

COMMON CORE Standards Plus[®]



Mathematics

GRADE 4

Teacher Edition



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ISBN: 978-1-61032-303-1

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Common Core Standards Plus® - Mathematics Grade 4

Table of Contents

Resources:	Page(s)
What is Common Core Standards Plus?	5
Delivering the Lessons	6-7
Pacing the Materials	8-11
Suggested Pacing.....	8-9
Project-Based Learning Pacing.....	10-11
Lesson Index	12-19
<i>The Lesson Index lists the specific standard(s) addressed, the focus, and the page numbers for every Common Core Standards Plus Lesson, Assessment (Evaluation), Performance Lesson, and Integrated Project.</i>	

Common Core Standards Plus Domains/Topics:	Page(s)
Number and Operations in Base Ten (<i>Standards: 4.NBT.1-4.NBT.6</i>).....	23-108
Academic Vocabulary.....	26
Skills Trace.....	27-29
Number and Operations in Base Ten Lessons 1-12 & Assessments (Evaluations) 1-3.....	30-59
<i>Performance Lesson 1</i>	60-63
Number and Operations in Base Ten Lessons 13-28 & Assessments (Evaluations) 4-7.....	64-103
<i>Performance Lesson 2</i>	104-108
Operations and Algebraic Thinking (<i>Standards: 4.OA.1-4.OA.5</i>).....	109-206
Academic Vocabulary.....	113
Skills Trace.....	114-116
Operations and Algebraic Thinking Lessons 1-24 & Assessments (Evaluations) 1-6.....	118-177
<i>Performance Lesson 3</i>	178-183
Operations and Algebraic Thinking Lessons 25-32 & Assessments (Evaluations) 7-8.....	184-203
<i>Performance Lesson 4</i>	204-206

Common Core Standards Plus® - Mathematics Grade 4

Table of Contents

Common Core Standards Plus Domains/Topics (continued):	Page(s)
Integrated Project #1 – <i>It's a Number's Games</i>207-217 <i>(Prerequisite Domains/Topics: Number and Operations in Base Ten, Operations and Algebraic Thinking)</i>	
Measurement and Data (Standards: 4.MD.1-4.MD.7).....221-317	
Academic Vocabulary.....225-226	
Skills Trace.....226-229	
Measurement and Data Lessons 1-12 & Assessments (Evaluations) 1-3.....230-259	
Performance Lesson 5260-264	
Measurement and Data Lessons 13-16 & Assessment (Evaluation) 4.....266-275	
Performance Lesson 6276-278	
Measurement and Data Lessons 17-20 & Assessment (Evaluation) 5.....280-289	
Performance Lesson 7290-292	
Measurement and Data Lessons 21-28 & Assessments (Evaluations) 6-7.....294-313	
Performance Lesson 8314-317	
Geometry (Standards: 4.G.1-4.G.3).....319-362	
Academic Vocabulary.....322	
Skills Trace.....323-325	
Geometry Lessons 1-8 & Assessments (Evaluations) 1-2.....326-345	
Performance Lesson 9346-349	
Geometry Lessons 9-12 & Assessment (Evaluation) 3.....350-359	
Performance Lesson 10360-362	
Integrated Project #2 – <i>A Place to Play</i>363-372 <i>(Prerequisite Domains/Topics: Measurement & Data and Geometry)</i>	

Common Core Standards Plus® - Mathematics Grade 4

Table of Contents

Common Core Standards Plus Domains/Topics:	Page(s)
Number and Operations – Fractions (<i>Standards: 4.NF.1-4.NF.7</i>).....	375-490
Academic Vocabulary.....	379
Skills Trace.....	380-381
Number and Operations – Fractions Lessons 1-12 & Assessments (Evaluations) 1-3.....	382-411
<i>Performance Lesson 11</i>	412-416
Number and Operations – Fractions Lessons 13-20 & Assessments (Evaluations) 4-5.....	418-437
<i>Performance Lesson 12</i>	438-440
Number and Operations – Fractions Lessons 21-28 & Assessments (Evaluations) 6-7.....	442-461
<i>Performance Lesson 13</i>	462-464
Number and Operations – Fractions Lessons 29-36 & Assessments (Evaluations) 8-9.....	466-485
<i>Performance Lesson 14</i>	486-490
Integrated Project #3 – <i>An Illustrated Guide to Equivalence</i>	491-501
(<i>Prerequisite Domains/Topics: Number and Operations - Fractions</i>)	
Grade 4 Mathematics Standards and Mathematical Practices	503-509

Common Core Standards Plus® - Mathematics Grade 4

What is Common Core Standards Plus?

Research Behind Standards Plus:

Common Core Standards Plus is produced by Learning Plus Associates, a Nonprofit Public Benefit Corporation dedicated to creating and providing solutions that increase student achievement and support teacher delivery of high-quality, effective instruction on a daily basis. The lessons are based upon the research of Effective Schools Correlates, Edward Deming's Total Quality Management (TQM), and models of effective instruction. A team of content and grade level experts wrote the Common Core Standards Plus lessons to meet the skills, concepts, depth, and rigor of the Common Core Standards.

What is Standards Plus?

Standards Plus is a set of research-based, supplemental K-8 language arts and math materials written to the Common Core Standards. These explicit direct instruction lessons were designed to teach discrete elements of the Common Core Standards.

