MATH CURRICULUM MAP 2013-14
with enVisionMath

5th Grade

CANYONS School District

FIFTH GRADE ENVISION MATH CURRICULUM MAP
CANYONS SCHOOL DISTRICT
2013 – 2014

Curriculum Mapping Purpose

Canyons School District's curriculum math maps are standards-based maps driven by the Common Core State Standards and implemented using Scott Foresman-Addison Wesley enVisionMATH ©2011. Student achievement is increased when both teachers and students know where they are going, why they are going there, and what is required of them to get there. To that end, curriculum maps answer these questions:

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	VOCABULARY & NOTES
What do students know?	*What concepts and skills do students need to know?*	*How will students learn the standards?*	*What vocabulary is necessary for depth of understanding?*

Curriculum Maps are a tool for:

- **ALIGNMENT:** Provides support and coordination between concepts, skills, standards, curriculum, and assessments
- **COMMUNICATION:** Articulates expectations and learning goals for students
- **PLANNING:** Focuses instruction and targets critical information
- **COLLABORATION:** Promotes professionalism and fosters dialogue between colleagues about best practices pertaining to sequencing, unit emphasis and length, integration, and review strategies

Canyons School District elementary math maps are created by CSD elementary teachers
and published by the CSD Office of Evidence-Based Learning.

These maps were collaboratively developed and refined by teacher committees using feedback from classroom teachers, achievement coaches, building administrators, and the office of Evidence-Based Learning. It is with much appreciation that we recognize the many educators that collaborated in the effort to provide these maps for the teachers and students of CSD. Specific individuals that have assisted in the writing and editing of this document include:

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General Information
5th Grade

Purpose
This map was created by grade level teachers as a scope and sequence to guide and support math curriculum planning and instruction for the year.

Topics
Topics identified as review are covered in a previous grade and may be used as necessary. Topics identified as core must be covered. Topics identified as not in grade-level core should be used sparingly and only if the grade-level core has been sufficiently taught and mastered.

Common Core Lessons (CC)
Common Core lessons have been added to better align enVision 2011 to the Common Core State Standards. CC lessons can be accessed through SuccessNet's "Teacher Resources" by clicking on "Transitioning to Common Core with envision Math."

SuccessNet
SuccessNet is the digital platform for enVisionMATH. Each teacher has 2 SuccessNet accounts:

- Teaching Account—this account houses the 2011 enVisionMATH digital resources adopted by Canyons School District. This account is used for math instruction, lesson planning, lesson videos, topic or weekly tests, etc. This account can also be used to customize assessments for classroom use. Teachers are responsible for setting up their own SuccessNet accounts so that they can choose their log-in and passwords.

- Team CFA Account—this account is used for quarterly CFA administration and reports. Though this account houses the 2012 enVisionMATH resources, we have not adopted these materials and only have permission from Pearson to use this account for assessment purposes. The log-in is: SchoolNameGrade. The password is: CSDcfa.

Common Formative Assessment (CFA)

CFA's are an informational assessment for you as a teacher. The data should be used to help guide and inform your instruction. *For example:* Which problem(s) did all students get correct? Which problem(s) did a lot of students miss? What concepts need to be re-taught? Be aware that there is a period of time (from a few days to 2 weeks) between the end of instruction and the deadline for completion of CFA's. These assessments may be taken any time before the date specified.

CFA #1 by early November covers Topics 1, 2, 3, 4, 5
CFA #2 by end of January covers Topics 6, 7, 8, 9
CFA #3 by end of March covers Topics 10, 11, 12, 13, 14
CFA #4 by middle of May covers Topics 15, 16, 17, 18

Cumulative Review

It is critical to provide an ongoing review of previously taught concepts and skills. Teacher-directed, interactive reviews daily are ideal. EnVision includes a Daily Spiral Review that should be utilized for this purpose.

Homework

The struggle to develop new concepts should occur while the teacher is available to support and scaffold the learning and correct students' errors in thinking. Work that is sent home for students to complete should consist of concepts that have already been taught in class, been practiced, and the student can already do independently. Math homework should be for ***practice of learned skills*** and not for development of new skills. Practicing concepts incorrectly at home can reinforce errors in thinking and cause frustration for students and families. Practicing the skill to automaticity with homework assignments is appropriate ***after*** students have acquired the skill.

Canyons School District Academic Framework to Support Effective Instruction

Response to Intervention (RtI): Multi-Tiered System of Supports (MTSS) for Academics and Behavior			
RtI	**(1) providing high quality core instruction (and intervention) matched to students' needs**	**(2) using data over time (i.e. rate of learning, level of performance, fidelity of implementation)**	**(3) to make important educational decisions.**
CSD Student Achievement Principles	• *ALL CSD students and educators are part of ONE proactive educational system.* • *Evidence-based instruction and interventions are aligned with rigorous content standards.*	• *Data are used to guide instructional decisions, align curriculum horizontally and vertically, and allocate resources.* • *CSD educators use instructionally relevant assessments that are reliable and valid.*	• *CSD educators problem solve collaboratively to meet student needs.*
	• *Quality professional development supports effective instruction for ALL students.* • *Leadership at all levels is vital.*		

Core Expectations for ALL students in the General Education Classrooms and Common Areas					
Curriculum (Standards and Materials)	**Evidence-Based Instructional Priorities**	**Time Allocation**	**Data Collection and Use**	**Fidelity of Implementation**	**Data-based Decision Making**
• Big ideas, bodies of knowledge • Content standards and expectations aligned with the Utah Core Standards • World-Class Instructional Design and Assessment (WIDA) • Schoolwide Positive Behavioral Interventions and Supports • Prioritized Curriculum Maps and Scientific, research-based programs • National Educational Technology Standards (NETS)	• Explicit instruction (I, We, Ya'll, You) • Maximizing opportunities to respond • Feedback • Vocabulary • Scaffolded instruction & grouping structures • Acquisition, automaticity, then application • Classroom Positive Behavioral Interventions and Supports	• Daily maximization of instructional time • English Language Development (ELD) time • Building Leadership Team (BLT) meetings • Protected time for grade level and/or department team learning & planning • Establish rules, routines, and arrangements to increase efficiency for adults and students • Working smarter, not harder	• Consistent evaluation of Core instruction • Districtwide screening of key academic and behavior skills • Benchmark assessments • Progress monitoring • Formative assessment practices (CFAs) • Summative assessment practices • Early warning system for identification of risk (academic, social, and performance) • Timely and consistent review of relevant data	• Monitoring and evaluating effectiveness of implementation using formalized protocols (e.g. Walk-Throughs, fidelity checks) • Instructional and Peer Coaching supports • Products to demonstrate evidence of implementation	Use problem solving protocol to: • Evaluate the effectiveness of Core/ Initial instruction (>80% proficiency) for all subgroups and maintain or adjust • Analyze trends to inform decisions • Evaluate and adjust CSIP • Determine needs for supplemental instruction
On-going, targeted professional development					

