# Chapter 1: Place Value of Whole Numbers

**Total Number of Days:** 14  **Grade/Course:** 4

## Essential Questions
- How does the position of a digit affect its value?
- How do digit values change as they are moved around in large numbers?
- How are place value patterns repeated in numbers?
- How can whole numbers be compared and ordered?
- How can we tell which number among many large numbers is the largest or smallest?

## Enduring Understandings
- The value of a number is determined by the place of its digits.
- A number can be written using its name, standard, or expanded form.
- Read, compare, and order numbers according to the place value of their digits.

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Found in the Common Core Focus Lessons and Activities at Think Central)</td>
<td>2. Add multi-digit numbers with regrouping</td>
<td>MP: MP.4</td>
<td></td>
<td>Assessment: Let's Practice pp. 2</td>
</tr>
<tr>
<td>1.2.a: Addition of Multi-Digit Numbers</td>
<td></td>
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<tr>
<td>No more than the first 5 - 7 days</td>
<td>1. Subtract multi-digit numbers without regrouping</td>
<td>CCSS: 4.NBT.B.4</td>
<td>Not in Math in Focus Book</td>
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<td></td>
<td>Assessment: Let's Practice pp. 2-3</td>
</tr>
</tbody>
</table>
| 1.2.c: Multiply One-Digit Numbers | 1. Multiply one-digit whole numbers | CCSS: 3.NBT.A.3  
- Hands-On Activity: Math Magician Interactive Facts Practice  
- Hands-On Activities: Various math centers with games to review basic math facts  
- Assessment: Basic Facts Timed Test (5 minute limit) |

### 1 day

**Recall Prior Knowledge:** Review Place Value Concepts

- 1. Write numbers to 10,000 in standard form, word form, and expanded form.
- 2. Count by ones, tens, hundreds, or thousands.
- 3. Find the value of each digit in a number.
- 4. Compare numbers using a place-value chart.

| CCSS: 4.NBT.A.1  
4.NBT.A.2 |

| TE-4A: pp. 2-4 |

| Place Value Hockey: [http://www.abcya.com/place_value_hockey.htm](http://www.abcya.com/place_value_hockey.htm) |

**Quick Check:** pp.3-4 (review)

**Pre-Test:** Chapter 1 Test Prep Assessment Bk. pp.4-6

*(NOTE: Will be used as a pre and post test)*

### 2 days

**1.1: Numbers to 100,000**

- 1. Write numbers to 100,000 in standard form, word form, and expanded form.
- 2. 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. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*

| CCSS: 4.NBT.A.1  
4.NBT.A.2 |

| MP:  
MP.2  
MP.3  
MP.4  
MP.5  
MP.6  
MP.7  
MP.8 |

| TE-4A: pp. 5-13  
Core:  
- WKBK-4A: pp. 1-6  
- ExtraP-4A: pp.1-8  
Basic:  
Reteach-4A: pp.1-8  
ELL:  
TE-4A: pp. 6, 7-8 |

- 5-minute Warm Up: pp. 5  
- Hands-On Activity: Use place-value chart and place-value chips to show value of each digit  
- Problem of the Lesson: pp. 6  
- Use Money to Show 5-Digit Numbers: pp. 9  
- Game: Find the Value pp. 12  
- Assessment: Let's Practice pp. 13 |
### 2 days
#### 1.2: Comparing Numbers to 100,000
1. Compare and order numbers to 100,000
2. Identify how much more or less one number is than another number
3. Find the rule in a number pattern:
   *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.

<table>
<thead>
<tr>
<th>CCSS:</th>
<th>TE-4A:</th>
</tr>
</thead>
</table>
| 4.NBT.A.1  
4.NBT.A.2  
4.OA.C.5 | pp. 14-20B |
| **MP:** | **Basic:** |
| MP.1  
MP.2  
MP.3  
MP.4  
MP.6  
MP.7  
MP.8 | Reteach-4A: pp.1-8 |
| **Advanced:** | WKBK-4A: pp.13-14 |
| |
| **ELI:** | TE-4A: pp. 15 |
| |
| |
| |


### 2 days
#### Chapter Wrap Up
1. Read and write numbers up to 100,000 in various forms
2. Compare and order numbers

<table>
<thead>
<tr>
<th>CCSS:</th>
<th>TE-4A:</th>
</tr>
</thead>
</table>
| 4.NBT.A.1  
4.NBT.A.2  
4.OA.C.5 | pp. 23-26A |
| **A-4:** | pp. 4-6 |
| |
| |
| |

Comparing Numbers Game: [http://www.abcya.com/comparing_number_values.htm](http://www.abcya.com/comparing_number_values.htm)

### INSTRUCTIONAL FOCUS OF UNIT
- Students represent numbers to 100,000 in various ways.
- Students extend their understanding of place value to 6-digit numbers.
- Students apply what they know about comparing numbers to larger numbers.