Benefits:

- Ready-to-teach lessons and projects with very little teacher prep
- Grade level content vocabulary is taught within the context of the lessons.
- Increases student and teacher understanding of the standards
- A year's worth of daily lessons, performance lessons, and integrated projects ensure that all students have equal access to standards at every level of rigor (DOK 1-4)
- Prepares students for the state assessment

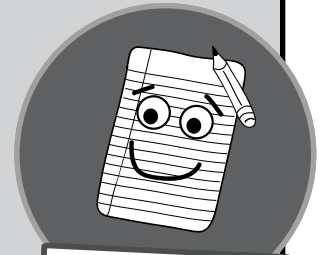
Three Types of Lessons:

Daily Lessons and Weekly Assessments (Evaluations):

(15-20 minutes daily)

There are 34 weeks of daily lessons and assessments (evaluations) written directly to the standards.

A week of instruction is comprised of **four lessons** and a **corresponding assessment**. The daily lessons are written to DOK Levels 1 and 2.



Daily Lessons & Weekly Assessments

Performance Lessons:

(3-5 days 30 minutes each day)

After one or more weeks of daily lessons written to a particular standard or topic, you will find a Performance Lesson. Performance Lessons are written to DOK Level 3.

These lessons require that students apply what they have learned and use reasoning, planning, evidence, and a higher level of thinking than the daily lessons. Many standards are assessed at this level of rigor on state assessments.

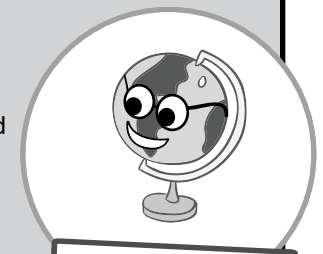


Performance Lessons

Integrated Projects:

(Multiple class sessions over several days or weeks)

Three Integrated Projects are located immediately after the supporting daily lessons, assessments, and performance lessons. Integrated Projects require that students plan, synthesize information, produce high-quality products, and present their findings. Integrated Projects are written to DOK level 4.



Integrated Projects

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Delivering the Daily Lessons



Prepare to Teach/Plan Instruction

Select the week of instruction you will be teaching. View the sample pacing on pages 8-9 or create your own pacing to match the content and standards of Standards Plus lessons to classroom instruction, district pacing guides, or benchmark information.



A week of instruction is a set of four daily lessons and a weekly assessment.



Preview the Week of Instruction (5 minutes)

Look at the teacher lesson plans for all four lessons paying particular attention to the standard(s), lesson objective, and introduction. Those three pieces of information will identify what students will learn and be able to do. Quickly scan the student page to gain an understanding of what students will be expected to do in independent practice. Repeat this process for the next three lessons and the assessment. This will give you a clear picture of how the week unfolds and will help you keep the daily lessons focused and concise.



Prepare to Teach a Daily Lesson (5 minutes)

- Read the entire teacher lesson plan.
- Identify academic vocabulary.
- Determine your instructional focus, “What do I want students to know and do by the end of today’s lesson?”
- Consider any relevant prior knowledge connections you can share with students, so they can connect the new learning to previous learning.



Teach a Daily Lesson (15-20 minutes)



1. **Project the student lesson**
2. **Read the standard(s)** aloud with students, highlighting the part of the standard being taught in today’s lesson.
3. **Read the Introduction** provided in the Teacher Edition or provide your own.
4. **Read the Instruction aloud to students.**
Focus on new academic vocabulary, teaching the concept directly, and modeling the concept for students.
5. **Read the Guided Practice** and work through the examples together with students, sharing your thoughts aloud as you work through the item(s) step-by-step.
 - Monitor the class – If students are struggling, DO NOT MOVE onto Independent Practice, continue with Guided Practice.

6. **Read the Independent Practice and/or the Directions.**
 - Continue to monitor the class to catch common errors or misconceptions and correct immediately.
 - Differentiate instruction for struggling students by assigning fewer items.
 - Prompt and praise students for making attempts.
7. **Complete the Review**
 - Review answers when all students have completed Independent Practice or when your timeframe has expired.
 - Have students correct their mistakes or improve their answers.
8. **Read the Closure**
 - Read or paraphrase the closure or have students summarize the important concepts or skills learned in the lesson.

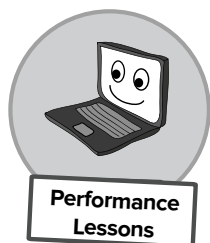
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Delivering the Lessons



Weekly Formative Assessments (Evaluations)

- Formative assessments that include items that match the week's instruction.
- Use these assessments to identify students' understanding of the concept taught and identify students for intervention.



Prepare to Teach a Performance Lesson

Allocate 30 minutes a day for 3-5 days to complete a performance lesson.

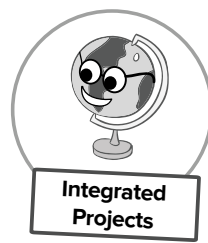
Periodically



Preview the Entire Performance Lesson (5-10 Minutes)

- Read the teacher lesson plan (1-2 pages) and student pages
- Focus on the standards listed at the top of the teacher page, the Lesson Objective, and the Overview. This information will provide a broad overview of the performance lessons.

NOTE: Performance lessons are more complex and more difficult for students than the daily lessons. **Performance lessons must be taught, not assigned.** Each performance lesson *has a large guided practice section*. This is so that the teacher can model and guide students through each component of the lesson. These lessons teach students how to successfully complete a performance task.



Prepare to Teach an Integrated Project

Multiple class sessions over several days or weeks.

3 Times a Year



Preview the Entire Integrated Project (10-15 Minutes)

- Previewing the project will provide an overview of the standards and components of the project.
- This allows the teacher to gain an understanding of how several different standards can be taught and evaluated.