Evidence-Based Instructional Priorities
Applied to Math Instruction

Explicit Instruction
I Do - We Do - Y'all Do - You Do
Model - Guide Practice – Partner - Independent

Systematic
- ❑ Focused on critical content
- ❑ Skills, strategies, and concepts are sequenced logically
- ❑ Break down complex skills
- ❑ Lessons are organized and focused
- ❑ Instructional routines are used
- ❑ Examples and non-examples
- ❑ Step-by-step demonstrations
- ❑ C-R-A Model

Relentless
- ❑ Adequate initial practice
  NOTE: Students who struggle may require 10-30 more times as many practice opportunities than their peers.
- ❑ Distributed practice--frequent exposure to content/skill over time
- ❑ Daily review
- ❑ Daily focus on number sense and problem solving
- ❑ Teach to mastery
- ❑ Cumulative review periodically

Engaging
- ❑ Increasing Opportunities to Respond
- ❑ Explicit Vocabulary Instruction
- ❑ Feedback
- ❑ Instructional Grouping
- ❑ Acquire – Auto – Apply
- ❑ Classroom PBIS
- ❑ Create various contexts for problem solving that students can relate to
- ❑ Pacing

Increasing Opportunities to Respond
Saying, Writing, Doing

- ❑ **Choral Responses:** give think time, use a signal for response, repeat if all students don't respond
- ❑ **Partner Sharing**: Look-Lean-Whisper; Think-Pair-Share; Study-Tell-Help-Check
- ❑ **Individual Responses:** give wait time, individual shares after partner discussion, Cold Call, random calling pattern
- ❑ **Math Journals:** Quick Writes, vocabulary practice, draw visuals of math concepts
- ❑ **Individual White Boards**: use a signal for displaying, establish a routine, provide feedback
- ❑ **Manipulatives**: establish a routine, explain expectations, all students interact with materials, provide visual bridge to concept
- ❑ **Response Cards**: yes/no; odd/even; +/-; </>/=; etc.
- ❑ **Action Responses**: thumbs up/down; modeling operations, angles, or other math concepts, act it out, hand signals

Explicit Vocabulary Instruction

- ❑ **Introduce the word**
  - Teacher says the word and posts the word
  - All students repeat the word
  - Teacher gives a child-friendly definition
  - All students repeat the definition (with teacher guidance)
  - Repeat above steps as necessary
- ❑ **Demonstrate**
  - Provide an example
  - Provide a non-example
  - Repeat above steps as necessary
- ❑ **Apply**
  - Students turn to a partner and use the word in a sentence
  - Teacher shares a sentence using the word
- ❑ **Vocabulary Cards:** Grade-level vocabulary cards available on the math website; posted on Word Wall

Feedback
- ❑ Corrective and Affirmative
- ❑ Timely and Frequent
- ❑ Specific and Reinforcing

Instructional Grouping
- ❑ Whole group, Small groups, Partners
- ❑ Fluid and flexible
- ❑ Skill-Based Small Group Instruction for identified skill gaps or extension

Acquire – Auto – Apply
- ❑ Learn (acquire) the skill
- ❑ Build the skill to automaticity
- ❑ Attend to fluency standards in the core
- ❑ Apply the skill

Classroom PBIS
- ❑ Forming clear behavior expectations
- ❑ Explicitly teaching expectations to students
- ❑ Reinforcing expectations with students
- ❑ Correcting of problem behaviors in a systematic manner

March 2013

The Common Core Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important processes and proficiencies with longstanding importance in mathematics education.

1. Make sense of problems and persevere in solving them.

2. Reason abstractly and quantitatively.

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

5. Use appropriate tools strategically.

6. Attend to precision.

7. Look for and make use of structure.

8. Look for and express regularity in repeated reasoning.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

"The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices" (CCSS, 2010).

- Common Core State Standards Initiative, 2010: Mathematics>Introduction>Standards for Mathematical Practice @ Corestandards.org

Fifth Grade Math Common Core At-a-Glance

Fifth Grade Overview

Operations and Algebraic Thinking (5.OA)

· Write and interpret numerical expressions.
· Analyze patterns and relationships.

Number and Operations in Base Ten (5.NBT)

· Understand the place value system.
• Perform operations with multi-digit whole numbers and with decimals to hundredths.

Number and Operations—Fractions (5.NF)

• 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.

Measurement and Data (5.MD)

• Convert like measurement units within a given measurement system.
• Represent and interpret data.
• Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Geometry (4.G)

• Graph points on the coordinate plane to solve real-world and mathematical problems.
• Classify two-dimensional figures into categories based on their properties.

Three Critical Areas

In Grade 5, instructional time should focus on three critical areas:

- developing fluency with addition and subtraction of fractions, and
- developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions);
- extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and
- developing understanding of volume.

Common Core Practice Standards

Overarching habits of mind of a productive mathematical thinker

1. Make sense of problems and persevere in solving them
6. Attend to precision

Reasoning and explaining

2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others

Modeling and using tools

4. Model with mathematics
5. Use appropriate tools strategically

Seeing structure and generalizing

7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

Common Core State Standards Initiative. (2010). Common Core State Standards for Mathematics. *Washington, DC: National Governors Association Center for Best Practices and the*

I- Canyons Report Card Standards
Fifth Grade

Academic Standards

M = Mastered NYM = Not Yet Mastered * = Not Assessed

	Term1	Term2	Term3
Operation and Algebraic Thinking: I can...			
Use order of operations to solve problems	*	*	*
Write simple numerical expressions	*	*	*
Generate numerical patterns using two given rules	*	*	*
Numbers and Operations Base Ten: I can...			
Recognize what the place value represents in multi-digit numbers	*	*	*
Explain patterns of multiplication using powers of ten	*	*	*
Read, write and compare decimals to thousandths	*	*	*
Round decimals to any place value	*	*	*
Divide multi-digit whole numbers	*	*	*
Fluently multiply multi-digit whole numbers	*	*	*
Use the four operations to calculate decimals to the hundredths place	*	*	*
Numbers and Operations - Fractions: I can...			
Recognize, create, and use equivalent fractions	*	*	*
Add and subtract fractions with unlike denominators	*	*	*
Solve word problems involving fractions	*	*	*
Multiply fractions with whole numbers and other fractions	*	*	*
Divide fractions with whole numbers and other fractions	*	*	*
Measurement and Data: I can...			
Solve problems using measurement conversions	*	*	*
Make a line plot using fractions	*	*	*
Measure volume of three-dimensional shapes	*	*	*
Geometry: I can...			
Graph points using a coordinate plane	*	*	*
Classify shapes based on their properties	*	*	*