### PARCC FRAMEWORK/ASSESSMENT

**NI DOE Model Curriculum Samples:**

1. Write a number that uses the same 6 digits as 901,735 but where the digit 3 represents 10 times what it represents in 901,735.

2. Carla wrote this number: 814,247 Travis wrote this number: 638,571
The digit 8 in Carla’s number represents how many times what the digit 8 represents in Travis’ number?

3. Use the standard algorithm to add or subtract.
   A) $2,746 + 23,694$
   B) $92,318 + 23,027$
   C) $62,114 - 49,586$
   D) $4,591 - 1,985$

4. Sunila described a number pattern below.
   - The starting number is 13.
   - The rule is to add 5.

   Part A: Fill in the blanks below with the first six numbers in the number pattern that Sunila described.
   ______, _______, _______, _______, _______, _______

   Part B: Describe one thing you notice about the pattern.

21ST CENTURY SKILLS
(4Cs & CTE Standards)

MODIFICATIONS/ACCOMMODATIONS

- Use base-ten models to represent numbers through ten thousands
- Draw pictures of base-ten models to represent and compare numbers
- Compare numbers in various forms including standard, word, and expanded forms
- Find numbers outside sources such as newspapers, magazines and textbooks, and write them in various forms

APPENDIX
(Teacher resource extensions)

3.NBT.A.3 - Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., $9 \times 80, 5 \times 60$) using strategies based on place value and properties of operations.
4.NBT.A.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.
4.NBT.A.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.
4.NBT.B.4 - Fluently add and subtract multi-digit whole numbers using the standard algorithm.
4.OA.C.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.
### Chapter 2: Estimation and Number Theory

**Total Number of Days:** 10  
**Grade/Course:** 4

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENT</th>
</tr>
</thead>
</table>
| 1 day  | Recall Prior Knowledge: Review | 1. Find the value of each digit using place value  
2. Round numbers to the nearest 10 and 100.  
3. Estimate sums and differences.  
4. Multiply two numbers to find the product. | CCSS: 3.NBT.1  
3.NBT.2  
Quick Check: pp. 30-31 (review)  
Pre-Test: Chapter 2 Test Prep Assessment Bk. pp. 10-13 |

### ESSENTIAL QUESTIONS

- When are estimation strategies useful?  
- How can sums and differences of whole numbers be estimated?  
- How can we use estimation to determine the reasonableness of an answer?  
- Why is it important to identify factors and multiples of numbers?