NOTE: Even if you are not planning to teach a Standards Plus Integrated Project, it is helpful to view the components of the project listed in the Teacher Edition. It provides a broad look at how to integrate many topics and standards. It is a good reminder for teachers to include standards and expectations often overlooked, whether it is planning and delivering an opinion speech, or using technology to produce and publish writing as well as to interact and collaborate with others. Each project component may take up to a week or two of instruction.

Helpful Hint

To ensure all heavily-weighted standards are taught prior to state testing, you may need to teach a Performance Lesson and/or a component of an Integrated Project **in addition to** a week of Daily Lessons. **See PBL sample pacing on page 10-11 for an example.**

Common Core Standards Plus® - Mathematics Grade 4

Suggested Pacing



Standards Plus is supplemental and **does not** have to be taught in the printed order.

The pacing guide below provides instruction of the **most heavily-weighted standards in the 26 weeks prior to state testing.**

Suggested Pacing Guide

WEEK	DOMAIN/TOPIC, LESSON (L), EVALUATIONS (E)	STANDARD(S)	TE PG#	DOK
1	Number & Operations in Base Ten L1-4, E1	4.NBT.1	30-39	DOK 1-2
2	Number & Operations in Base Ten L5-8, E2	4.NBT.2	40-49	DOK 1-2
3	Number & Operations in Base Ten L9-12, E3	4.NBT.2, 4.NBT.3	50-59	DOK 1-2
Performance Lesson 1 – Understanding Numbers		4.NBT.1, 4.NBT.2, 4.NBT.3	60	DOK 3
4	Number & Operations in Base Ten L13-16, E4	4.NBT.4	64-73	DOK 1-2
5	Number & Operations in Base Ten L17-20, E5	4.NBT.5	74-83	DOK 1-2
6	Operations & Algebraic Thinking L1-4, E1	4.OA.1, 4.OA.2	118-127	DOK 1-2
7	Operations & Algebraic Thinking L5-8, E2	4.OA.2	128-137	DOK 1-2
8	Operations & Algebraic Thinking L9-12, E3	4.OA.2, 4.OA.3	138-147	DOK 1-2
9	Operations & Algebraic Thinking L13-16, E4	4.OA.3	148-157	DOK 1-2
10	Number & Operations in Base Ten L21-24, E6	4.NBT.6	84-93	DOK 1-2
11	Number & Operations in Base Ten L25-28, E7	4.NBT.6	94-103	DOK 1-2
Performance Lesson 2 – Working with Operations		4.NBT.4, 4.NBT.5, 4.NBT.6	104	DOK 3
12	Operations & Algebraic Thinking L17-20, E5	4.OA.3	158-167	DOK 1-2
13	Operations & Algebraic Thinking L21-24, E6	4.OA.4	168-177	DOK 1-2
Performance Lesson 3 – Understanding Operations		4.OA.1, 4.OA.2, 4.OA.3, 4.OA.4	178-179	DOK 3
14	Operations & Algebraic Thinking L25-28, E7	4.OA.5	184-193	DOK 1-2
15	Operations & Algebraic Thinking L29-32, E8	4.OA.5	194-203	DOK 1-2
Performance Lesson 4 – Generate & Analyze Patterns		4.OA.5	204	DOK 3
16	Number & Operations – Fractions L1-4, E1	4.NF.1, 4.NF.2	382-391	DOK 1-2
17	Number & Operations – Fractions L5-8, E2	4.NF.2	392-401	DOK 1-2
18	Number & Operations – Fractions L9-12, E3	4.NF.3a, 4.NF.3b	402-411	DOK 1-2
Performance Lesson 11 – All About Fractions		4.NF.1, 4.NF.2, 4.NF.3, 4.NF.3a-b	412-413	DOK 3
19	Number & Operations – Fractions L13-16, E4	4.NF.3c	418-427	DOK 1-2
20	Number & Operations – Fractions L17-20, E5	4.NF.3d	428-437	DOK 1-2
Performance Lesson 12 – Adding & Subtracting Fractions		4.NF.3c, 4.NF.3d	438	DOK 3
21	Number & Operations – Fractions L21-24, E6	4.NF.4a, 4.NF.4b	442-451	DOK 1-2
22	Number & Operations – Fractions L25-28, E7	4.NF.4c, 4.NF.4d	452-461	DOK 1-2
Performance Lesson 13 – Multiplying Fractions		4.NF.4, 4.NF.4a-d	462	DOK 3
23	Number & Operations – Fractions L29-32, E8	4.NF.5, 4.NF.6	466-475	DOK 1-2
24	Number & Operations – Fractions L33-36, E9	4.NF.7	476-485	DOK 1-2
Performance Lesson 14 – Fractions & Decimals		4.NF.5, 4.NF.6, 4.NF.7	486-487	DOK 3
25	Geometry L5-8, E2	4.G.2	336-345	DOK 1-2
26	Measurement & Data L13-16, E4	4.MD.3	266-275	DOK 1-2
Performance Lesson 6 – Area & Perimeter		4.MD.3	276	DOK 3

STATE TESTING BEGINS

↪ Suggested pacing continues at the top of the next page.



Daily Lessons & Weekly Assessments

Each white row represents a week of instruction.

A week of instruction includes **four daily lessons (L)** and a **weekly formative assessment /evaluation (E)**.



Performance Lessons

Each shaded row represents a performance lesson.

Performance lessons may take up to three 30-minute sessions to complete.