CSD Math Block 90 Minutes Daily

Math Practices	
✓ Provide realistic problems and real-world contexts	✓ Build from graphs, charts, and tables – Milk the data
✓ Create Language-rich classroom routines	✓ Develop number sense at every opportunity
✓ Incorporate high-order thinking through questioning	✓ Have students visualize, draw, and model concepts
✓ Increase the use of measurement	✓ Increase opportunities to respond and feedback

Numeracy Component	Range of Time	Focus of Instruction	Instructional Materials
Review or Preteach	10-25 minutes	• **Review** • Pre-teach upcoming concepts	• Problem of the Day • Daily Spiral Review
Vocabulary and Fluency Practice	5-10 minutes	• Teach Appropriate **Vocabulary** • Build **Fluency** with math facts and computation	• Vocabulary Word Cards • Computation Fluency Masters
Concept/Skill Development and Application	30-45 minutes	**Develop the Concept:** Concrete: Hands-on Representational: Visual Abstract: Symbolic	• Interactive Learning • Visual Learning Bridge • Guided Practice
Independent Practice and/or Small Group: Reteach or Extend	15-20 minutes	• Students **practice concept** independently as appropriate • Reteach with small groups of students who need extra support/scaffolding • Provide extension opportunities based on that concept/skill for students who have shown mastery of the concept/skill	• Problems from Independent Practice and Problem Solving • Practice, Reteach, and Enrichment pages • Differentiated Center materials • Math Diagnosis and Intervention System
Assessment	Time Varies	• **Monitor progress** towards mastery of grade-level core standards	• **Teacher Observation** • Independent Assignments • District and School CFAs • Topic Tests • Progress Monitoring

(**Bolded** items should be part of a daily math lesson.)

5th Grade
Year-at-a-Glance 2013-2014

Month	MATH CONCEPTS	TOPICS from EnVision	CFA and CBM ASSESSMENT DATES
August (10 days)	• **Numeration**	Topic 1	
September (20 days)	• **Adding and Subtracting Whole Numbers and Decimals** • **Multiplying Whole Numbers**	Topic 2 Topic 3	M-COMP & M-CAP
October (21 days)	• **Dividing by 1-Digit Divisors** • **Dividing by 2-Digit Divisors**	Topic 4 Topic 5	
November (16 days)	• **Variables and Expression** • **Multiplying and Dividing Decimals**	Topic 6 Topic 7	CFA #1 - Nov. 8
December (15 days)	• **Multiplying and Dividing Decimals** • **Shapes**	Topic 7 Topic 8	
January (19 days)	• **Fractions and Decimals** • **Adding and Subtracting Fractions and Mixed Numbers** • **Multiplying Fractions and Mixed Numbers**	Topic 9 Topic 10 Topic 11	M-COMP & M-CAP CFA #2 – Jan. 31
February (18 days)	• **Adding and Subtracting Fractions and Mixed Numbers** • **Multiplying Fractions and Mixed Numbers**	Topic 10 Topic 11	
March (20 days)	• **Perimeter and Area** • **Solids** • **Measurement Units, Time, and Temperature**	Topic 12 Topic 13 Topic 14	CFA #3 - Mar. 28
April (18 days)	• **Equations and Graphs**	Topic 17	
May/June (21 Days)	• **Graphs and Data**	Topic 18	M-COMP & M-CAP CFA #4 - May 16

Utah Core State Standards can be located at:
http://www.schools.utah.gov/fsp/College-and-Career-Ready/Meetings/2012-Spriing-Directors/Utah-Math-Core-Standards.aspx

AUGUST/ SEPTEMBER (30 days)

TOPIC 1 – NUMERATION

TOPIC 2 – ADDING AND SUBTRACTING WHOLE NUMBERS AND DECIMALS

TOPIC 3- MULTIPLYING WHOLE NUMBERS

Building Classroom Routine, Beginning of Year Assessment

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
ASSESS		Beginning of Year Testing/Placement Testing	"Placement Test Master" (from Topic 1 in printable resources: Comprehensive pg. 53-58)	**digits:** The symbols used to write a number: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 value: the place of a digit in a number tells you the **value:** The number a digit represents, which is determined by the position of the digit. **standard form:** A way to write a number showing only its digits. e.g.: 2,613 **expanded form:** A number written as the sum of the values of its digits. e.g.: 2,000 + 400 +70 +6
REVIEW			Beginning of year review (teacher discretion)	
REVIEW		**Topic 1:** 1-1: Place Value	(Yellow highlight indicates lessons are not grade-level core.)	
REVIEW		1-2: Comparing and Ordering Whole Numbers		
CORE	**5.NBT.3** Read, write, and compare decimals to thousandths. **a:** Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 ×	1-3: Decimal Place Value		

	(1/1000).			**word form** A number written in words. e.g.: four thousand, six hundred, thirty-two **equivalent decimals:** Decimal numbers that have equivalent value. e.g. 3.5 =3.50
CORE	**5.NBT.3, 5.NBT.3.a** **5.NBT.3.b Compare** two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	1-4: Comparing and Ordering Decimals		
ASSESS		Topic 1 Assessment		

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
ASSESS	M-CBM	M-COMP & M-CAP		SEPTEMBER 5 - 28
REVIEW		**Topic 2:** 2-1: Mental Math		**commutative property:** Numbers can be added in any order and the sum remains the same.
CORE	**5.NBT.4.** Use place value understanding to round decimals to any place.	**Topic 2:** 2-2: Rounding Whole Numbers		

		and Decimals	
REVIEW		2-3: Estimating Sums and Differences	
REVIEW		2-4 Problem Solving: Draw a Picture and Write an Equation	Reviews 4.OA.3
REVIEW		2-5: Adding and Subtracting	Reviews 4.NBT.4
CORE	**5.NBT.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.	CC 2-6a Modeling Addition and Subtraction of Decimals	-New materials available through SuccessNet
CORE	**5.NBT.7**	2-6: Adding Decimals	
CORE	**5.NBT.7**	2-7: Subtracting Decimals	
CORE	**5.NBT.7**	2-8: Problem Solving: Multiple-Step Problems	

associative property : Addends can be regrouped and the sum remains the same.

compensation: Adding and subtracting the same number to make the sum or difference easier to find.

compatible numbers: Numbers that are easy to compute mentally.

rounding: Replacing a number with a number that tells about how many or how much.