### ENDURING UNDERSTANDINGS

- Rounded numbers are approximate and not exact.  
- Using rounding is an appropriate strategy for solving problems and estimating.  
- Knowing factors and multiples of numbers can help in estimating products and quotients.
<table>
<thead>
<tr>
<th>3 days</th>
<th>2.1: Estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Round numbers to estimate sums, differences, products, and quotients</td>
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<tr>
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<td>2. Estimate to check that an answer is reasonable.</td>
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<td></td>
<td>3. Decide whether an estimate or an exact answer is needed</td>
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<tr>
<td></td>
<td><strong>CCSS:</strong></td>
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<tr>
<td></td>
<td>4.NBT.A.1</td>
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<td>4.NBT.A.2</td>
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<td>4.NBT.A.3</td>
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<td>4.NBT.B.4</td>
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<td>4.OA.A.3</td>
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<td><strong>MP:</strong></td>
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<td><strong>TE-4A:</strong></td>
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<td></td>
<td>pp. 32-43</td>
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<td><strong>Core:</strong></td>
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<tr>
<td></td>
<td>- WKBK-4A: pp. 15-20</td>
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<td>- ExtraP-4A: pp. 13-14</td>
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<td><strong>Basic:</strong></td>
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<td>Reteach-4A: pp. 13-22</td>
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<td><strong>Advanced:</strong></td>
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<td>WKBK-4A: pp. 31-32</td>
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<td><strong>ELL:</strong></td>
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<td>TE-4A: pp. 33</td>
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<td></td>
<td>• 5-minute Warm Up: pp. 32</td>
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<td>• Problem of the Lesson: pp. 33</td>
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<td>• Assessment: Let’s Practice pp.43</td>
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<tr>
<th>2 days</th>
<th>2.2: Factors</th>
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<tbody>
<tr>
<td></td>
<td>1. Find the factor pairs of a whole number</td>
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<td><em>For example,</em> List all the factor pairs for 72.</td>
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<tr>
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<td>2. Find the common factors and greatest common factors of two whole numbers</td>
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<td>3. Identify prime numbers and composite numbers</td>
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<td><em>For example:</em> Is 57 a prime or composite number? Explain your answer.</td>
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<td><strong>CCSS:</strong></td>
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<td>4.OA.B.4</td>
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<td><strong>MP:</strong></td>
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<td>MP.3</td>
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<td><strong>TE-4A:</strong></td>
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<td>pp. 44-55</td>
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<td><strong>Core:</strong></td>
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<td>- WKBK-4A: pp. 21-26</td>
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<td>- ExtraP-4A: pp. 15-16</td>
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<td><strong>Basic:</strong></td>
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<td>Reteach-4A: pp. 23-32</td>
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<td><strong>Advanced:</strong></td>
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<td>WKBK-4A: pp. 33-34</td>
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<td><strong>ELL:</strong></td>
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<td>TE-4A: pp. 45</td>
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<td></td>
<td>• 5-minute Warm Up: pp. 44</td>
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<td>• Problem of the Lesson: pp. 45</td>
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<td>• Hands-On Activity: Find Prime Numbers to 50: pp.51</td>
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<td></td>
<td>• Let's Explore: Find Numbers that can be divided Exactly by 2 and 5: pp. 52</td>
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<td></td>
<td>• Math Journal: pp. 55</td>
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<tr>
<td></td>
<td>• Interactive Game: Space Rocks</td>
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<td></td>
<td>• Assessment: Let’s Practice pp. 53-54</td>
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</tbody>
</table>
### 2 days

| 2.3: Multiples | 1. Find multiples of whole numbers
For example, The number 64 is a multiple of which of the following numbers?
a. 9 b. 8 c. 6 d. 3
2. Find common multiples and least common multiples of 2 or more numbers |
| TE-4A: pp. 56-61 |
| Basic: Reteach-4A: pp. 33-38 |
| Assessed |

### 2 days

| Chapter Wrap Up Assessment |
| - Review different methods of estimation, and of finding factors and multiples |
| TE-4A: pp. 64-68 |
| A-4: pp. 10-13 |
| Chapter Wrap Up: pp. 66-67 |
| Chapter Test: Estimation and Number Theory Assessment Book: pp. 10-13 |

### INSTRUCTIONAL FOCUS OF UNIT
- Students build on their knowledge of rounding numbers to estimate sums, differences, products, and quotients. They use estimation skills to determine if an answer is reasonable.
- Students determine if estimates or exact answers are needed to apply estimation skills in the real world, such as estimating the cost of shopping items.
- Students use basic multiplication and division facts to find factors and multiples. They break down whole numbers into factors or multiply them to get multiples.
- Students use their knowledge of factors and multiples of numbers to help them estimate products and quotients.

### PARCC FRAMEWORK/ASSESSMENT

**NJ DOE Model Curriculum Samples:**
1. Round 759,048 to the nearest hundred thousand.
2. Circle the numbers below that have a value of 950,000 when rounded to the nearest ten thousand.
   944,806   953,782   956,270   945,867   947,603

3. List all the factor pairs for 72.

4. The number 64 is a multiple of which of the following numbers?
   a. 9   b. 8   c. 6   d. 3

5. Put a check mark in the oval to indicate whether the number is prime or composite.

<table>
<thead>
<tr>
<th>Number</th>
<th>Prime</th>
<th>Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>99</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>51</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>41</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>23</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

21ST CENTURY SKILLS
(4Cs & CTE Standards)

MODIFICATIONS/ACCOMMODATIONS

- Use base-ten models to model finding sums, differences, products, and quotients
- Use grid paper to draw rectangles that represent different factors of the same number
- Draw arrays to show multiples and factors of numbers
- Tell stories using only prime numbers or only composite numbers

APPENDIX
(Teacher resource extensions)

4.NBT.A.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.
4.NBT.A.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.
4.NBT.A.3 - Use place value understanding to round multi-digit whole numbers to any place.
4.NBT.B.4 - Fluently add and subtract multi-digit whole numbers using the standard algorithm.
4.OA.A.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.

