

Grade 5 Math Curricular Framework

UNIT 1 FOCUS

Adding, Subtracting, and Multiplying with Decimals

Unit Pacing: 1st Marking Period - **Beginning of September - Beginning of November**

- **Topic 13: Write and Interpret Numerical Expressions**
 - Write and interpret numerical expressions
- **Topic 1: Understand Place Values**
 - Understand the place value system
- **Topic 2: Add and Subtract Decimals to Hundredths**
 - Perform operations with multi-digit whole numbers and with decimals to hundredths
- **Topic 3: Fluently Multiply Multi-Digit Whole Numbers**
 - Perform operations with multi-digit whole numbers and with decimals to hundredths

STANDARDS FOR MATHEMATICAL CONTENT

- **5.OA.A.1** (Topic 13)
- **5.OA.A.2** (Topic 13)
- **5.NBT.A.1** (Topic 1)
- **5.NBT.A.2** (Topics 1, 3)
- **5.NBT.A.3a, b** (Topic 1)
- **5.NBT.A.4** (Topics 1, 2)
- **5.NBT.B.5** (Topic 3)
- **5.NBT.B.7** (Topic 2)

STANDARDS FOR MATHEMATICAL PRACTICE

- MP.1** Make sense of problems and persevere in solving them.
- MP.2** Reason abstractly and quantitatively.
- MP.3** Construct viable arguments and critique the reasoning of others.
- MP.4** Model with mathematics.
- MP.5** Use appropriate tools strategically.
- MP.6** Attend to precision.
- MP.7** Look for and make use of structure.
- MP.8** Look for and express regularity in repeated reasoning.

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INTERDISCIPLINARY CONNECTIONS	UNIT 1 GENERAL ASSESSMENTS
<p><u>21st Century Skills: Career Ready Practice Standards:</u> CRP1, CRP2, CRP4, CRP6, CRP8, CRP11</p> <p>Literature Connection: Interactive Math Stories for each topic from Pearson 2.0</p> <p>STEM Connection: Math and Science Activities (Topic 13, 1, 2, and 3)</p> <p><i>Topic 13:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p. 731• Math and Science Activity 13-1: Teacher's Masters• Math and Science Activity 13-4: Teacher's Masters <p><i>Topic 1:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p. 1• Math and Science Activity 1-1: Teacher's Masters• Math and Science Activity 1-5: Teacher's Masters <p><i>Topic 2:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p. 55• Math and Science Activity 2-3: Teacher's Masters• Math and Science Activity 2-5: Teacher's Masters <p><i>Topic 3:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p.109• Math and Science Activity 3-1: Teacher's Masters• Math and Science Activity 3-7: Teacher's Masters <p><i>Topic 4:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p. 163• Math and Science Activity 4-1: Teacher's Masters• Math and Science Activity 4-4: Teacher's Masters	<ul style="list-style-type: none">• enVision Grade 5 Placement Test• enVision Grade 5 End-of-Year Benchmark Assessment (Pre-Test)• enVision Topic 13 Assessment: Write and Interpret Numerical Expressions<ul style="list-style-type: none">◦ 5.OA.A.1; 5.OA.A.2• enVision Topic 1 Assessment: Understand Place Value<ul style="list-style-type: none">◦ 5.NBT.A.1; 5.NBT.A.2; 5.NBT.A.3a, b• enVision Topic 2 Assessment: Add and Subtract Decimals to Hundredths<ul style="list-style-type: none">◦ 5.NBT.A.4; 5.NBT.B.7• enVision Topic 3 Assessment: Fluently Multiply Multi-Digit Whole Numbers<ul style="list-style-type: none">◦ 5.NBT.A.2; 5.NBT.B.5• Possible Formative Assessments:<ul style="list-style-type: none">◦ Lesson's Diagnostic Questions: (indicated in Teacher's Edition - large pink check mark)◦ Exit Ticket: Lesson Quick Check (Digital Resource)◦ Topic Fluency Practice Activity (Student Textbook)◦ Topic Vocabulary Review (Student Textbook)

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RESOURCES	TECHNOLOGY INTEGRATION
<p>EnVision Materials for Topic 13, 1, 2, and 3 including student edition worksheets, problem solving mat, interactive math story, vocabulary cards, and center ideas which are listed in each topic</p> <p>5.OA.A.1 Using Operations and Parentheses 5.OA.A.1 Watch out for Parentheses 1 5.OA.A.1: Brainpop - Order of Operations 5.NBT.A.1 Which number is it? 5.NBT.A.1 Millions and Billions of People 5.NBT.A.2 Multiplying Decimals by 10 5.NBT.A.2 Marta's Multiplication Error 5.NBT.A.3 Placing Thousandths on the Number Line 5.NBT.A.4 Rounding to Tenths and Hundredths 5.NBT.B.5 Elmer's Multiplication Error 5.NBT.B.7 The Value of Education 5.NBT.B.7, 5.NF.B.3 What is 23 divided by 5?</p>	<p>STANDARDS</p> <p>8.1.2.A.1 Identify the basic features of a digital device and explain its purpose. 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).</p> <p>RESOURCES</p> <ul style="list-style-type: none"> • Animated Glossary • BrainPop • BrainPop Jr. • Educreations • enVisions 2.0 • Google Classroom • Ixl.com • Kahoot • Khan Academy • Learn Zillion • Math Playground • Measuring Up Live • Popplet • Prodigy • Scholastic Study Jams • SeeSaw • That Quiz • XtraMath
KEY VOCABULARY	
<p>Topic 13: numerical expression, evaluate, order of operations, parentheses, brackets, braces Topic 1: exponent, power, base, value, expanded form, thousandths, equivalent decimals Topic 2: compatible numbers, associative property of addition, commutative property of addition, compensation, sum, difference Topic 3: underestimate, overestimate, partial products, variable</p>	