ASSESS		Topic 2 Assessment		
REVIEW		**Topic 3:** 3-1: Multiplication Properties		**commutative property of multiplication:** Factors can be multiplied in any order and the product remains the same. **associative property of multiplication:** Factors can be regrouped and the product remains the same. **identity property of multiplication:** The product of any number and one is that number. **zero property of multiplication:** The product of any number and zero is zero. **factors:** The numbers multiplied together to find a product. **product :** The answer to a multiplication problem. **multiple :** The product of any two whole numbers.
CORE	**5.NBT.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.	3-2: Using Mental Math to Multiply		
CORE	**5.NBT.5.** Fluently multiply multi-digit whole numbers using the standard algorithm.	3-3: Estimating Products		
CORE	**5.NBT.5**	3-4: Multiplying by 1-Digit Numbers		
CORE	**5.NBT.5**	3-5: Multiplying 2-Digit by 2-Digit Numbers		
CORE	**5.NBT.5**	3-6: Multiplying Greater Numbers		
CORE	**5.NBT.2**	3-7: Exponents		
CORE	**5.NBT.5**	3-8: Problem		

		Solving: Draw a Picture and Write an Equation		**overestimate:** An estimate that is greater than the exact answer.
ASSESS		Topic 3 Assessment		**underestimate:** An estimate that is less than the exact answer. **power:** "1. The value of a number or quantity raised to some exponent 2. Another name for exponent" **squared:** A number multiplied by itself, or raised to the second power. The square of three is nine; the square of nine is eighty-one. **cubed :** To raise to the third power. **base:** A number that is multiplied by itself the number of times shown by an exponent. ex.: in 5^, the 5 is the base **exponent:** A number that tells how many times the base is used as a factor. **exponential notation:** A way to write a number using a base and an exponent. **expanded form:** A way to write a number

				that shows the place value of each digit. ex.: 3,000 + 500 + 60 + 2 **standard form:** A common way of writing a number with commas separating groups of three digits starting from the right. ex.: 3,458 **distributive property:** Multiplying a sum (or difference) by a number is the same as multiplying each number in the sum (or difference) by the number and adding (or subtracting) the products. **partial products :** Products found by breaking one of two factors into ones, tens, hundreds, and so on, and then multiplying each of these by the other factor.

OCTOBER (21 days)

TOPIC 4 – DIVIDING BY 1-DIGIT DIVISORS

TOPIC 5 - DIVIDING BY 2-DIGIT DIVISORS

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
CORE	**5.NBT.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.	**Topic 4:** 4-1: Dividing Multiples of 10 and 100		**dividend :** The number to be divided **divisor :** The number used to divide another number. **quotient:** The answer to a division problem.
CORE	**5.NBT.6.**	4-2: Estimating Quotients		
CORE	**5.NBT.6**	4-3: Problem Solving: Reasonableness		
CORE	**5.NBT.6**	4-4: Connecting Models and Symbols		
CORE	**5.NBT.6**	4-5: Dividing by 1-Digit Divisors		
CORE	**5.NBT.6**	4-6: Zeros in the Quotient		
REVIEW		4-7: Understanding Factors	Reviews 4.OA.4	

REVIEW		4-8: Prime and Composite Numbers	Reviews 4.OA.4	
CORE	**5.NBT.6**	4-9: Problem Solving: Drawing a Picture and Write an Equation		
ASSESS		Topic 4 Assessment		
CORE	**5.NBT.6**	**Topic 5:** 5-1: Using Patterns to Divide		
CORE	**5.NBT.6**	5-2: Estimating Quotients with 2-Digit Divisors		
CORE	**5.OA.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. *For example, 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.*	CC 5-3a: Connecting Models and Symbols		
CORE	**5.NBT.6**	5-3: Problem Solving:		

		Multiple-Step Problems		
CORE	**5.NBT.6**	5-4: Dividing by Multiples of 10		
CORE	**5.NBT.6**	5-5: 1-Digit Quotients		
CORE	**5.NBT.6**	5-6: 2- Digit Quotients		
CORE	**5.NBT.6**	5-7: Estimating and Dividing with Greater Numbers		
CORE	**5.NBT.6**	5-8: Problem Solving: Missing or Extra Information		
ASSESS		Topic 5 Assessment		

NOVEMBER & DECEMBER (16 days & 15 days)

TOPIC 6 – VARIABLES AND EXPRESSIONS
TOPIC 7 - MULTIPLYING AND DIVIDING DECIMALS
TOPIC 8 - SHAPES

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
CORE	**5.OA.2** Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*	**Topic 6:** 6-1: Variables and Expressions		**variable**: A symbol or letter that stands for a number. **algebraic expression :** An expression with variables **order of operations:** The order in which operations are done in calculations. Work inside parentheses is done first. next, terms with exponents are evaluated. Then multiplication and division are done in order from left to right, and finally addition and subtraction are done in order from left to right. **sequences:** an ordered list of terms **corresponding terms:** two terms that are in the same position
CORE	**5.NBT.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.	6-2: Patterns and Expressions	Extends 5.OA.2	
CORE	**5.OA.2**	6-3: More Patterns and Expressions		
CORE	**5.OA.2**	CC 6-4a Patterns: Extending Tables		

CORE	**5.OA.1** Use order of operations to solve problems	6-4: Distributive Property		
CORE	**5.OA.1**	6-5: Order of Operations		
CORE	**5.OA.1**	CC 6-6a Evaluating Expressions		
CORE	**5.OA.3**	CC 6-6b Addition and Subtraction Expressions		
CORE	**5.OA.2**	CC 6-6c Multiplication and Division Expressions		
REVIEW		6-6: Problem Solving: Act It Out and Use Reasoning	Reviews 4.OA.3	
ASSESS		Topic 6 Assessment		
ASSESS	CFA #1	Topics 1, 2, 3, 4, 5		Completed by November 8

CORE	**5.NBT.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. **5.NBT.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.	**Topic 7:** 7-1: Multiplying Decimals by 10, 100, or 1,000		
CORE	**5.NBT.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.	7-2: Multiplying a Decimal by a Whole Number		
CORE	**5.NBT.7.**	7-3: Estimating the Product of a Decimal and a Whole Number		
CORE	**5.NBT.7.**	CC 7-4a Number Sense: Decimal Multiplication		
CORE	**5.NBT.7.**	CC 7-4b Models for Multiplying		