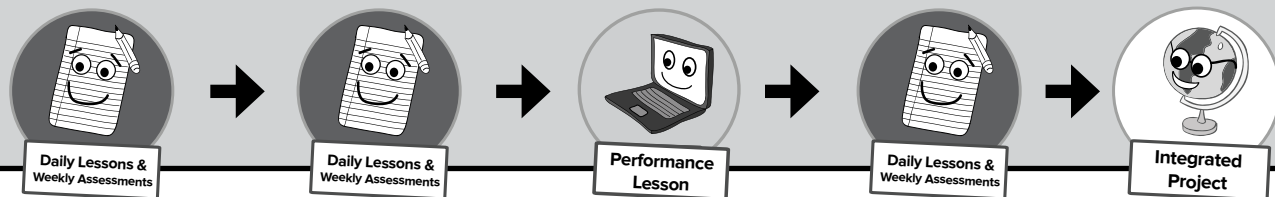
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Suggested Pacing Continued

Suggested Pacing Guide Continued

↓ These lessons are scheduled to be taught after state testing begins or they may be taught as needed throughout the year to support instruction. ↓				
WEEK	DOMAIN/TOPIC, LESSON (L), EVALUATIONS (E)	STANDARD(S)	TE PG#	DOK
27	Measurement & Data L1-4, E1	4.MD.1	230-239	DOK 1-2
28	Measurement & Data L5-8, E2	4.MD.1	240-249	DOK 1-2
29	Measurement & Data L9-12, E3	4.MD.2	250-259	DOK 1-2
Performance Lesson 5 – Conversion Factor		4.MD.1, 4.MD.2	260	DOK 3
30	Measurement & Data L17-20, E5	4.MD.4	280-289	DOK 1-2
Performance Lesson 7 – Plotting Data		4.MD.4	290	DOK 3
31	Measurement & Data L21-24, E6	4.MD.5, 4.MD.6	294-303	DOK 1-2
32	Measurement & Data L25-28, E7	4.MD.7	304-313	DOK 1-2
Performance Lesson 8 – All About Angles		4.MD.5, 4.MD.6, 4.MD.7	314	DOK 3
33	Geometry L1-4, E1	4.G.1	326-335	DOK 1-2
Performance Lesson 9 – Lines, Angles, Figures		4.G.1, 4.G.2	346	DOK 3
34	Geometry L9-12, E3	4.G.3	350-359	DOK 1-2
Performance Lesson 10 – Symmetry		4.G.3	360	DOK 3

Developing Your Own Standards Plus Pacing is Easy



The Common Core Standards Plus lessons can be easily paced to match:

- Core publisher textbooks
- District or site pacing
- District benchmarks

Here's How:

The Lesson Index found on pages **12-19** lists the Domain, Lesson Focus, and Standard(s) taught in each lesson. Every week of instruction (four Daily Lessons & a Weekly Assessment), Performance Lesson, and an Integrated Project is included in the lesson index. Use the Strand, Lesson Focus, or Standard listed on the Lesson Index to match the Standards Plus content to your own textbooks, units, or pacing. Schedule the Daily Lessons that lead up to each Performance Lesson to ensure students can apply the skills and concepts taught in the Daily Lessons.

Common Core Standards Plus® - Mathematics Grade 4

Project-Based Learning Pacing

Pacing Explanation:

Standards Plus materials are Common Core by design. They offer instruction at all four levels of Webb’s Depth of Knowledge (DOK 1-4), and they include three instructional components (Daily Lessons, Performance Lessons, and Integrated projects) that can be scheduled to support Project-Based Learning. Each grade level and subject may be organized into three distinct sets of instruction that include several weeks of Daily Lessons and Weekly Assessments (evaluations), multiple Performance Lessons, and an Integrated Project.

If you are using Common Core Standards Plus to support Project-Based Learning, here’s an example of how you might schedule the instruction to fit your instructional day:

Week	Monday	Tuesday	Wednesday	Thursday	Friday
30	<i>Number & Operations – Fractions Lesson 17</i>	<i>Number & Operations – Fractions Lesson 18</i>	<i>Number & Operations – Fractions Lesson 19</i>	<i>Number & Operations – Fractions Lesson 20</i>	<i>Number & Operations – Fractions Evaluation</i>
	<i>Performance Lesson 12: Adding & Subtracting Fractions</i>				
	<i>Project Component: Showing & Explaining Equivalence</i>				



This is an example of a week of PBL instruction that includes instruction at **every level of rigor**. In this example, you teach the Daily Lessons, a Performance Lesson, and a component of an Integrated Project in one week.