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GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	Students Receiving Special Education Services	Advanced Learners
<ul style="list-style-type: none"> • WIDA Can Do Descriptors for Grades 4-5* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol <p>*Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).</p> <p>Potential Accommodations for ELLs</p> <ul style="list-style-type: none"> • Personal glossary • Text-to-speech • Extended time • Simplified / verbal instructions • Frequent breaks • Small group/One to one • Additional time • Review of directions • Student restates information • Extra visual and verbal cues and prompts • Preferential seating • Verbal and visual cues regarding directions and staying on task • Checklists • Immediate feedback 	<ul style="list-style-type: none"> • New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms <p>Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.</p> <p>Potential Accommodations for Special Education</p> <p>Presentation accommodations:</p> <ul style="list-style-type: none"> • Listen to audio recordings instead of reading text • Pre-teach unknown vocabulary through pictures or videos, and relate to prior knowledge • Work with fewer items per page and/or materials in a larger print size • Use a visual blocker • Use visual presentations of verbal material, such as word webs and visual organizers • Be given a written list of instructions/picture cues <p>Response accommodations:</p> <ul style="list-style-type: none"> • Give responses in a form (oral or written) that's easier for him/her • Dictate answers to a scribe 	<ul style="list-style-type: none"> • Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms <p>Potential Accommodations for Advanced Learners</p> <ul style="list-style-type: none"> • Use of high level academic vocabulary/texts • Problem-based learning • Pre-assess to condense curriculum • Interest-based research • Authentic problem-solving • Homogeneous grouping opportunities
		<p>Students with 504 Plans</p> <p>Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.</p>

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	<ul style="list-style-type: none"> • Capture responses on an audio recorder • Use a spelling dictionary or electronic spell-checker • Use a word processor to give responses in class • Use a calculator or table of “math facts” <p>Setting accommodations:</p> <ul style="list-style-type: none"> • Work or take a test in a different setting, such as a quiet room with few distractions • Sit where he/she learns best (for example, near the teacher) • Take a test in small group setting <p>Timing accommodations:</p> <ul style="list-style-type: none"> • Take more time to complete a task or a test • Have extra time to process oral information and directions • Take frequent breaks, such as after completing a task <p>Assignment modifications:</p> <ul style="list-style-type: none"> • Complete fewer or different homework problems than peers • Shorten assignment • Answer fewer or different test questions • Create alternate projects or assignments 	
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At Risk Learners / Differentiation Strategies

<p>Alternative Assessments Choice Boards Games and Tournaments Group Investigations Guided Reading Learning Contracts Leveled Rubrics Literature Circles Multiple Texts Personal Agendas</p>	<p>Independent Research & Projects Multiple Intelligence Options Project-Based Learning Varied Supplemental Activities Varied Journal Prompts or RAFT Writing Tiered Activities/Assignments Tiered Products Graphic Organizers Choice of Books/Activities Mini-Workshops to Reteach or Extend Think-Pair-Share by readiness or interest Use of Collaboration of Various Activities</p>	<p>Jigsaw Think-Tac-Toe Cubing Activities Exploration by Interest Flexible Grouping Goal-Setting with Students Homework Options Open-Ended Activities Use of Reading Buddies Varied Product Choices Stations/Centers Work Alone/Together</p>
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CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
<ul style="list-style-type: none"> 5.OA.A.1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. 	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.5 Use appropriate tools strategically. MP.8 Look for and express regularity in repeated reasoning. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> evaluate numerical expressions that include grouping symbols (parentheses, brackets or braces). evaluate numerical expressions that include nested grouping symbols (for example, $3 \times [5 + (7 - 3)]$).
<ul style="list-style-type: none"> 5.OA.A.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <p><i>For example:</i></p> <p><i>Express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$.</i></p> <p><i>Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</i></p>	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> write a simple numerical expression when given a verbal description. interpret the quantitative relationships in numerical expressions without evaluating (simplifying) the expression.
<ul style="list-style-type: none"> 5.NBT.A.1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. 	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. MP.6 Attend to precision. MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> explain that a digit in one place represents 1/10 of what it would represent in the place to its left. explain that a digit in one place represents ten times what it would represent in the place to its right.
<ul style="list-style-type: none"> 5.NBT.A.2. Explain patterns in the number of zeros of the product when 	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. 	<p><i>Students are able to:</i></p>

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<p>multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p>	<ul style="list-style-type: none"> ● MP.6 Attend to precision. ● MP.7 Look for and make use of structure. 	<ul style="list-style-type: none"> ● explain patterns in the number of zeros of the product when multiplying a whole number by powers of 10. ● write powers of 10 using whole-number exponents.
<ul style="list-style-type: none"> ● 5.NBT.A.3. Read, write, and compare decimals to thousandths: <p>5.NBT.A.3a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.</p> <p>5.NBT.A.3b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> 	<ul style="list-style-type: none"> ● MP.2 Reason abstractly and quantitatively. ● MP.4 Model with mathematics. ● MP.5 Use appropriate tools strategically. ● MP.6 Attend to precision. ● MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> ● read and write decimals to thousandths using base-ten numerals. ● read and write decimals to thousandths using number names. ● read and write decimals to thousandths using expanded form. ● compare two decimals to thousandths using $>$, $=$, and $<$ symbols. ● compare decimals when each is presented in a different form (base-ten numeral, number name, and expanded form).
<ul style="list-style-type: none"> ● 5.NBT.A.4. Use place value understanding to round decimals to any place. 	<ul style="list-style-type: none"> ● MP.2 Reason abstractly and quantitatively. ● MP.6 Attend to precision. ● MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> ● round decimals to any place value.
<ul style="list-style-type: none"> ● 5.NBT.B.5. Fluently multiply multi-digit whole numbers using the standard algorithm. *(benchmarked) 	<ul style="list-style-type: none"> ● MP.2 Reason abstractly and quantitatively. ● MP.6 Attend to precision. ● MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> ● multiply a whole number of up to a four digits by a whole number of up two digits using the standard algorithm with accuracy and efficiency.

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	<ul style="list-style-type: none">• MP.8 Look for and express regularity in repeated reasoning.	
<ul style="list-style-type: none">• 5.NBT.B.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. *(benchmarked)	<ul style="list-style-type: none">• MP.2 Reason abstractly and quantitatively.• MP.3 Construct viable arguments and critique the reasoning of others.• MP.4 Model with mathematics.• MP.5 Use appropriate tools strategically.• MP.7 Look for and make use of structure.	<p><i>Students are able to:</i></p> <ul style="list-style-type: none">• add and subtract decimals to hundredths using concrete models and drawings.• multiply and divide decimals to hundredths using concrete models and drawings.• add, subtract, multiply, and divide decimals to hundredths using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.• relate the strategy to the written method and explain the reasoning used.