4.OA.B.4 - Find all factor pairs for a whole number in the range 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.

Chapter 3: Whole Number Multiplication and Division

Total Number of Days: **19**  Grade/Course: **4**

**ESSENTIAL QUESTIONS**
- How can diagrams help us determine and show the products of two-digit numbers?
- What real life situations require the use of multiplication?
- How can a remainder affect the answer in a division problem?
- What is the relationship between multiplication and division?

**ENDURING UNDERSTANDINGS**
- Place value is used to multiply and divide multi-digit numbers.
- Multiplication may be represented by rectangular arrays/area models.
- Multiplication can be used to solve division problems.
- The properties of multiplication and division help us solve problems and provide reasoning for choices we make in problem solving.

<table>
<thead>
<tr>
<th>PACING</th>
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<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
</table>
| 1 day  | Recall Prior Knowledge: Review | 1. Multiply without regrouping  
2. Multiply with regrouping in hundreds, tens, and ones  
3. Divide without remainders | CCSS:  
4.NBT.A.1  
4.NBT.A.2  
4.NBT.A.3  
4.NBT.B.5  
4.NBT.B.6 | TE-4A: pp. 69-76 | Quick Check: pp. 76 (review)  
Pre-Test: Chapter 3 Test Prep  
Assessment Bk. pp. 17-19  
(NOTE: Omit any questions that will not be addressed. Add questions for concepts that will be added.) |
| 1 day  | 3.0: Multiply Using Arrays (Found in the Common Core Focus Lessons and Activities at Think Central) | 1. Multiply multi-digit numbers by a 1-digit number using an array model. | CCSS:  
4.NBT.B.5  
MP:  
MP.4  
MP.7 | Not in Math in Focus Book  
CC Focus Lessons and Activities: https://www.k6thinkcentral.com/content/hsp/math/hspmath/n a/gr4/Online_Standards_Success_Planner_9780547673677/assets/p | 5-minute Warm Up: Students use dot paper to illustrate and explain a multiplication problem.  
Hand-On Activity: Students use dot array models and colored pencils to represent and explain various multiplication problems.  
Assessment: Let’s Practice: pp. |
| 2 days | 3.1: Multiplying by a 1-Digit Number | 1. Multiply up to 4-digit numbers by 1-digit numbers, with or without regrouping using various methods. 
*For example, 2,147 x 4=*  
**Method 1:**  
\[
\begin{array}{c}
2,147 \\
\times 4 \\
\hline
8,588
\end{array}
\]
**Method 2:**  
\[
\begin{array}{c}
2,147 \\
\times 4 \\
\hline
28 - 7x4 \\
+ 160 - 40x4 \\
+ 400 - 100x4 \\
+ 8,000 - 2,000x4 \\
8,588
\end{array}
\]
- Illustrate and explain the calculation by using area models.  
*Area model example, 2,147 x 4=*  
<table>
<thead>
<tr>
<th>4</th>
<th>2000</th>
<th>100</th>
<th>40</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>8000</td>
<td>400</td>
<td>160</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>
\[
8000 \to 4 \times 2000 \\
400 \to 4 \times 100 \\
160 \to 4 \times 40 \\
+ 28 \to 4 \times 7
\]
| 1-2 | df/TE/MIF GapFillers4A.C03.L3.0.pdf | TE-4A: pp. 77-85  
CCSS:  
4.NBT.A.1  
4.NBT.A.2  
4.NBT.B.5  
4.OA.A.1  
4.OA.A.2  
Core:  
- WKBK-4A: pp. 41-44  
- ExtraP-4A: pp. 23-24  
Basic:  
- Reteach-4A: pp. 39-48  
ELL:  
- TE-4A: pp. 78-79  
- 5-minute Warm Up: pp. 77  
- Hands-On Activity: Students use place-value charts and place-value chips to model multiplication  
- Problem of the Lesson: pp. 78-79  
- Game: Roll and Multiply: pp. 82  
- Math Journal: pp. 83  
- Assessment: Let’s Practice pp. 84-85 |
### 2 Day

