with decimals to hundredths.
* Use equivalent fractions as a strategy to add and subtract fractions.
* Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
 | Integer matsTwo-color countersInteger matsGrid Paper Play Money Highlighters Index Cards  |  |
| 2. Reason abstractly and quantitatively. | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | 7. Look for and make use of structure. |
| 4. Model with mathematics. | 8. Look for and express regularity in repeated reasoning. |

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| **FOURTH QUARTER** |
| **Unit 6: Number Sense** |
| **Learning Goal** | [**701:** Analyze proportional relationships and use them to solve real-world and mathematical problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/701.docx)  [**702:** Apply and extend previous understandings of operations to add and subtract rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/702.docx)[**703:** Apply and extend previous understandings of operations to multiply and divide rational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/703.docx) | **Suggested # of Days** | **25****(15)** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Assignments/Assessments** | **Ancillary Materials** |
| 3 Days | 6.NS.3.6b-c6.NS.3.8 | Powering Wattsburg (Amplify Projects) | **Resources found on Amplify Website** |  |
| 3 Days | 7.NS.1.17.NS.1.3 | 11-2 A and B TEXT Add Integers p625-63211-2 C and D TEXT Subtract Integers p633-639 | WB p173-174WB p175-176 |  |
| 1 Day |  | **Mid Chapter Check TEXT p640** | TEXT p648-649 |  |
| 1 Day | 7.NS.1.27.NS.1.3 | 11-3 A and B TEXT Multiply Integers p643-64711-3 C and D TEXT Divide Integers p650-655 | WB p177-178WB p181-182 |   |
| 2 Days |  | TEXT Practice Test p663-665**Chapter 11 Test** | TEXT Study Guide p658-661TEXT Are You Ready? p668 |  |
| 5 Days | 7.NS.1.17.NS.1.3 | 12-2 A TEXT Add and Subtract Rational Numbers p682-68312-2 B TEXT Add and Subtract Like Positive and Negative Fractions p. 684-68812-2 C TEXT Add and Subtract Unlike Positive and Negative Fractions p. 689-693 | WB p187-188WB p189-190 |  |
| 1 Day |  | **Mid Chapter Check TEXT p694** |  |  |
| 3 Days | 7.NS.1.27.NS.1.37.EE.1.17.EE.1.2 | 12-3 A TEXT Multiply Positive and Negative Fractions p695-69812-3 B TEXT Divide Positive and Negative Fractions p699-70212-3 C TEXT Solve Equations with Rational Coefficients p703-707  | WB p191-192WB p193-194WB p195-196WB p197-198 |  |
| 2 Days |  | TEXT Practice Test p716**Chapter 12 Test** | TEXT Study Guide p714-15 (Only 12-2 and 12-3) |  |
| 4 Days | 7.RP.1.17.RP.1.27.RP.1.3 | Identifying Proportional and Non-Proportional Relationships from Tables and GraphsUnit Rate as Constant of ProportionalityRepresenting Proportional Relationships with Equations*(The number of days allocated does not match the number of lessons recommended from the EngageNY module. Teachers are encouraged to use discretion in selecting appropriate components of the recommended lessons.)* | **EngageNY Grade 7 – Module 1****Topic A: Lesson 2 –** [**TV**](https://www.engageny.org/file/55971/download/math-g7-m1-topic-a-lesson-2-teacher.pdf?token=DHfatNAHOAkxQ3Xh9BPgx0NyE7tLQO0O8kQXx03fhDc) **and** [**SV**](https://www.engageny.org/file/55966/download/math-g7-m1-topic-a-lesson-2-student.pdf?token=oNHHIZWp_Hncnw65fgnqj6uJx0DJKoqbhzf2mRGCYVw)**Topic A: Lesson 3 –** [**TV**](https://www.engageny.org/file/56071/download/math-g7-m1-topic-a-lesson-3-teacher.pdf?token=EgNfXTl3iKc4kUJ1VQeaOjGAojcfMvodjpOHK90vIDs) **and** [**SV**](https://www.engageny.org/file/56061/download/math-g7-m1-topic-a-lesson-3-student.pdf?token=liEfiSOnFlj0yQ5e8TagtoLrYjiLEKdyy-igoUjqPRw)**Topic A: Lesson 4 –** [**TV**](https://www.engageny.org/file/56216/download/math-g7-m1-topic-a-lesson-4-teacher.pdf?token=lmZbKHbKzf4hW-E39sGkzl6pRRH3F5NvL56SmeP2L8E) **and** [**SV**](https://www.engageny.org/file/56196/download/math-g7-m1-topic-a-lesson-4-student.pdf?token=WMxxXTXPv9kWMMjpRwSD-xV7oInaObz7z71-SYIxfnA)**Topic A: Lesson 5 –** [**TV**](https://www.engageny.org/file/56361/download/math-g7-m1-topic-a-lesson-5-teacher.pdf?token=XzDFOTcqqAaQI4H5XcQNloPVwzcCrW4UhDwsTym_Cdo) **and** [**SV**](https://www.engageny.org/file/56351/download/math-g7-m1-topic-a-lesson-5-student.pdf?token=Hj0wgHYHgAOUrCFs2QtUnjurVr7FpPeuJpfOJmjf-90)**Topic A: Lesson 6 –** [**TV**](https://www.engageny.org/file/56431/download/math-g7-m1-topic-a-lesson-6-teacher.pdf?token=OiKEYslhFvxqYbBNR36BpaRF0CHWuBZKYDHdVW2Oynw) **and** [**SV**](https://www.engageny.org/file/56411/download/math-g7-m1-topic-a-lesson-6-student.pdf?token=sCN0fTbFVDnemFgzPmkSo5hBoqDBUex4F1WNWBdpBH8)**Topic B: Lesson 7 –** [**TV**](https://www.engageny.org/file/58161/download/math-g7-m1-topic-b-lesson-7-teacher.pdf?token=IeQicNHkDniDkR7SnVVWE1xMFoYvuHq4ORs8jL-m1k8) **and** [**SV**](https://www.engageny.org/file/58151/download/math-g7-m1-topic-b-lesson-7-student.pdf?token=7pl0I6sjAuYHhUXK-n8tc1vyXNKJ87NMuTzcD1X15_I)**Topic B: Lesson 8 –** [**TV**](https://www.engageny.org/file/58191/download/math-g7-m1-topic-b-lesson-8-teacher.pdf?token=hKBdvPlFATRpNhD8vQQyJ7DBSbIGGN0ai8SFJx8JZmA) **and** [**SV**](https://www.engageny.org/file/58186/download/math-g7-m1-topic-b-lesson-8-student.pdf?token=d6RGKXGe65sBJ7T3EbmZ-JHN-2mUu6fNoCuCluPgk1U)**Topic B: Lesson 9 –** [**TV**](https://www.engageny.org/file/58321/download/math-g7-m1-topic-b-lesson-9-teacher.pdf?token=EKkaNGS0DM3xnkRe8RwTIvRb7nqHBi5XjslBdjXusWc) **and** [**SV**](https://www.engageny.org/file/58306/download/math-g7-m1-topic-b-lesson-9-student.pdf?token=HFxivvtisqAYkfdPbxFOyO0oEr4gPHGU7ZWpdat-Dn4) |
| 15 |  | State Test Review(3 days)/FSA Testing (7 days)Cumulative Review(2 days)/9 Weeks Exam (3 days) | State Testing Window begins April 13 and closes May 8th. |