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UNIT 2 FOCUS

Multiplying and Dividing with Decimals

Unit Pacing: 2nd Marking Period - **Beginning of November - Middle of January**

- **Topic 4: Use Models and Strategies to Multiply Decimals**
 - Perform operations with multi-digit whole numbers and with decimals to hundredths
- **Topic 5: Use Models and Strategies to Divide Whole Numbers**
 - Perform operations with multi-digit whole numbers and with decimals to the hundredths
- **Topic 6: Use Models and Strategies to Divide Decimals**
 - Perform operations with multi-digit whole numbers and with decimals to the hundredth

STANDARDS FOR MATHEMATICAL CONTENT

- *5.NBT.A.2* (Topic 4, 6)
- **5.NBT.B.6** (Topic 5)
- *5.NBT.B.7* (Topic 4, 6)

STANDARDS FOR MATHEMATICAL PRACTICE

- MP.1** Make sense of problems and persevere in solving them.
- MP.2** Reason abstractly and quantitatively.
- MP.3** Construct viable arguments and critique the reasoning of others.
- MP.4** Model with mathematics.
- MP.5** Use appropriate tools strategically.
- MP.6** Attend to precision.
- MP.7** Look for and make use of structure.
- MP.8** Look for and express regularity in repeated reasoning.

INTERDISCIPLINARY CONNECTIONS

[21st Century Skills: Career Ready Practice Standards:](#)
CRP1, CRP2, CRP4, CRP6, CRP8, CRP11

UNIT 2 GENERAL ASSESSMENTS

- enVision Topic 4 Assessment: Use Models and Strategies to Multiply Decimals

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<p>Literature Connection: Interactive Math Stories for each topic from Pearson 2.0</p> <p>STEM Connection: Math and Science Activities (Topic 4, 5, and 6)</p> <p><i>Topic 4:</i></p> <ul style="list-style-type: none"> • Math and Science Project (STEM): TE p. 163 • Math and Science Activity 4-1: Teacher’s Masters • Math and Science Activity 4-4: Teacher’s Masters <p><i>Topic 5:</i></p> <ul style="list-style-type: none"> • Math and Science Project (STEM): TE p. 237 • Math and Science Activity 5-6: Teacher’s Masters • Math and Science Activity 5-8: Teacher’s Masters <p><i>Topic 6:</i></p> <ul style="list-style-type: none"> • Math and Science Project (STEM): TE p. 299 • Math and Science Activity 6-4: Teacher’s Masters • Math and Science Activity 6-8: Teacher’s Masters 	<ul style="list-style-type: none"> ○ 5.NBT.A.2; 5.NBT.B.7 • enVision Topic 5 Assessment: Use Models and Strategies to Divide Whole Numbers <ul style="list-style-type: none"> ○ 5.NBT.B.6 • enVision Topic 6 Assessment: Use Models and Strategies to Divide Decimals <ul style="list-style-type: none"> ○ 5.NBT.A.2; 5.NBT.B.7 • Possible Formative Assessments: <ul style="list-style-type: none"> ○ Lesson's Diagnostic Questions: (indicated in Teacher’s Edition - large pink check mark) ○ Exit Ticket: Lesson Quick Check (Digital Resource) ○ Topic Fluency Practice Activity (Student Textbook) ○ Topic Vocabulary Review (Student Textbook)
<p>RESOURCES</p>	<p>TECHNOLOGY INTEGRATION</p>
<p>EnVision Materials for Topic 4, 5, and 6 including student edition worksheets, problem solving mat, interactive math story, vocabulary cards, and center ideas which are listed in each topic</p> <p>5.NBT.A.2 Multiplying Decimals by 10 5.NBT.A.2 Marta's Multiplication Error 5.NBT.B.6: Learnzillion 5.NBT.B.7 The Value of Education 5.NBT.B.7, 5.NF.B.3 What is 23 divided by 5?</p>	<p>STANDARDS 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose. 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).</p> <p>RESOURCES</p> <ul style="list-style-type: none"> • Animated Glossary • BrainPop • BrainPop Jr. • Educreations • enVisions 2.0 • Google Classroom

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	<ul style="list-style-type: none"> • Ixl.com • Kahoot • Khan Academy • Learn Zillion • Math Playground • Measuring Up Live • Popplet • Prodigy • Scholastic Study Jams • SeeSaw • That Quiz • XtraMath
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KEY VOCABULARY

Topic 4: powers of 10, product, partial products
Topic 5: estimate, quotient, divisor, dividend, partial quotient
Topic 6: divide, quotient, number sense, estimate

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS

English Language Learners	Students Receiving Special Education Services	Advanced Learners
<ul style="list-style-type: none"> • WIDA Can Do Descriptors for Grades 4-5* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol <p>*Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).</p>	<ul style="list-style-type: none"> • New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms <p>Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is</p>	<ul style="list-style-type: none"> • Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms <p>Potential Accommodations for Advanced Learners</p> <ul style="list-style-type: none"> • Use of high level academic vocabulary/texts • Problem-based learning

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<p>Potential Accommodations for ELLs</p> <ul style="list-style-type: none"> • Personal glossary • Text-to-speech • Extended time • Simplified / verbal instructions • Frequent breaks • Small group/One to one • Additional time • Review of directions • Student restates information • Extra visual and verbal cues and prompts • Preferential seating • Verbal and visual cues regarding directions and staying on task • Checklists • Immediate feedback 	<p>differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.</p> <p>Potential Accommodations for Special Education</p> <p>Presentation accommodations:</p> <ul style="list-style-type: none"> • Listen to audio recordings instead of reading text • Pre-teach unknown vocabulary through pictures or videos, and relate to prior knowledge • Work with fewer items per page and/or materials in a larger print size • Use a visual blocker • Use visual presentations of verbal material, such as word webs and visual organizers • Be given a written list of instructions/picture cues <p>Response accommodations:</p> <ul style="list-style-type: none"> • Give responses in a form (oral or written) that's easier for him/her • Dictate answers to a scribe • Capture responses on an audio recorder • Use a spelling dictionary or electronic spell-checker • Use a word processor to give responses in class • Use a calculator or table of "math facts" <p>Setting accommodations:</p> <ul style="list-style-type: none"> • Work or take a test in a different setting, such as a quiet room with few distractions • Sit where he/she learns best (for example, near the teacher) • Take a test in small group setting <p>Timing accommodations:</p> <ul style="list-style-type: none"> • Take more time to complete a task or a test • Have extra time to process oral information and directions • Take frequent breaks, such as after completing a task <p>Assignment modifications:</p> <ul style="list-style-type: none"> • Complete fewer or different homework problems than peers 	<ul style="list-style-type: none"> • Pre-assess to condense curriculum • Interest-based research • Authentic problem-solving • Homogeneous grouping opportunities
<p>Students with 504 Plans</p>		
<p>Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.</p>		

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	<ul style="list-style-type: none"> • Shorten assignment • Answer fewer or different test questions • Create alternate projects or assignments 	
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At Risk Learners / Differentiation Strategies