		Decimals	
CORE	**5.NBT.7.**	7-4: Multiplying Two Decimals	
CORE	**5.NBT.2, 5.NBT.7.**	7-5: Dividing Decimals by 10, 100, or 1,000	
CORE	**5.NBT.7.**	CC 7-6a Number Sense: Decimal Division	
CORE	**5.NBT.7.**	7-6: Dividing a Decimal by a Whole Number	
CORE	**5.NBT.7.**	7-7: Estimation: Decimals Divided by a Whole Number	
CORE	**5.NBT.7.**	7-8: Dividing a Decimal by a Decimal	
REVIEW		**Topic 7:** 7-9: Problem Solving: Multiple-Step Problems	Reviews 4.OA.3

ASSESS		**Topic 7:** Assessment		
REVIEW		**Topic 8:** 8-1: Basic Geometric	Reviews 4.G.1	**polygon:** A closed plane figure made up of line segments. **regular polygon**: A polygon that has sides of equal length and angles of equal measure. **triangle:** A polygon with 3 sides. **quadrilateral:** A polygon with 4 sides. **pentagon:** A polygon with 5 sides. **hexagon**: A polygon with 6 sides. **octagon:** A polygon with 8 sides. **equilateral triangle** A triangle in which all sides are the same length. **isosceles triangle**: A triangle that has at least two equal sides. **scalene triangle**: A triangle in which no sides
REVIEW		8-2: Measuring and Classifying Angles	Reviews 4.G.1, 4.MD.5	
CORE	**5.G.3** Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles. **5.G.4** Classify two-dimensional figures in a hierarchy based on properties.	8-3: Polygons		
CORE	**5.G.3, 5.G.4**	8-4: Triangles		
CORE	**5.G.3, 5.G.4**	8-5: Quadrilaterals		
CORE	**5.G.3, 5.G.4**	CC- 8-6a Special Quadrilaterals		
CORE	**5.G.4**	CC 8-6b Classifying Quadrilaterals		

CORE	**5.G.3, 5.G.4**	8-6: Problem Solving: Make and Test Generalizations		are the same length. **right triangle:** A triangle in which there is one right angle.
ASSESS		**Topic 8:** Topic 8 Assessment		**acute triangle:** A triangle with three acute angles. **obtuse triangle:** A triangle in which there is one obtuse angle. **parallelogram:** A quadrilateral in which opposite sides are parallelogram. **trapezoid:** A quadrilateral with only one pair of parallel sides. **rectangle:** A quadrilateral with 4 right angles. **rhombus:** A quadrilateral in which opposite sides are parallel and all sides are the same length. **square:** A quadrilateral with 4 right angles and sides the same length. **generalization:** A general statement. Example: A generalization about rectangles

				applies to all rectangles. **polygon:** A closed plane figure made up of line segments. **regular polygon**: A polygon that has sides of equal length and angles of equal measure. **triangle:** A polygon with 3 sides. **quadrilateral:** A polygon with 4 sides. **pentagon:** A polygon with 5 sides. **hexagon**: A polygon with 6 sides. **octagon:** A polygon with 8 sides. **equilateral triangle** A triangle in which all sides are the same length. **isosceles triangle**: A triangle that has at least two equal sides. **scalene triangle**: A triangle in which no sides are the same length. **right triangle:** A triangle in which there is

				one right angle. **acute triangle:** A triangle with three acute angles. **obtuse triangle:** A triangle in which there is one obtuse angle. **parallelogram:** A quadrilateral in which opposite sides are parallelogram. **trapezoid:** A quadrilateral with only one pair of parallel sides. **rectangle:** A quadrilateral with 4 right angles. **rhombus:** A quadrilateral in which opposite sides are parallel and all sides are the same length. **square:** A quadrilateral with 4 right angles and sides the same length.

JANUARY & FEBRUARY (19 days & 18 days)

Topic 9 - Fractions and Decimals
Topic 10 - Adding and Subtracting Fractions and Mixed Numbers
Topic 11- Multiplying Fractions and Mixed Numbers

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
ASSESS	M-CBM	M-COMP & M-CAP		
REVIEW		**Topic 9:** 9-1: Meanings of Fractions	Reviews 3.NF.1	**Equivalent Fractions**: Fractions that name the same region, part of a set, or part of a segment. **Simplest Form:** A fraction in which the numerator and denominator have no common factors other than 1. **Benchmark Fraction:** Fractions that are commonly used for estimation: 1/4, 1/3, 1/2, 2/3, and 3/4. **Proper Fraction:** A fraction
CORE	**5.NF.3.** Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ 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. For example, 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. 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?	9-2: Fractions and Division		
CORE	**5.NF.3**. Interpret a fraction as division of the numerator by the denominator (*a*/*b* = *a* ÷ *b*).	9-3: Mixed Numbers and Improper Fractions		

	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. *For example, 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. 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?*		
REVIEW		9-4 Equivalent Fractions	Reviews 4.NF.1
REVIEW		9-5 Comparing and Ordering Fractions and Mixed Numbers	Reviews 4.NF.2
REVIEW		9-6 Common Factors and Greatest Common Factor	Reviews 4.OA.4
CORE	**5.NF.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. For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < ½.	9-7 Fractions in Simplest Form	
CORE	**5.NBT.3.** Read, write, and compare decimals to thousandths.	9-8 Tenths and Hundredths	

whose numerator is less than its denominator.

Improper Fraction: A fraction whose numerator is greater than or equal to its denominator.

Mixed Number: A number that has a whole number and a fraction.

	• Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). • Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.			
CORE	**5.NBT.3.a**	9-9 Thousandths		
REVIEW		9-10 Fractions and Decimals on the Number Line		
CORE	**5.NF.2**	9-11 Problem Solving: Writing to Explain		
ASSESS	CFA #2	Topics 6, 7, 8, and 9		Completed by January 31
CORE	**5.NF.1, 5.NF.2**	**Topic 10:** CC 10-1a Estimating Sums and Differences of Fractions		**Common Multiple:** A number that is a factor of two or more given numbers. **Least Common Multiple (LCM)**: The least number that is a common multiple of two or more numbers.
CORE	**5.NF.2**	10-1 Adding and Subtracting Fractions with Like Denominators		

CORE	**5.NF.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. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)	10-2 Common Multiples and Least Common Multiple		**Common Denominator:** A number that is the denominator of two or more fractions. **Least Common Denominator (LCD)**: The least common multiple of the denominators of two or more fractions.
CORE	**5.NF.1, 5.NF.2**	10-3 Adding Fractions with Unlike Denominators		
CORE	**5.NF.1, 5.NF.2**	10-4 Subtracting Fractions with Unlike Denominators		
CORE	**5.NF.1, 5.NF.2**	CC 10-5a Modeling Addition and Subtraction of Mixed Numbers		
CORE	**5.NF.1, 5.NF.2**	10-5 Adding Mixed Numbers		
CORE	**5.NF.1, 5.NF.2**	10-6 Subtracting Mixed Numbers		
CORE	**5.NF.1, 5.NF.2**	CC 10-7a More Adding and Subtracting Mixed Numbers		
CORE	**5.NBT.5**.	10-7 Problem		

		Solving: Try, Check, and Review		
ASSESS		Topic Assessment		
CORE	**5.NF.4, 5.NF.4.a, 5.NF.6** 4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product (**a**/**b**) x **q** as **a** parts of a partition of **q** into **b** equal parts; equivalently, as the result of a sequence of operations **a** X **q** ÷ **b**. For example, use a visual fraction model to show (2/3)"a"4"="8/3, and create a story context for this equation. Do the same with (2/3) a X (4/5) = 8/15. (In general, (a/b) X (c/d) = ac/bd.) **5.NF.6** 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.	**Topic 11:** 11-1: Multiplying Fractions and Whole Numbers		**Scaling:** Comparing the actual length of an object to a drawing of the object. **Resizing:** When you increase or decrease the size of a object but it shapes remains similar. **Reciprocals:** A given number is a reciprocal of another number if the product of the numbers is one. Example: The numbers 1/8 and 8/1 are reciprocals because 1/8 x 8/1 = 1.
CORE	**5.NF.5.a.**	CC- 11-2a Estimating Products		
CORE	**5.NF.4, 5.NF4.a, 5.NF.6**	11-2: Multiplying Two Fractions		
CORE	**5.NF.4.b** Explaining why multiplying a given number by a fraction greater than 1 results in a 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	CC 11-3a Area of Rectangle		

	=(n×a)/(n×b) to the effect of multiplying a/b by 1.		
CORE	**5.NF.4, 5.NF.4.a, 5.NF.6**	11-3: Multiplying Mixed Numbers	
CORE	**5.NF.5.b, 5.NF.5** Explaining why multiplying a given number by a fraction greater than 1 results in a 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×a)/(n×b) to the effect of multiplying a/b by 1.	CC 11-4a Multiplication as Scaling	
CORE	**5.NF.7** Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. **5.NF.7.b** Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4"÷"(1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4"÷"(1/5) = 20 because 20 × (1/5) = 4.	11-4: Relating Division to Multiplication of Fractions	
CORE	**5.NF.7** **5NF.7.a** 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) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3. **5.NF.7.c** 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. For example, how much	CC 11-5a Dividing Unit Fractions by Non-Zero Whole Numbers	

	chocolate will each person get if 3 people share 1/2 lb. of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?			
CORE	**4.OA.2**	11-5: Problem Solving: Draw a Picture and Write an Equation	Reviews 4.OA.2	
ASSESS		Topic 11 Assessment		

MARCH & APRIL (20 days & 18 days)

TOPIC 12 - PERIMETER AND AREA

TOPIC 13 - SOLIDS

TOPIC 14 - MEASUREMENT UNITS, TIME, AND TEMPERATURE

TOPIC 17 - EQUATIONS AND GRAPHS

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
CORE	**5.MD.1** Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	**Topic 12:** 12-1: Using Customary Units of Length		
CORE	**5.MD.1**	12-2: Using Metric Units of Length		
REVIEW		12-3: Perimeter	Reviews 4.MD.1	
REVIEW	**4.MD.3**	12-4: Area of Squares and Rectangles		
REVIEW	**4.MD.3**	12-5: Area of Parallelograms	Reviews 4.MD.3	
ASSESS		Topic 12 Assessment		

Not in grade-level core		**Topic 13:** 13-1: Solids 13-2: Relating Shapes and Solids 13-3: Surface Area		**Three-dimensional shape**: Any geometric solid **Face:** A flat surface of a solid that does not roll.
CORE	**5.MD.3.a** 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.	13-4: Views of Solids		**Cube:** A solid figure with six congruent squares as its faces.
CORE	**5.MD.3** Recognize volume as an attribute of solid figures and understand concepts of volume measurement. **5.MD.3.b** A solid figure that can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units. **5.MD.4** Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft., and improvised units. **5.MD.5a** Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. 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.	CC 13-5a Models and Volumes		**Edges:** A line segment where two faces of a solid figure meet. **Vertices (vertex):** The point where two rays meet to form an angle. The points where the sides of a polygon meet. The points where three or more edges meet in a solid figure that does not roll. The pointed part of a cone. **Prism:** A solid figure with two congruent parallel bases and faces that are parallelograms.
CORE	**5.MD.3, 5.MD.3.b., 5.MD.5, 5.MD.5.a, 5MD.5.b** Apply the formulas $V = l \times w \times h$ and $V = b \times h$	13-5: Volume		**Cylinder:** A solid figure with two congruent circular bases.

	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.			**Cone:** A solid figure with a base that is a circle and a curved surface that meets at a point. **Pyramid:** A solid figure whose base is a polygon and whose faces are triangles with a common vertex. **Volume:** The number of cubic units needed to fill a solid figure. **Cubic Unit:** The volume of a cube that measures 1 unit on each edge.
CORE	**5.MD.5.c** Recognize volume as additive. **5.MD.5.b** Find volumes of solid 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.	CC 13-6a Combining Volume		
CORE	**5.MD.5, 5.MD.5.c**	13-6: Irregular Shapes and Solids		
CORE		13-7: Problem Solving: Use Objects and Solve a Simpler Problem		
ASSESS		Topic 13 Assessment		
CORE	**5.MD.1** Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	**Topic 14:** 14-1: Customary Units of Capacity		**Line Plot:** A display of data along a number line.