Common Core Standards Plus® - Mathematics Grade 4

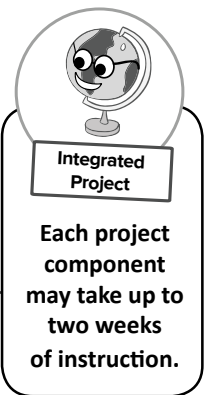
Project-Based Learning Pacing

15-Week PBL Plan

WEEK	STRAND, LESSONS, EVALUATIONS (E)	INTEGRATED PROJECT COMPONENTS
1	Number and Operations in Base Ten 1-4, E1	<i>Integrated Project #1</i> <i>It's a Number's Game</i>
2	Number and Operations in Base Ten 5-8, E2	
3	No. & Operation in Base Ten 9-12, E3 / <i>*Performance Lesson 1</i>	Choosing a Theme for the Game
4	Number and Operations in Base Ten 13-16, E4	
5	Number and Operations in Base Ten 17-20, E5	Determine What to Include in the Game Board Design
6	Number and Operations in Base Ten 21-24, E6	
7	No. & Operation in Base Ten 25-28, E7/ <i>*Performance Lesson 2</i>	Writing the Rules of Play
8	Operations and Algebraic Thinking 1-4, E1	Writing the Rules of Play
9	Operations and Algebraic Thinking 5-8, E2	Writing Questions/Problems and Their Answers
10	Operations and Algebraic Thinking 9-12, E3	Writing Questions/Problems and Their Answers
11	Operations and Algebraic Thinking 13-16, E4	Writing Questions/Problems and Their Answers
12	Operations and Algebraic Thinking 17-20, E5	Creating the Game Board
13	Operations & Alg. Thinking 21-24, E6 / <i>*Performance Lesson 3</i>	Creating the Game Board
14	Operations and Algebraic Thinking 25-28, E7	Presenting the Final Product
15	Operations & Alg. Thinking 29-32, E8 / <i>*Performance Lesson 4</i>	Presenting the Final Product

10-Week PBL Plan

16	Measurement and Data 1-4, E1	<i>Integrated Project #2</i> <i>A Place to Play</i>
17	Measurement and Data 5-8, E2	
18	Measurement and Data 9-12, E3 / <i>*Performance Lesson 5</i>	Choosing Parkland on Which to Build
19	Measurement and Data 13-16, E4 / <i>*Performance Lesson 6</i>	Determine Features to Include in the Design
20	Measurement and Data 17-20, E5 / <i>*Performance Lesson 7</i>	Convert Between Units for Lg. Spaces
21	Measurement and Data 21-24, E6	Use Angles, Perimeter, Area to Divide Spaces
22	Measurement and Data 25-28, E7 / <i>*Performance Lesson 8</i>	Drawing the Layout
23	Geometry 1-4, E1	Drawing the Layout
24	Geometry 5-8, E2 / <i>*Performance Lesson 9</i>	Drawing the Layout
25	Geometry 9-12, E3 / <i>*Performance Lesson 10</i>	Presenting the Final Product



9-Week PBL Plan

26	Number and Operations – Fractions 1-4, E1	<i>Integrated Project #3</i> <i>An Illustrated Guide to Equivalence</i>
27	Number and Operations – Fractions 5-8, E2	
28	No. & Operations – Fractions 9-12, E3/ <i>*Performance Lesson 11</i>	Choosing a Format for the Final Product
29	Number and Operations – Fractions 13-16, E4	Showing & Explaining Comparisons
30	No. & Operations-Fractions 17-20, E5/ <i>*Performance Lesson 12</i>	Showing & Explaining Equivalence
31	Number and Operations – Fractions 21-24, E6	Creating the Product
32	No. & Operations-Fractions 25-28, E7/ <i>*Performance Lesson 13</i>	Creating the Product
33	Number and Operations – Fractions 29-32, E8	Creating the Product
34	No. & Operations-Fractions 33-36, E9/ <i>*Performance Lesson 14</i>	Present, Analyze, Comment on the Final Product



Common Core Standards Plus® - Mathematics Grade 4

Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Page	St. Ed. Page	DOK Level	
Number and Operations in Base Ten (Number and Operations in Base Ten Standards 4.NBT.1 – 4.NBT.6)	1	Identify Place Value	4.NBT.1: Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.	30	3	1-2	
	2	Identify Place Value up to 1,000,000		32	4		
	3	Understand Place Value Patterns		34	5		
	4	Understand Place Value Patterns		36	6		
	E1	Evaluation – Place Value		38	7		
	5	Word Form of Numbers	4.NBT.2: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.	40	9	1-2	
	6	Expanded Form		42	10		
	7	Standard Form		44	11		
	8	Whole Number Forms		46	12		
	E2	Evaluation – Forms of Numbers		48	13		
	9	Compare Numbers	4.NBT.2	50	15	1-2	
	10	Compare Numbers		52	16		
	11	Rounding Numbers	4.NBT.3: Use place value understanding to round multi-digit whole numbers to any place.	54	17		
	12	Rounding Numbers		56	18		
	E3	Evaluation – Comparing and Rounding Whole Numbers	4.NBT.2, 4.NBT.3	58	19		
	P1	Performance Lesson #1 – Understanding Numbers (4.NBT.1, 4.NBT.2, 4.NBT.3)			60	21–23	3
	13	Add Multi-digit Whole Numbers	4.NBT.4: Fluently add and subtract multi-digit whole numbers using the standard algorithm.	64	25	1-2	
	14	Add Multi-digit Whole Numbers		66	26		
	15	Subtract Multi-digit Whole Numbers		68	27		
	16	Subtract Multi-digit Whole Numbers		70	28		
	E4	Evaluation – Add and Subtract Multi-digit Whole Numbers		72	29		
	17	Multiplication of Whole Numbers	4.NBT.5: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	74	31	1-2	
	18	Multiplication of Whole Numbers		76	32		
	19	Multiplication of Whole Numbers		78	33		
	20	Multiplication of Whole Numbers		80	34		
	E5	Evaluation – Multiplication of Whole Numbers		82	35		
	21	Dividing Whole Numbers	4.NBT.6: Find whole-number quotients and remainders with up to four-digit dividends and one-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.	84	37	1-2	
	22	Dividing Whole Numbers		86	38		
	23	Dividing Whole Numbers		88	39		
	24	Dividing Whole Numbers		90	40		
E6	Evaluation – Dividing Whole Numbers	92		41			
25	Dividing Whole Numbers	4.NBT.6	94	43	1-2		
26	Dividing Whole Numbers		96	44			
27	Dividing Whole Numbers		98	45			
28	Dividing Whole Numbers		100	46			
E7	Evaluation – Dividing Whole Numbers		102	47			
P2	Performance Lesson #2 – Working with Operations (4.NBT.4, 4.NBT.5, 4.NBT.6)			104	49–52	3	