<p>Alternative Assessments Choice Boards Games and Tournaments Group Investigations Guided Reading Learning Contracts Leveled Rubrics Literature Circles Multiple Texts Personal Agendas</p>	<p>Independent Research & Projects Multiple Intelligence Options Project-Based Learning Varied Supplemental Activities Varied Journal Prompts or RAFT Writing Tiered Activities/Assignments Tiered Products Graphic Organizers Choice of Books/Activities Mini-Workshops to Reteach or Extend Think-Pair-Share by readiness or interest Use of Collaboration of Various Activities</p>	<p>Jigsaw Think-Tac-Toe Cubing Activities Exploration by Interest Flexible Grouping Goal-Setting with Students Homework Options Open-Ended Activities Use of Reading Buddies Varied Product Choices Stations/Centers Work Alone/Together</p>
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CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
<ul style="list-style-type: none"> • 5.NBT.A.2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. 	<ul style="list-style-type: none"> • MP.2 Reason abstractly and quantitatively. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> • explain patterns in the number of zeros of the product when multiplying a whole number by powers of 10. • write powers of 10 using whole-number exponents.

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<ul style="list-style-type: none"> 5.NBT.B.6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. 	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> divide to find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value, properties of operations, and the relationship between multiplication and division. represent these operations with equations, rectangular arrays, and area models. explain the calculation by referring to the model (equation, array, or area model).
<ul style="list-style-type: none"> 5.NBT.B.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. *(benchmarked) 	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> add and subtract decimals to hundredths using concrete models and drawings. multiply and divide decimals to hundredths using concrete models and drawings. add, subtract, multiply, and divide decimals to hundredths using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. relate the strategy to the written method and explain the reasoning used.

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UNIT 3 FOCUS

Addition, Subtraction, Multiplication and Division of Fractions and Volume

Unit Pacing: 3rd Marking Period - Middle of January - End of March

- **Topic 7: Use Equivalent Fractions to Add and Subtract Fractions**

- Use equivalent fractions as a strategy to add and subtract fractions

- **Topic 8: Apply Understanding of Multiplication to Multiply Fractions**

- Apply and extend previous understandings of multiplication and division to multiply and divide fractions

- **Topic 9: Applying Understanding of Division to Divide Fractions**

- Apply and extend previous understandings of multiplication and division to multiply and divide fractions

- **Topic 10: Understand Volume Concepts**

- Geometric measurement: understand concepts of volume and relate volume to multiplication and addition

STANDARDS FOR MATHEMATICAL CONTENT

- **5.NF.A.1** (Topic 7)
- **5.NF.A.2** (Topic 7)
- **5.NF.B.3** (Topic 9)
- **5.NF.B.4a, b** (Topic 8)
- **5.NF.B.5a, b** (Topic 8)
- **5.NF.B.6** (Topic 8)
- **5.NF.B.7a, b, c** (Topic 9)
- **5.MD.C.3a, b** (Topic 10)
- **5.MD.C.4** (Topic 10)
- **5.MD.C.5a, b, c** (Topic 10)

STANDARDS FOR MATHEMATICAL PRACTICE

- MP.1** Make sense of problems and persevere in solving them.
- MP.2** Reason abstractly and quantitatively.
- MP.3** Construct viable arguments and critique the reasoning of others.
- MP.4** Model with mathematics.
- MP.5** Use appropriate tools strategically.
- MP.6** Attend to precision.
- MP.7** Look for and make use of structure.
- MP.8** Look for and express regularity in repeated reasoning.

Grade 5 Math Curricular Framework

INTERDISCIPLINARY CONNECTIONS	UNIT 3 GENERAL ASSESSMENTS
<p><u>21st Century Skills: Career Ready Practice Standards:</u> CRP1, CRP2, CRP4, CRP6, CRP8, CRP11</p> <p>Literature Connection: Interactive Math Stories for each Topic from Pearson 2.0</p> <p>STEM Connection: Math and Science Activities (Topic 7, 8, 9, and 10)</p> <p><i>Topic 7:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p. 367• Math and Science Activity 7-9: Teacher's Masters• Math and Science Activity 7-12: Teacher's Masters <p><i>Topic 8:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p.455• Math and Science Activity 8-3: Teacher's Masters• Math and Science Activity 8-9: Teacher's Masters <p><i>Topic 9:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p. 523• Math and Science Activity 9-3: Teacher's Masters• Math and Science Activity 9-5: Teacher's Masters <p><i>Topic 10:</i></p> <ul style="list-style-type: none">• Math and Science Project (STEM): TE p. 583• Math and Science Activity 10-2: Teacher's Masters• Math and Science Activity 10-5: Teacher's Masters	<ul style="list-style-type: none">• enVision Topic 7 Assessment: Use Equivalent Fractions to Add and Subtract Fractions<ul style="list-style-type: none">○ 5.NF.A.1; 5.NF.A.2• enVision Topic 8 Assessment: Apply Understanding of Multiplication to Multiply Fractions<ul style="list-style-type: none">○ 5.NF.B.4a, b; 5.NF.B.5a, b; 5.NF.B.6• enVision Topic 9 Assessment: Apply Understanding of Division to Divide Fractions<ul style="list-style-type: none">○ 5.NF.B.3; 5.NF.B.7a, b, c• enVision Topic 10 Assessment: Understand Volume Concepts<ul style="list-style-type: none">○ 5.MD.C.3a, b; 5.MD.C.4; 5.MD.C.5a, b, c• Possible Formative Assessments:<ul style="list-style-type: none">○ Lesson's Diagnostic Questions: (indicated in Teacher's Edition - large pink check mark)○ Exit Ticket: Lesson Quick Check (Digital Resource)○ Topic Fluency Practice Activity (Student Textbook)○ Topic Vocabulary Review (Student Textbook)