#### 3.1.a: Multiply Using Area Models

(Found in the Common Core Focus Lessons and Activities at Think Central)

1. Multiply two 2-digit numbers using an area model.

   *Area model example, 27 x 32*

<table>
<thead>
<tr>
<th>30</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>40</td>
</tr>
<tr>
<td>210</td>
<td>14</td>
</tr>
</tbody>
</table>

   600 \( \rightarrow \) 20 x 30
   40 \( \rightarrow \) 20 x 2
   210 \( \rightarrow \) 7 x 30
   + 14 \( \rightarrow \) 7 x 2
   \[ \text{Total} = 864 \]

- **CCSS:** 4.NBT.B.5
- **MP:** MP.4
- **MP:** MP.7

Not in Math in Focus Book

Common Core Focus Lessons and Activities: [https://www-k6.thinkcentral.com/content/hsp/math/hsmath/n/a/gr4/Online-Standards-Success-Planner_9780547673677/assets/pdf/TE/MIF_GapFillers4A_C03_L3.1a.pdf](https://www-k6.thinkcentral.com/content/hsp/math/hsmath/n/a/gr4/Online-Standards-Success-Planner_9780547673677/assets/pdf/TE/MIF_GapFillers4A_C03_L3.1a.pdf)

- **5-minute Warm Up:** Students use dot paper to illustrate and explain a multiplication problem.
- **Hand-On Activity:** Students model multiplying two 2-digit numbers using the area model.
- **Assessment:** Let's Practice: pp. 1-2

### 3 Days

#### 3.2: Multiplying by a 2-Digit Number

1. Multiply by 2-digit numbers, with or without regrouping

   *For example, 27 x 32=

   **Method 1:**
   
   \[ 27 \times 32 = \]
   
   \[ 14 - 2 \times 7 \]
   
   \[ 40 - 2 \times 20 \]
   
   \[ 210 - 30 \times 7 \]
   
   \[ + 600 - 30 \times 20 \]
   
   \[ \text{Total} = 864 \]

   **Method 2:**
   
   + 2
   
   + 1
   
   + 27

- **CCSS:** 4.NBT.A.1
- **CCSS:** 4.NBT.A.2
- **CCSS:** 4.NBT.A.3
- **CCSS:** 4.NBT.B.4
- **CCSS:** 4.NBT.B.5
- **MP:** MP.2
- **MP:** MP.3
- **MP:** MP.4
- **MP:** MP.5
- **MP:** MP.6
- **MP:** MP.7
- **MP:** MP.8

- **TE-4A:** pp. 86-95
- **Core:**
  - WKBK-4A: pp. 45-48
  - ExtraP-4A: pp. 25-28
- **Basic:**
  - Reteach-4A: pp. 49-58
- **Advanced:**
  - Enrich-4A: pp. 16-17
- **ELL:**
  - TE-4A:

Math Playground - Multiplication Practice: [http://www.mathplayground.com/multiplication05.html](http://www.mathplayground.com/multiplication05.html)