Common Core Standards Plus® - Mathematics Grade 4

Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Page	St. Ed. Page	DOK Level
Operations and Algebraic Thinking (Operations and Algebraic Thinking Standards 4.OA.1 – 4.OA.5)	1	Commutative Property of Multiplication	4.OA.2: See Week 2.	118	53	1-2
	2	Represent Verbal Statements as Equations	4.OA.1: Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	120	54	
	3	Represent Verbal Statements as Equations		122	55	
	4	Represent Verbal Statements as Equations		124	56	
	E1	Evaluation – Multiplicative Comparison	4.OA.1, 4.OA.2	126	57	
	5	Multiplicative Comparison Problems	4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	128	59	1-2
	6	Multiplicative Comparison Problems		130	60	
	7	Multiplicative Comparison Problems		132	61	
	8	Distinguish Multiplicative & Additive Comparisons		134	62	
	E2	Evaluation – Multiplicative Comparison		136	63	
	9	Multiplicative Comparison Problems	4.OA.2	138	65	1-2
	10	Multiplicative Comparison Problems		140	66	
	11	Multistep Word Problems	4.OA.3	142	67	
	12	Multistep Word Problems		144	68	
	E3	Evaluation – Word Problems		4.OA.2, 4.OA.3	146	
	13	Multistep Addition & Subtraction Word Problems	4.OA.3: Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	148	71	1-2
	14	Multistep Multiplication Word Problems		150	72	
	15	Multistep Word Problems		152	73	
	16	Multistep Word Problems		154	74	
	E4	Evaluation – Multistep Word Problems		156	75	
	17	Division Word Problems with Remainders	4.OA.3	158	77	1-2
	18	Division Word Problems with Remainders		160	78	
	19	Division Word Problems with Remainders		162	79	
	20	Division Word Problems with Remainders		164	80	
	E5	Evaluation – Solving Division Word Problems with Remainders		166	81	
	21	Multiples of Whole Numbers	4.OA.4: Find all factor pairs for a whole number in the range of 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.	168	83	1-2
	22	Finding Factor Pairs for Whole Numbers		170	84	
	23	Finding Factor Pairs for Whole Numbers		172	85	
	24	Recognize Prime and Composite Numbers		174	86	
	E6	Evaluation – Multiples and Factors		176	87	
P3	Performance Lesson #3 – Understanding Operations (4.OA.1, 4.OA.2, 4.OA.3, 4.OA.4)			178-179	89–92	3

Common Core Standards Plus® - Mathematics Grade 4

Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Page	St. Ed. Page	DOK Level	
Operations and Algebraic Thinking (4.OA.1 – 4.OA.5)	25	Generating Arithmetic Patterns	4.OA.5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. <i>For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.</i>	184	93	1-2	
	26	Identifying the Rule for Arithmetic Patterns		186	94		
	27	Generate Geometric Patterns		188	95		
	28	Identifying the Rule for Geometric Patterns		190	96		
	E7	Evaluation – Pattern Rules		192	97		
	29	Identify and Explain Features of Arithmetic Patterns	4.OA.5	194	99	1-2	
	30	Identify and Explain Features of Geometric Patterns		196	100		
	31	Generate Growing Shape Patterns		198	101		
	32	Identify the Rule for Growing Shape Patterns		200	102		
	E8	Evaluation – Feature of Patterns		202	103		
	P4	Performance Lesson #4 – Generate and Analyze Patterns (4.OA.5)			204	105–106	3
	Integrated Project 1: It’s a Number’s Game (4.OA.1, 4.OA.2, 4.OA.3, 4.OA.4, 4.OA.5, 4.NBT.1, 4.NBT.2, 4.NBT.3, 4.NBT.4, 4.NBT.5, 4.NBT.6)				209–213	107–110	4
	<p>Prerequisite Common Core Standards Plus Domains: <i>Number and Operations in Base Ten and Operations and Algebraic Thinking</i></p> <p>Product: A board game that includes the game board, rules, and cards with at least 10 questions/problems (and their answers) related to each of nine categories.</p> <p>Overview: In this project the students will work in groups of 2–4 to create a board game that shows an understanding of all of the standards taught in the <i>Number and Operations in Base Ten</i> and <i>Operations and Algebraic Thinking</i> Domains. The students will write at least 90 (10 in each category) questions or problems with an answer key for each in the following categories:</p> <ul style="list-style-type: none"> • Place Value of Whole Numbers • Representing, Comparing, and Rounding Numbers • Adding Multi–digit Numbers • Subtracting Multi–digit Numbers • Multiplying Multi–digit Numbers • Dividing Multi–digit Numbers • Writing Equations • Pattern Rules • Making a Model <p>The students will write the rules of play, design the game board, and create the cards. They will include dice, a spinner, or any other item needed to play the game. They will present and explain their game to the class when the project is complete.</p>						