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RESOURCES	TECHNOLOGY INTEGRATION
<p>EnVision Materials for Topic 7, 8, 9, and 10 including student edition worksheets, problem solving mat, interactive math story, vocabulary cards, and center ideas which are listed in each topic</p> <p>5.NF.A.1 Making S'Mores 5.NF.A.2 Do These Add Up? 5.NF.A Measuring Cups 5.NF.B.3 How Much Pie? 5.NF.B.4b Chavone's Bathroom Tiles 5.NF.B.4b New Park 5.NF.B.5 Comparing Heights of Buildings 5.NF.B.5 Grass Seedlings 5.NF.B.5b Mrs. Gray's Homework Assignment 5.NF.B.6 To Multiply or not to multiply? 5.NF.B.7 Banana Pudding 5.MD.A.1, 5.NF.B.3 Converting Fractions of a Unit into a Smaller Unit 5.MD.C.5 Breaking Apart Composite Solids 5.MD.C.5a using Volume to Understand the Associative Property of Multiplication 5.MD.C.5b Cari's Aquarium 5.MD.C Box of Clay</p>	<p>STANDARDS</p> <p>8.1.2.A.1 Identify the basic features of a digital device and explain its purpose. 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).</p> <p>RESOURCES</p> <ul style="list-style-type: none"> • Animated Glossary • BrainPop • BrainPop Jr. • Educreations • enVisions 2.0 • Google Classroom • Ixl.com • Kahoot • Khan Academy • Learn Zillion • Math Playground • Measuring Up Live • Popplet • Prodigy • Scholastic Study Jams • SeeSaw • That Quiz • XtraMath
<p>KEY VOCABULARY</p>	
<p>Topic 7: benchmark fraction, equivalent fractions, common denominator, mixed number Topic 8: whole number, fraction, product, area, mixed number, scaling Topic 9: fraction, mixed number, quotient, divide, quotient, unit fraction, non-zero whole number Topic 10: volume, cubic unit, cube, rectangular prism, unit cube, formula</p>	

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GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS

English Language Learners	Students Receiving Special Education Services	Advanced Learners
<ul style="list-style-type: none"> ● WIDA Can Do Descriptors for Grades 4-5* ● WIDA Essential Actions Handbook ● FABRIC Paradigm ● Wall Township ESL Grading Protocol <p>*Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).</p> <p>Potential Accommodations for ELLs</p> <ul style="list-style-type: none"> ● Personal glossary ● Text-to-speech ● Extended time ● Simplified / verbal instructions ● Frequent breaks ● Small group/One to one ● Additional time ● Review of directions ● Student restates information ● Extra visual and verbal cues and prompts ● Preferential seating ● Verbal and visual cues regarding directions and staying on task ● Checklists ● Immediate feedback 	<ul style="list-style-type: none"> ● New Jersey Tiered System of Supports ● National Center on Universal Design for Learning - About UDL ● UDL Checklist ● UDL Key Terms <p>Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.</p> <p>Potential Accommodations for Special Education</p> <p>Presentation accommodations:</p> <ul style="list-style-type: none"> ● Listen to audio recordings instead of reading text ● Pre-teach unknown vocabulary through pictures or videos, and relate to prior knowledge ● Work with fewer items per page and/or materials in a larger print size ● Use a visual blocker ● Use visual presentations of verbal material, such as word webs and visual organizers ● Be given a written list of instructions/picture cues <p>Response accommodations:</p> <ul style="list-style-type: none"> ● Give responses in a form (oral or written) that's easier for him/her ● Dictate answers to a scribe ● Capture responses on an audio recorder ● Use a spelling dictionary or electronic spell-checker 	<ul style="list-style-type: none"> ● Knowledge and Skill Standards in Gifted Education for All Teachers ● Pre-K-Grade 12 Gifted Programming Standards ● Gifted Programming Glossary of Terms <p>Potential Accommodations for Advanced Learners</p> <ul style="list-style-type: none"> ● Use of high level academic vocabulary/texts ● Problem-based learning ● Pre-assess to condense curriculum ● Interest-based research ● Authentic problem-solving ● Homogeneous grouping opportunities <p>Students with 504 Plans</p> <p>Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.</p>

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	<ul style="list-style-type: none"> • Use a word processor to give responses in class • Use a calculator or table of “math facts” <p>Setting accommodations:</p> <ul style="list-style-type: none"> • Work or take a test in a different setting, such as a quiet room with few distractions • Sit where he/she learns best (for example, near the teacher) • Take a test in small group setting <p>Timing accommodations:</p> <ul style="list-style-type: none"> • Take more time to complete a task or a test • Have extra time to process oral information and directions • Take frequent breaks, such as after completing a task <p>Assignment modifications:</p> <ul style="list-style-type: none"> • Complete fewer or different homework problems than peers • Shorten assignment • Answer fewer or different test questions • Create alternate projects or assignments 	
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At Risk Learners / Differentiation Strategies

<p>Alternative Assessments Choice Boards Games and Tournaments Group Investigations Guided Reading Learning Contracts Leveled Rubrics Literature Circles Multiple Texts Personal Agendas</p>	<p>Independent Research & Projects Multiple Intelligence Options Project-Based Learning Varied Supplemental Activities Varied Journal Prompts or RAFT Writing Tiered Activities/Assignments Tiered Products Graphic Organizers Choice of Books/Activities Mini-Workshops to Reteach or Extend Think-Pair-Share by readiness or interest Use of Collaboration of Various Activities</p>	<p>Jigsaw Think-Tac-Toe Cubing Activities Exploration by Interest Flexible Grouping Goal-Setting with Students Homework Options Open-Ended Activities Use of Reading Buddies Varied Product Choices Stations/Centers Work Alone/Together</p>
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CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
<ul style="list-style-type: none"> 5.NF.A.1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <p><i>For example:</i></p> <ul style="list-style-type: none"> $2/3 + 5/4 = 8/12 + 15/12 = 23/12$ (in general, $a/b + c/d = (ad + bc) / bd$) 	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> produce an equivalent sum (or difference) of fractions with like denominators from the original sum (or difference) of fractions that has unlike denominators. add and subtract fractions with unlike denominators by replacing given fractions with equivalent fractions.
<ul style="list-style-type: none"> 5.NF.A.2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <p><i>For example:</i></p> <ul style="list-style-type: none"> recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$. 	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> add and subtract fractions, including mixed numbers, with unlike denominators to solve word problems. represent calculations and solutions with visual fraction models and equations estimate answers using benchmark fractions and explain whether the answer is reasonable. estimate answers by reasoning about the size of the fractions and explain whether the answer is reasonable.

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<ul style="list-style-type: none"> 5.NF.B.3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <p><i>For example:</i></p> <p><i>interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$.</i></p> <p><i>If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p>	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> represent a fraction as a division statement ($a/b = a \div b$). divide whole numbers in order to solve real world problems, representing the quotient as a fraction or a mixed number. represent word problems involving division of whole numbers using visual fraction models and equations.
<ul style="list-style-type: none"> 5.NF.B.4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction: <p>5.NF.B.4a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.</p>	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> for whole number or fraction q, represent $(a/b) \times q$ as a parts of a partition of q into b equal parts [e.g. using a visual fraction model, $(3/4) \times 5$ can be represented by 3 parts, after partitioning 5 objects into 4 equal parts]. for whole number or fraction q, represent $(a/b) \times q$ as $a \times q \div b$ [e.g. showing that $(2/5) \times 3$ is equivalent to $(2 \times 3) \div 5$]. from a story context, interpret $(a/b) \times q$ as a parts of a partition of q into b equal parts.