CORE	**5.MD.1**	14-2: Metric Units of Capacity		**Outlier:** A number in a data set that is very different from the rest of the numbers. **Survey:** Collecting information by asking a number of people the same question and recording their answers, **Data:** Pieces of collected information. **Sample:** A representative part of a larger group. **Frequency Table:** A table used to show the number of times something occurs.
CORE	**5.MD.1**	14-3: Units of Weight and Mass		
CORE	**5.MD.1**	14-4: Converting Customary Units		
CORE	**5.MD.1**	14-5: Converting Metric Units		
Not in grade-level core		**Topic 14:** 14-6: Elapsed Time 14-7: Elapsed Time in Other Units 14-8: Temperature Change 14-9: Problem Solving: Make a Table		
ASSESS		Topic 14 Assessment		
ASSESS	CFA #3	Topics 10, 11, 12, 13, 14		Completed by March 28
Not in grade-level core		**Topic 17:** 17-1: Understanding Integers		

CORE	**5.G.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 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). **5.G.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.	17-2: Ordered Pairs		
CORE	**5.G.1**	17-3: Distances on a Number Line		
CORE	**5.G.1**	CC 17-4a Distances on the Coordinate Plane		
CORE	**5.G.1, 5.G.2** **5.OA.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. For example, 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.	CC 17-4b Patterns and Graphing		

CORE	**5.G.1, 5.G.2, 5.OA.3**	CC 17-4c More Patterns and Graphing		
Not in grade-level core		17-4: Graphing Equations 17-5: Problem Solving: Work Backward		
ASSESS		Topic 17 Assessment		

MAY (21 days)

Topic 18: Graphs and Data

REVIEW, CORE, EXTEND, ASSESS	COMMON CORE STANDARD	ENVISION LESSON	NOTES	VOCABULARY
ASSESS	M-CBM	M-COMP & M-CAP		
Not in grade-level core		**Topic 18:** 18-1: Data from Surveys		**Coordinate Grid:** A grid used to show ordered pairs **X-Axis:** A horizontal line that includes both positive and negative numbers. **Y-Axis:** A vertical line that includes both positive and negative numbers. **Origin:** The point where the two axes of a coordinate plane intersect. The origin is represented by the ordered pair (0,0) **Ordered Pair:** A pair of numbers
CORE	**5.MD.2** Represent and interpret data. 2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, 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.	**Topic 18:** 18-2: Bar Graphs and Picture Graphs		
CORE	**5.MD.2**	**Topic 18:** CC 18-2a Making Line Plots		
CORE	**5.MD.2**	**Topic 18:** CC 18-2b Measurement Data		
Not in		**Topic 18:**		

grade-level core		18-3: Line Graphs 18-4: Stem-and-Leaf Plots 18-5: Histograms 18-6: Circle Graphs 18-7: Mean 18-8: Median, Mode, and Range 18-9: Problem Solving: Make a Graph		that names a point on a coordinate grid. **X-Coordinate:** The first number in an ordered pair, which names the distance to the right or left from the origin along the x-axis. **Y-Coordinate:** The second number in an ordered pair, which names the distance up or down from the origin along the y-axis.
ASSESS		Topic 18 Assessment		
ASSESS	CFA #4	Topics 17 & 18		Completed by May 16

The Core and MORE Instruction Checklist

The CCSS Standard:
The Envision Lesson:

EXPLICIT INSTRUCTION I do it, We do it, Y'all do it, You do it	ENGAGEMENT All Students Saying, Writing, Doing
PROACTIVE PLANNING	**VOCABULARY WORDS**
The following questions should be considered for each part of the lesson: - What are the predictable failures for this lesson? (conceptually and behaviorally) - How will you prevent these failures? - What will you do to maintain consistency? - How will you know if it is working?	

❒ cumulative review ❒ higher-order thinking, ask why ❒ have students visualize, draw, model ❒ real-world contexts
❒ math vocabulary ❒ milk the data ❒ incorporate measurement ❒ number sense

ANTICIPATORY SET	(5 MINUTES)
Choose from the many options: ❑ *Review What You Know* ❑ *Interactive Math Stories* ❑ Math Journaling ❑ *Spiral Review* ❑ *Problem of the Day*	❑ Choral Responses ❑ Partner Responses ❑ Written Responses ❑ Random call on students (No hand raising)

BUILDING A FOUNDATION	(5-10 MINUTES)
The Language of Math: Vocabulary instruction 1- How will you explicitly teach new vocabulary?	❑ Choral Responses ❑ Partner Responses ❑ Written Responses

2- How will you provide multiple opportunities for vocabulary to be used in context?	❑ Random call on students (No hand raising)
WHOLE GROUP INSTRUCTION: Concrete	(10-15 MINUTES)
Develop the Concept: Interactive Learning (Hands-on) 1- What materials/manipulatives will you need? 2- Will each student have enough materials to model the problems? -If they do not, will you have them pair up or adjust the problems? 3- Where will students record their work during this phase of the lesson? 4- How will you check for understanding during this phase of the lesson? 5- Will you use the *Extend?* 6- Will you use the *Link to Investigations*?	❑ Choral Responses ❑ Partner Responses ❑ Written Responses ❑ Paper ❑ Math Journal ❑ Individual Whiteboards ❑ Student page from the topic pouch ❑ Random call on students (No hand raising)
SCAFFOLDED INSTRUCTION: Representational	(15-20 MINUTES)
Develop the Concept: Visual The *Visual Learning* Bridge, at the top of each lesson, is critical to connecting the Concrete to the Representational and then to the Abstract. Look for *Prevent Misconceptions*. Choose one option: ❑ *Visual Learning Animation* (on-line or CD) ❑ Overhead Transparency ❑ *Visual Learning* Bridge in Student textbook ❑ Document camera 1- Check for understanding during the *Guided Practice*. 2- Where will students record their work? 3- If most students are struggling during this phase of the lesson, what will you do? ❑ Reteach explicitly with various problems from the *Guided* or *Independent Practice* or the *Reteaching* sets at the back of the *Topic Guide*. ❑ Use lessons from *Meeting Individual Needs*. ❑ Use the *Differentiated Instruction: Intervention* lesson.	❑ Choral Responses ❑ Partner Responses ❑ Written Responses ❑ Random call on students (No hand raising)

4- Will some of the problems from the *Problem Solving* be included in your *Guided Practice* or *Independent Practice*?	