Common Core Standards Plus® - Mathematics Grade 4

Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Page	St. Ed. Page	DOK Level	
Measurement and Data (Measurement and Data Standards 4.MD.1 – 4.MD.7)	1	Relative Size of Measurement Units	4.MD.1: Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. <i>For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24),...</i>	230	111	1-2	
	2	Customary Measurement Equivalents		232	112		
	3	Comparing Customary Measurements		234	113		
	4	Relative Size of Measurement Units		236	114		
	E1	Evaluation – Customary Measurement Equivalents		238	115		
	5	Measurement Conversion	4.MD.1	240	117	1-2	
	6	Measurement Conversion		242	118		
	7	Metric Measurement Equivalents		244	119		
	8	Comparing Metric Measurements		246	120		
	E2	Evaluation – Metric Measurement Equivalents		248	121		
	9	Word Problems Involving Measurement Units	4.MD.2: Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	250	123	1-2	
	10	Word Problems Involving Measurement Units		252	124		
	11	Word Problems Involving Measurement Units		254	125		
	12	Word Problems Involving Measurement Units		256	126		
	E3	Evaluation – Word Problems with Measurement Units		258	127		
	P5	Performance Lesson #5 – Conversion Factor (4.MD.1, 4.MD.2)			260	129–132	3
	13	Finding Perimeter of a Rectangle	4.MD.3: Apply the area and perimeter formulas for rectangles in real world and mathematical problems.	266	133	1-2	
	14	Finding Area of a Rectangle		268	134		
	15	Perimeter/Area in Real World Problems		270	135		
	16	Perimeter/Area in Real World Problems		272	136		
	E4	Evaluation – Perimeter and Area of a Rectangular Figure		274	137		
	P6	Performance Lesson #6 – Area and Perimeter (4.MD.3)			276	139–140	3
	17	Create a Line Plot	4.MD.4: Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. <i>For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</i>	280	141	1-2	
	18	Reading a Line Plot		282	142		
	19	Solve Problems Using a Line Plot		284	143		
	20	Solve Problems Using a Line Plot		286	144		
	E5	Evaluation – Line Plots		288	145		
	P7	Performance Lesson #7 – Plotting Data (4.MD.4)			290	147–148	3

Common Core Standards Plus® - Mathematics Grade 4

Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Page	St. Ed. Page	DOK Level	
Measurement and Data (Measurement and Data Standards 4.MD.1 – 4.MD.7)	21	Concepts of Angles	4.MD.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a) an angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles. b) An angle that turns through n one-degree angles is said to have an angle measure of n degrees.	294	149	1-2	
	22	Using a Protractor to Measure Angles	4.MD.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	296	150		
	23	Using a Protractor to Measure Angles		298	151		
	24	Using a Protractor to Sketch Angles		300	152		
	E6	Evaluation – Measurement of Angles		302	153		
	25	Composing and Decomposing Angles	4.MD.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	304	155	1-2	
	26	Finding Unknown Angles		306	156		
	27	Finding Unknown Angles		308	157		
	28	Angles in Real World Problems		310	158		
	E7	Evaluation – Angles		312	159		
P8	Performance Lesson #8 – All About Angles (4.MD.5, 4.MD.6, 4.MD.7)			314	161–163	3	
Geometry (Geometry Standards 4.G.1 – 4.G.3)	1	Points, Lines, and Line Segments	4.G.1: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	326	165	1-2	
	2	Draw and Distinguish Between Rays and Angles		328	166		
	3	Draw and Distinguish Between Parallel and Perpendicular Lines		330	167		
	4	Identify Angles, Parallel, and Perpendicular Lines in Two-Dimensional Figures		332	168		
	E1	Evaluation – Identify Geometric Objects		334	169		
	5	Classify Two-Dimensional Figures Based on Their Sides		336	171		1-2
	6	Classify Two-Dimensional Figures Based on Angle Measurement	4.G.2: Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	338	172		
	7	Classify Special Triangles		340	173		
	8	Classifying Quadrilaterals		342	174		
	E2	Evaluation – Classifying Two-Dimensional Figures		344	175		
	P9	Performance Lesson #9 – Lines, Angles, Figures (4.G.1, 4.G.2)			346	177–179	3
	9	Line of Symmetry	4.G.3: Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	350	181	1-2	
	10	Line of Symmetry		352	182		
	11	Line of Symmetry		354	183		
	12	Line of Symmetry		356	184		
E3	Evaluation – Lines of Symmetry	358		185			
P10	Performance Lesson #10 – Symmetry (4.G.3)			360	187–188		3

Common Core Standards Plus® - Mathematics Grade 4

Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Page	St. Ed. Page	DOK Level
			Integrated Project #2: <i>A Place to Play</i> (4.NBT.4, 4.NBT.5, 4.NBT.6, 4.MD.1, 4.MD.2, 4.MD.3, 4.MD.4, 4.MD.5, 4.MD.5a, 4.MD.5b, 4.MD.6, 4.MD.7, 4.G.1, 4.G.2, 4.G.3)	365-369	189-191	4
<p>Prerequisite Common Core Standards Plus Domains: <i>Measurement & Data</i> and <i>Geometry</i></p> <p>Product: A park design that includes specific features.</p> <p>Overview: In this project, the students will design a park that includes specified features. They will create a schematic for the park that shows every feature including: green spaces (grass, shrubs, trees), benches, walkways, playground equipment, ball fields, etc. They will use common tools to provide a precise visual of the park. Each student will present his/her park design orally.</p>						