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<p><i>For example: use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)</i></p> <p>5.NF.B.4b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p>	<ul style="list-style-type: none"> • MP.7 Look for and make use of structure. 	<ul style="list-style-type: none"> • tile a rectangle having fractional side lengths using unit squares of the appropriate unit fraction [e.g. given a $3 \frac{1}{4}$ inch x $7 \frac{3}{4}$ inch rectangle, tile the rectangle using $\frac{1}{4}$ inch tiles]. • show that the area found by tiling with unit fraction tiles is the same as would be found by multiplying the side lengths.
<ul style="list-style-type: none"> • 5.NF.B.5. Interpret multiplication as scaling (resizing), by: <ul style="list-style-type: none"> 5.NF.B.5a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. 5.NF.B.5b. Explaining why multiplying a given number by a fraction greater than 1 results in a 	<ul style="list-style-type: none"> • MP.2 Reason abstractly and quantitatively. • MP.4 Model with mathematics. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> • compare the size of a product to the size of one of its factors, considering the size of the other factor (at least one factor is a fraction). • explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number. • explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number. • explain that multiplying a given number by a fraction equivalent to 1 does not change the product.

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<p>product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.</p>		
<ul style="list-style-type: none"> 5.NF.B.6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. 	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> multiply fractions and mixed numbers in order to solve real world problems. represent the solution to these real world problems with visual fraction models and equations.
<ul style="list-style-type: none"> 5.NF.B.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions: *(benchmarked) 	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> use a story context to interpret division of a unit fraction by a whole number. divide of a unit fraction by a whole number and represent with visual fraction models. use a story context to interpret division of a whole number by a unit fraction.

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5.NF.B.7a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.

For example:

Create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient.

Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.

5.NF.B.7b. Interpret division of a whole number by a unit fraction, and compute such quotients.

For example:

Create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient.

Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.

- MP.5 Use appropriate tools strategically.
- MP.6 Attend to precision.
- MP.7 Look for and make use of structure.
- MP.8 Look for and express regularity in repeated reasoning.

- divide of a whole number by a unit fraction and represent with visual fraction models.
- divide unit fractions by whole numbers to solve real-world problems, using visual fraction models and equations to represent the problem.
- divide whole numbers by unit fractions to solve real-world problems, using visual fraction models and equations to represent the problem.

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<p>5.NF.B.7c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.</p> <p><i>For example:</i></p> <p><i>How much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally?</i></p> <p><i>How many $\frac{1}{3}$-cup servings are in 2 cups of raisins?</i></p>		
<ul style="list-style-type: none">5.MD.C.3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement:<ul style="list-style-type: none">5.MD.C.5a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.5.MD.C.5b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.	<ul style="list-style-type: none">MP.1 Make sense of problems and persevere in solving them.MP.2 Reason abstractly and quantitatively.MP.4 Model with mathematics.MP.5 Use appropriate tools strategically.MP.6 Attend to precision.MP.7 Look for and make use of structure.	<p><i>Students are able to:</i></p> <ul style="list-style-type: none">count unit cubes in order to measure the volume of a solid.use unit cubes of centimeters, inches, and/or other units to measure volume.

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<ul style="list-style-type: none"> 5.MD.C.4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units. 		
<ul style="list-style-type: none"> 5.MD.C.5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume: <p>5.MD.C.5a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.</p> <p>5.MD.C.5b. Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.</p> <p>5.MD.C.5c. Recognize volume as additive. Find volumes of solid</p> 	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> pack right rectangular prisms with cubes to find volume and multiply side lengths of the right rectangular prism to find volume, showing that they are the same. pack right rectangular prisms with cubes to find volume and multiply height by the area of the base, showing that they are the same. explain how both volume formulas relate to counting the cubes in one layer and multiplying that value by the number of layers (height). write the volume of an object as the product of three whole numbers. solve real-world and mathematical problems using the formulas $V = l \times w \times h$ and $V = B \times h$. find the volume of a composite solid composed of two right rectangular prisms.

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<p>figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.</p>		
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UNIT 4 FOCUS

Converting Measurements, Interpreting Data, Algebra, and Geometry

Unit Pacing: 4th Marking Period - End of March - Middle of June

- **Topic 11: Convert Measurements**
 - Convert like measurement units within a given measurement system
- **Topic 12: Represent and Interpret Data**
 - Represent and interpret data
- **Topic 14: Graph Points on the Coordinate Plane**
 - Graph points on the coordinate plane to solve real-world mathematical problems
- **Topic 15: Algebra: Analyze Patterns and Relationships**
 - Analyze patterns and relationships
- **Topic 16: Geometric Measurement: Classify Two-Dimensional Figures**
 - Classify two-dimensional figures into categories based on their properties

STANDARDS FOR MATHEMATICAL CONTENT

- **5.OA.B.3** (Topic 15)
- **5.NBT.A.2** (Topic 11)
- **5.NBT.B.5** (Topic 11)
- **5.NBT.B.6** (Topic 11)
- **5.NF.A.2** (Topic 12)
- **5.NF.B.6** (Topic 12)
- **5.MD.A.1** (Topic 11)

STANDARDS FOR MATHEMATICAL PRACTICE

- MP.1** Make sense of problems and persevere in solving them.
- MP.2** Reason abstractly and quantitatively.
- MP.3** Construct viable arguments and critique the reasoning of others.
- MP.4** Model with mathematics.
- MP.5** Use appropriate tools strategically.
- MP.6** Attend to precision.