INDEPENDENT PRACTICE: ABSTRACT (15-20 MINUTES)

Independent Practice and *Problem Solving* 1- Which problems will you assign? 2- Where will students record their work? 3- Will you collect, grade and record the independent practice? 4- How will you check for understanding? 5- If students do not finish the problems assigned for independent practice, will these problems be homework?	❑ Choral Responses ❑ Partner Responses ❑ Written Responses ❑ Random call on students (No hand raising)

FORMATIVE ASSESSMENT (5-10 MINUTES)

Concept Understanding

- ❑ PLC/Grade-Level common formative assessment
- ❑ *Quick Check* (in *Teacher Resource Masters)*
- ❑ *Writing to Explain*
- ❑ *Mind Game Quiz Show*
- ❑ Student buzzers or AverPens

Formative Assessment Tools

- ❑ *Topic tests* (online or in text)
- ❑ *Item Analysis for Diagnosis and Intervention*
- ❑ *Free-Response Test*
- ❑ *Performance Assessment*
- ❑ CBM-Math
- ❑ PLC/Grade-Level common formative assessment
- ❑ Other assessment tool

End of each Quarter:

- ❑ *District Common Formative Assessment* (CFA)

CENTER ACTIVITIES (15 - 45 MINUTES)

*This part of the lesson is beneficial for providing engaging activities while the teacher works with small groups of students who need supplemental instruction.

Choose from the many options:

- ❑ *Differentiated Instruction*
- ❑ *Math Project*
- ❑ *Meeting Individual Needs*
- ❑ Teacher-led interventions
- ❑ *Leveled Homework*
- ❑ Online games from *Envision Digital Premium*

1- Will you do these activities and if so, when?
2- When will you give directions on how to play?
3- What materials will be needed for the activities?
4- Will you work with the Intervention group?
5- How will you determine which activities will be assigned to each group of students?

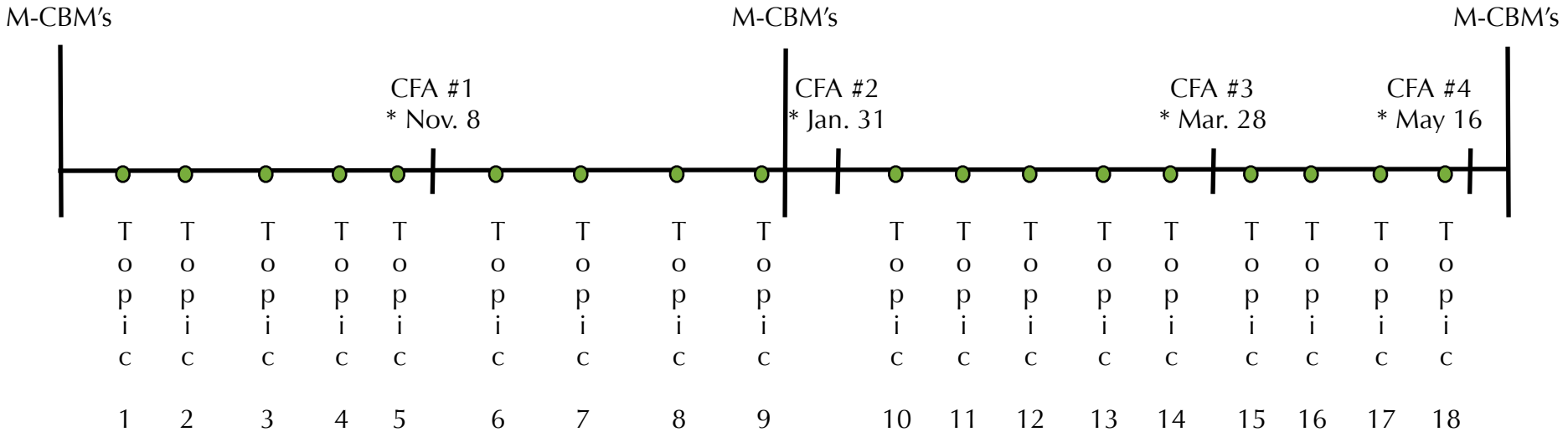
HOMEWORK

Choose from the many options:

- ❑ Finish *Independent Practice* and/or *Problem Solving* assignment
- ❑ *Spiral Review*
- ❑ *Quick Check*
- ❑ *Leveled Homework*
- ❑ Online games from *Envision Digital Premium*
- ❑ Online tutorials from *Envision Digital Premium*

1- Will you collect and grade homework?
2- Will you discuss homework? Is so, when?

5th grade
Math Assessment Continuum



● = optional assessment

* Please submit quarterly CFA scores to your school principal by this date.

Grade 5 Overview

Operations and Algebraic Thinking

- **Write and interpret numerical expressions.**
- **Analyze patterns and relationships.**

Number and Operations in Base Ten

- **Understand the place value system.**
- **Perform operations with multi-digit whole numbers and with decimals to hundredths.**

Number and Operations—Fractions

- **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.**

Measurement and Data

- **Convert like measurement units within a given measurement system.**
- **Represent and interpret data.**
- **Geometric measurement: Understand concepts of volume and relate volume to multiplication and to addition.**

Geometry

- **Graph points on the coordinate plane to solve real world and mathematical problems.**
- **Classify two-dimensional figures into categories based on their properties.**

MATHEMATICAL PRACTICES

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

Operations and Algebraic Thinking 5.OA

Write and interpret numerical expressions.

1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*

Analyze patterns and relationships.

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. *For example, 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.*

Number and Operations in Base Ten 5.NBT

Understand the place value system.

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.
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.
3. Read, write, and compare decimals to thousandths.
   a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).
   b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
4. Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5. Fluently multiply multi-digit whole numbers using the standard algorithm.
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.
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.

Number and Operations—Fractions 5.NF

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

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. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*
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. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.*

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

3. Interpret a fraction as division of the numerator by the denominator *(a/b = a ÷ 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. *For example, 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. 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?*
4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
   a. Interpret the product *(a/b) × q* as a parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)*
   b. 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.
5. Interpret multiplication as scaling (resizing), by:
   a. 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.
   b. Explaining why multiplying a given number by a fraction greater than 1 results in a 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 × a)/(n × b)* to the effect of multiplying *a/b* by 1.
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.
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.[24]

[24] Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.

a. 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) ÷ 4, and use a visual* fraction model to show the quotient. Use the relationship between multiplication and division to explain that *(1/3) ÷ 4 = 1/12* because *(1/12) × 4 = 1/3*.

b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*

c. 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. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*

Measurement and Data 5.MD

Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Represent and interpret data.

2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, 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.*

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

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

a. 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.

b. 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.

4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

a. 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.

b. 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.

c. Recognize volume as additive. Find volumes of solid 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.

Geometry 5.G

Graph points on the coordinate plane to solve real-world and mathematical problems.

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 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).

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.

Classify two-dimensional figures into categories based on their properties.

1. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*

2. Classify two-dimensional figures in a hierarchy based on properties.