Common Core Standards Plus[®] - Mathematics Grade 4

Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Page	St. Ed. Page	DOK Level	
Number and Operations – Fractions (Number and Operations – Fractions Standards 4.NF.1–4.NF.7)	1	Equivalent Fractions	4.NF.1: Explain why a fraction a/b is equivalent to a fraction $(n \times a) / (n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	382	193	1-2	
	2	Equivalent Fractions		384	194		
	3	Comparing Fractions	4.NF.2 See Below	386	195		
	4	Comparing Fractions		388	196		
	E1	Evaluation – Equivalent Fractions and Comparing Fractions		390	197		
	5	Comparing Fractions	4.NF.2: Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.	392	199	1-2	
	6	Comparing Fractions		394	200		
	7	Equivalent Fractions		396	201		
	8	Equivalent Fractions		398	202		
	E2	Evaluation – Equivalent Fractions and Comparing Fractions		400	203		
	9	Add and Subtract Like Fractions	4.NF.3a: Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	402	205	1-2	
	10	Decomposing and Composing Fractions	4.NF.3b: Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. <i>Examples: $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2 \frac{1}{8} = 1 + \frac{1}{8} = \frac{8}{8} + \frac{1}{8} + \frac{1}{8}$.</i>	404	206		
	11	Decomposing Fractions		406	207		
	12	Decomposing Mixed Numbers		408	208		
	E3	Evaluation – Composing and Decomposing Fractions	4.NF.3a, 4.NF.3b	410	209		
	P11	Performance Lesson #11 – All About Fractions (4.NF.1, 4.NF.2, 4.NF.3, 4.NF.3a, 4.NF.3b)			412-413	211-213	3
	13	Adding Mixed Numbers	4.NF.3c: Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.	418	215	1-2	
	14	Adding Mixed Numbers		420	216		
	15	Subtracting Mixed Numbers		422	217		
	16	Subtracting Mixed Numbers		424	218		
E4	Evaluation – Add and Subtract Mixed Numbers	426		219			
17	Add Fractions to Solve Word Problems	4.NF.3d: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	428	221	1-2		
18	Subtract Fractions to Solve Word Problems		430	222			
19	Add/Subtract Fractions to Solve Word Problems		432	223			
20	Add/Subtract Fractions to Solve Word Problems		434	224			
E5	Evaluation – Word Problems - Adding/ Subtracting Fractions		436	225			
P12	Performance Lesson #12 – Adding and Subtracting Fractions (4.NF.3c, 4.NF.3d)			438	227-228	3	

Common Core Standards Plus® - Mathematics Grade 4

Lesson Index

Domain	Lesson	Focus	Standard(s)	TE Page	St. Ed. Page	DOK Level	
Number and Operations – Fractions (Number and Operations – Fractions Standards 4.NF.1–4.NF.7)	21	Multiply Fractions by Whole Numbers	4.NF.4a: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Understand a fraction a/b as a multiple of $1/b$. For example use a visual fraction model to represent $5/4$ as the product of $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.	442	229	1-2	
	22	Multiplying Fractions by Whole Numbers		444	230		
	23	Multiplying Fractions by Whole Numbers	4.NF.4b: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Understand a fraction a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. For example use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)	446	231		
	24	Multiplying Fractions by Whole Numbers		448	232		
	E6	Evaluation – Multiplying Fractions by Whole Numbers	4.NF.4a, 4.NF.4b	450	233		
	25	Word Problems – Multiplying Fractions	4.NF.4c: Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.	452	235	1-2	
	26	Word Problems – Multiplying Fractions		454	236		
	27	Operations in Fraction Word Problems	4.NF.4c, 4.NF.3d: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	456	237		
	28	Operations in Fraction Word Problems		458	238		
	E7	Evaluation – Operations in Fraction Word Problems	4.NF.3c, 4.NF.4d	460	239		
	P13	Performance Lesson #13 – <i>Multiplying Fractions</i>			462	241–242	3
	29	Converting Fractions - 10ths to 100ths	4.NF.5: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.	466	243	1-2	
	30	Add Fractions		468	244		
	31	Convert Fractions to Decimals	4.NF.6: Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.	470	245		
	32	Decimals on a Number Line		472	246		
	E8	Evaluation – Converting Fractions	4.NF.5, 4.NF.6	474	247		
	33	Compare Decimals	4.NF.7: Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.	476	249	1-2	
	34	Compare Decimals		478	250		
	35	Compare Decimals		480	251		
	36	Compare Decimals		482	252		
	E9	Evaluation – Compare Decimals		484	253		
P14	Performance Lesson #14 – <i>Fractions and Decimals (4.NF.5, 4.NF.6, 4.NF.7)</i>			486-487	255–257	3	
Integrated Project #3: <i>An Illustrated Guide to Equivalence</i> (4.NF.1, 4.NF.2, 4.NF.3, 4.NF.3a, 4.NF.3b, 4.NF.3c, 4.NF.3d, 4.NF.4, 4.NF.4a, 4.NF.4b, 4.NF.4c, 4.NF.5, 4.NF.6, 4.NF.7)				493-497	258–261	4	
<p>Prerequisite Common Core Standards Plus Domains: <i>Number and Operations – Fractions</i></p> <p>Product: A booklet, pamphlet, or series of posters that explore and explain comparisons and equivalence between fractions, whole numbers, mixed numbers, and decimals.</p> <p>Overview: In this project, the students will each create an illustrated guide to equivalence that may be a booklet, a pamphlet, or a series of posters that use models and written explanations to teach the concepts of comparisons and equivalence between fractions, whole numbers, mixed numbers, and decimals. The students will write the text and draw models to explain all of the concepts. They will present their product to a group of peers and participate in a group discussion analyzing and commenting on each group member's work.</p>							