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<ul style="list-style-type: none"> ● 5.MD.B.2 (Topic 12) ● 5.G.A.1 (Topic 14) ● 5.G.A.2 (Topics 14, 15) ● 5.G.B.3 (Topic 16) ● 5.G.B.4 (Topic 16) 	<p>MP.7 Look for and make use of structure.</p> <p>MP.8 Look for and express regularity in repeated reasoning.</p>
<p>INTERDISCIPLINARY CONNECTIONS</p>	<p>UNIT 4 GENERAL ASSESSMENTS</p>
<p><u>21st Century Skills: Career Ready Practice Standards:</u> CRP1, CRP2, CRP4, CRP6, CRP8, CRP11</p> <p>Literature Connection: Interactive Math Stories for each Topic from Pearson 2.0</p> <p>STEM Connection: Math and Science Activities (Topic 11, 12, 14, 15, and 16)</p> <p><i>Topic 11:</i></p> <ul style="list-style-type: none"> ● Math and Science Project (STEM): TE p. 631 ● Math and Science Activity 11-1: Teacher’s Masters ● Math and Science Activity 11-8: Teacher’s Masters <p><i>Topic 12:</i></p> <ul style="list-style-type: none"> ● Math and Science Project (STEM): TE p. 695 ● Math and Science Activity 12-1: Teacher’s Masters ● Math and Science Activity 12-4: Teacher’s Masters <p><i>Topic 14:</i></p> <ul style="list-style-type: none"> ● Math and Science Project (STEM): TE p. 773 ● Math and Science Activity 14-1: Teacher’s Masters ● Math and Science Activity 14-4: Teacher’s Masters <p><i>Topic 15:</i></p> <ul style="list-style-type: none"> ● Math and Science Project (STEM): TE p.809 ● Math and Science Activity 15-1: Teacher’s Masters ● Math and Science Activity 15-4: Teacher’s Masters 	<ul style="list-style-type: none"> ● enVision Grade 5 End-of-Year Benchmark Assessment ● enVision Topic 11 Assessment: Convert Measurements <ul style="list-style-type: none"> ○ 5.NBT.A.2; 5.NBT.B.5; 5.NBT.B.6; 5.MD.A.1 ● enVision Topic 12 Assessment: Represent and Interpret Data <ul style="list-style-type: none"> ○ 5.NF.A.2; 5.NF.B.6; 5.MD.B.2 ● enVision Topic 14 Assessment: Graph Points on the Coordinate Plane <ul style="list-style-type: none"> ○ 5.G.A.1; 5.G.A.2 ● enVision Topic 15 Assessment: Algebra: Analyze Patterns and Relationships <ul style="list-style-type: none"> ○ 5.OA.B.3; 5.G.A.2 ● enVision Topic 16 Assessment: Geometric Measurement: Classify Two-Dimensional Figures <ul style="list-style-type: none"> ○ 5.G.B.3; 5.G.B.4 ● Possible Formative Assessments: <ul style="list-style-type: none"> ○ Lesson’s Diagnostic Questions: (indicated in Teacher’s Edition - large pink check mark) ○ Exit Ticket: Lesson Quick Check (Digital Resource) ○ Topic Fluency Practice Activity (Student Textbook) ○ Topic Vocabulary Review (Student Textbook)

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<p><i>Topic 16:</i></p> <ul style="list-style-type: none"> • Math and Science Project (STEM): TE p. 845 • Math and Science Activity 16-2: Teacher's Masters • Math and Science Activity 16-4: Teacher's Masters 	
RESOURCES	TECHNOLOGY INTEGRATION
<p>EnVision Materials for Topic 11, 12, 14, 15, and 16 including student edition worksheets, problem solving mat, interactive math story, vocabulary cards, and center ideas which are listed in each topic</p> <p> 5.NBT.A.2 Multiplying Decimals by 10 5.NBT.A.2 Marta's Multiplication Error 5.NBT.B.5 Elmer's Multiplication Error 5.NBT.B.6: Learnzillion 5.OA.B.3 Sidewalk Patterns 5.NF.A.2 Do These Add Up? 5.NF.A Measuring Cups 5.NF.B.6 To Multiply or not to multiply? 5.MD.A.1, 5.NF.B.3 Converting Fractions of a Unit into a Smaller Unit 5.MD.B.2 5, NF.A.1 Fractions on a Line Plot 5.G.A.1 Battle Ship Using Grid Paper 5.G.A.2 Meerkat Coordinate Plane Task 5.G.B.3 Always, Sometimes, Never 5.G.B.4 What is a Trapezoid? (Part 2) </p>	<p>STANDARDS</p> <p>8.1.2.A.1 Identify the basic features of a digital device and explain its purpose. 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).</p> <p>RESOURCES</p> <ul style="list-style-type: none"> • Animated Glossary • BrainPop • BrainPop Jr. • Educreations • enVisions 2.0 • Google Classroom • Ixl.com • Kahoot • Khan Academy • Learn Zillion • Math Playground • Measuring Up Live • Popplet • Prodigy • Scholastic Study Jams • SeeSaw • That Quiz • XtraMath
KEY VOCABULARY	
<p>Topic 11: foot, inch, yard, mile, capacity, gallon, quart, pint, cup, fluid ounce, weight, ton, pound, ounce, kilometer, meter, centimeter, millimeter, liter, milliliter, mass, milligram, gram, kilogram</p>	

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Topic 12: data, line plot, outlier

Topic 14: coordinate grid, ordered pair, x-axis, y-axis, origin, x-coordinate, y-coordinate

Topic 15: corresponding terms, number sequence, numerical patterns, graph relationships

Topic 16: equilateral triangle, isosceles triangle, scalene triangle, right triangle, acute triangle, obtuse triangle, trapezoid, parallelogram, rectangle, rhombus, square

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS

English Language Learners	Students Receiving Special Education Services	Advanced Learners
<ul style="list-style-type: none"> • WIDA Can Do Descriptors for Grades 4-5* • WIDA Essential Actions Handbook • FABRIC Paradigm • Wall Township ESL Grading Protocol <p>*Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).</p> <p>Potential Accommodations for ELLs</p> <ul style="list-style-type: none"> • Personal glossary • Text-to-speech • Extended time • Simplified / verbal instructions • Frequent breaks • Small group/One to one • Additional time • Review of directions • Student restates information • Extra visual and verbal cues and prompts • Preferential seating • Verbal and visual cues regarding directions and staying on task • Checklists • Immediate feedback 	<ul style="list-style-type: none"> • New Jersey Tiered System of Supports • National Center on Universal Design for Learning - About UDL • UDL Checklist • UDL Key Terms <p>Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.</p> <p>Potential Accommodations for Special Education</p> <p>Presentation accommodations:</p> <ul style="list-style-type: none"> • Listen to audio recordings instead of reading text • Pre-teach unknown vocabulary through pictures or videos, and relate to prior knowledge • Work with fewer items per page and/or materials in a larger print size • Use a visual blocker • Use visual presentations of verbal material, such as 	<ul style="list-style-type: none"> • Knowledge and Skill Standards in Gifted Education for All Teachers • Pre-K-Grade 12 Gifted Programming Standards • Gifted Programming Glossary of Terms <p>Potential Accommodations for Advanced Learners</p> <ul style="list-style-type: none"> • Use of high level academic vocabulary/texts • Problem-based learning • Pre-assess to condense curriculum • Interest-based research • Authentic problem-solving • Homogeneous grouping opportunities <p>Students with 504 Plans</p> <p>Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.</p>

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	<p>word webs and visual organizers</p> <ul style="list-style-type: none"> • Be given a written list of instructions/picture cues <p>Response accommodations:</p> <ul style="list-style-type: none"> • Give responses in a form (oral or written) that's easier for him/her • Dictate answers to a scribe • Capture responses on an audio recorder • Use a spelling dictionary or electronic spell-checker • Use a word processor to give responses in class • Use a calculator or table of "math facts" <p>Setting accommodations:</p> <ul style="list-style-type: none"> • Work or take a test in a different setting, such as a quiet room with few distractions • Sit where he/she learns best (for example, near the teacher) • Take a test in small group setting <p>Timing accommodations:</p> <ul style="list-style-type: none"> • Take more time to complete a task or a test • Have extra time to process oral information and directions • Take frequent breaks, such as after completing a task <p>Assignment modifications:</p> <ul style="list-style-type: none"> • Complete fewer or different homework problems than peers • Shorten assignment • Answer fewer or different test questions • Create alternate projects or assignments 	
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At Risk Learners / Differentiation Strategies

<p>Alternative Assessments Choice Boards Games and Tournaments Group Investigations Guided Reading Learning Contracts Leveled Rubrics Literature Circles Multiple Texts</p>	<p>Independent Research & Projects Multiple Intelligence Options Project-Based Learning Varied Supplemental Activities Varied Journal Prompts or RAFT Writing Tiered Activities/Assignments Tiered Products Graphic Organizers Choice of Books/Activities</p>	<p>Jigsaw Think-Tac-Toe Cubing Activities Exploration by Interest Flexible Grouping Goal-Setting with Students Homework Options Open-Ended Activities Use of Reading Buddies</p>
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Personal Agendas	Mini-Workshops to Reteach or Extend Think-Pair-Share by readiness or interest Use of Collaboration of Various Activities	Varied Product Choices Stations/Centers Work Alone/Together
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CONTENT STANDARD	SUGGESTED MATHEMATICAL PRACTICES	CRITICAL KNOWLEDGE & SKILLS
<ul style="list-style-type: none"> 5.OA.B.3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <p><i>For example:</i> <i>Given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i></p>	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> use two rules to create two numerical patterns. compare corresponding terms (e.g. compare the first terms in each list, compare the second terms in each list, etc). identify the relationship between corresponding terms and write ordered pairs. graph the ordered pairs.
<ul style="list-style-type: none"> 5.NBT.A.2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns 	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. MP.6 Attend to precision. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> explain patterns in the number of zeros of the product when multiplying a whole number by powers of 10. write powers of 10 using whole-number exponents.

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<p>in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p>	<ul style="list-style-type: none"> MP.7 Look for and make use of structure. 	
<ul style="list-style-type: none"> 5.NBT.B.5. Fluently multiply multi-digit whole numbers using the standard algorithm. *(benchmarked) 	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. MP.6 Attend to precision. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> multiply a whole number of up to a four digits by a whole number of up to two digits using the standard algorithm with accuracy and efficiency.
<ul style="list-style-type: none"> 5.NBT.B.6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. 	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically. MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> divide to find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value, properties of operations, and the relationship between multiplication and division. represent these operations with equations, rectangular arrays, and area models. explain the calculation by referring to the model (equation, array, or area model).
<ul style="list-style-type: none"> 5.NF.A.2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use 	<ul style="list-style-type: none"> MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> add and subtract fractions, including mixed numbers, with unlike denominators to solve word problems. represent calculations and solutions with visual fraction models and equations estimate answers using benchmark fractions and explain whether the answer is reasonable.

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<p>benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.</p> <p><i>For example:</i></p> <ul style="list-style-type: none"> - recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$. 	<ul style="list-style-type: none"> • MP.3 Construct viable arguments and critique the reasoning of others. • MP.4 Model with mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. 	<ul style="list-style-type: none"> • estimate answers by reasoning about the size of the fractions and explain whether the answer is reasonable.
<ul style="list-style-type: none"> • 5.NF.B.6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. 	<ul style="list-style-type: none"> • MP.1 Make sense of problems and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.4 Model with mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. • MP.8 Look for and express regularity in repeated reasoning. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> • multiply fractions and mixed numbers in order to solve real world problems. • represent the solution to these real world problems with visual fraction models and equations.
<ul style="list-style-type: none"> • 5.MD.A.1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 	<ul style="list-style-type: none"> • MP.1 Make sense of problems and persevere in solving them. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> • convert from one measurement unit to another within a given measurement system (e.g., convert 5 cm to 0.05 m, convert minutes to hours).

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<p>5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.</p>	<ul style="list-style-type: none"> • MP.2 Reason abstractly and quantitatively. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. 	<ul style="list-style-type: none"> • solve multi-step, real world problems that require conversions.
<ul style="list-style-type: none"> • 5.MD.B.2. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. <p><i>For example:</i> <i>Given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i></p>	<ul style="list-style-type: none"> • MP.1 Make sense of problems and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.4 Model with mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> • use measurement information to create a line plot. • using measurement information presented in line plots, add, subtract, multiply and divide fractions in order to solve problems.
<ul style="list-style-type: none"> • 5.G.A.1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates 	<ul style="list-style-type: none"> • MP.1 Make sense of problems and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.4 Model with mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> • graph points defined by whole number coordinates in the first quadrant of the coordinate plane in order to represent real world and mathematical problems. • interpret coordinates in context.

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<p>how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p> <ul style="list-style-type: none"> 5.G.A.2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. 		
<ul style="list-style-type: none"> 5.G.B.3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <p><i>For example:</i> <i>All rectangles have four right angles and squares are rectangles, so all squares have four right angles.</i></p> <ul style="list-style-type: none"> 5.G.B.4. Classify two-dimensional figures in a hierarchy based on properties. 	<ul style="list-style-type: none"> MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure. 	<p><i>Students are able to:</i></p> <ul style="list-style-type: none"> classify two-dimensional figures (triangles, quadrilaterals) based on shared attributes (e.g. parallel sides, number of sides, angle size, side length, etc.). arrange the categories/subcategories of figures (e.g. squares, rectangles, trapezoids, etc) in a hierarchy based on attributes. identify attributes of a two-dimensional shape based on attributes of the categories to which it belongs.