- **5-minute Warm Up:** pp. 86
- **Problem of the Lesson:** pp. 87
- **Game:** Find the Missing Numbers: pp. 91
- **Let’s Explore:** pp. 93
- **Game:** Students use a deck of cards and each player pulls out two cards. The cards become the multiplication problem for both members to compute.
- **Assessment:** Let’s Practice pp. 94-95
- **Assessment - Quiz:** Multiplying by 2-digit Numbers
<table>
<thead>
<tr>
<th>2 days</th>
<th>3.3: Modeling Division with Regrouping</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Model regrouping in division</td>
</tr>
<tr>
<td></td>
<td>2. Divide a 3-digit number by a 1-digit number with regrouping</td>
</tr>
<tr>
<td></td>
<td><em>For example, 525/3 =</em></td>
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<tr>
<td></td>
<td>1 7 5</td>
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<tr>
<td></td>
<td>5 2 5</td>
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<td></td>
<td>3 0 0</td>
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<td>2 2 5</td>
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<td>1 5</td>
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<td>pp. 96-100</td>
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<td>- WKBK-4A:</td>
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<td></td>
<td>pp. 49-54</td>
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<tr>
<td></td>
<td>- ExtraP-4A:</td>
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<td>pp. 29-30</td>
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<tr>
<td></td>
<td>pp. 59-64</td>
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<td></td>
<td>pp. 18-19</td>
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<td>TE-4A:</td>
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<td></td>
<td>pp. 97</td>
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<td><strong>Math Playground Division Practice:</strong></td>
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<td><a href="http://www.mathplayground.com/division02.html">http://www.mathplayground.com/division02.html</a></td>
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<td></td>
<td>• 5-minute Warm Up: pp. 96</td>
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<td>• Hands-On Activity: Model division with regrouping using a place value chart and place value chips</td>
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<td>• Problem of the Lesson: pp. 97</td>
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<td>• Assessment: Let's Practice pp. 100</td>
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<thead>
<tr>
<th>3 days</th>
<th>3.4: Dividing by a 1-Digit Number</th>
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<tbody>
<tr>
<td></td>
<td>1. Divide up to a 4-digit number by a 1-digit number with regrouping, and with or without remainders</td>
</tr>
<tr>
<td></td>
<td><em>For example, 6144/6 =</em></td>
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<td></td>
<td>Th H T O</td>
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<tr>
<td></td>
<td>1 0 2 4</td>
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<td>6 1 4 4</td>
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<td></td>
<td>6 0 0 0</td>
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<td>1 4 4</td>
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<td>0 0 0</td>
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<td>MP.2</td>
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<td>MP.6</td>
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<td><strong>TE-4A:</strong></td>
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<td></td>
<td>pp. 101-108</td>
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<td>pp. 55-58</td>
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<td>pp. 31-34</td>
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<td>pp. 65-70</td>
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<td><strong>Snork’s Long Division Game:</strong></td>
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<td>• 5-minute Warm Up: pp. 101</td>
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<tr>
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<td>• Hands-On Activity: Model division using a place value chart</td>
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<td>• Problem of the Lesson: pp. 102</td>
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<td>• Assessment: Let’s Practice pp. 107-108</td>
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<td>2 days</td>
<td>3.5: Real-World Problems: Multiplication and Division</td>
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<td>-----------------------------------------------------</td>
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<tr>
<td></td>
<td>1. Solve multistep word problems posed with whole numbers and having whole-number answers using multiplication and division</td>
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<td></td>
<td>2. Represent these problems using equations with a letter standing for the unknown quantity</td>
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<td>3. Assess the reasonableness of answers using mental computation and estimation strategies including rounding</td>
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<td><strong>CCSS:</strong> 4.NBT.A.3, 4.NBT.B.5, 4.NBT.B.6, 4.OA.A.1, 4.OA.A.2, 4.OA.A.3</td>
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<td><strong>TE-4A:</strong> pp. 109-115</td>
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<td>5-minute Warm Up: Word Problem</td>
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<td>Math Journal: pp. 114</td>
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<td>Let’s Explore: pp. 114</td>
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<td>Hands-On Activity: Math Playground Word Problems with Katie</td>
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<td></td>
<td>Assessment: Let’s Practice pp. 115</td>
</tr>
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<td>1 day</td>
<td>3.5.a: Multiplication and Division: Real-World Problems</td>
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<td>(Found in the Common Core Focus Lessons and Activities at Think Central)</td>
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<tr>
<td></td>
<td>1. Solve multi-step word problems using the four operations</td>
</tr>
<tr>
<td></td>
<td>2. Represent the problems with a letter standing for the unknown quantity</td>
</tr>
<tr>
<td></td>
<td><em>For example:</em> A school auditorium has 32 rows of seats. Each row has 15 seats. The letter $k$</td>
</tr>
<tr>
<td></td>
<td><strong>CCSS:</strong> 4.OA.A.2, 4.OA.A.3</td>
</tr>
<tr>
<td></td>
<td><strong>MP:</strong> MP.1, MP.4, MP.7</td>
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<tr>
<td></td>
<td>Not in Math in Focus Book</td>
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<td>Common Core Focus Lessons and Activities: <a href="https://www-k6.thinkcentral.com/content/hsp/math/hspmath/na/gr4/Online_Standards_Success_Planner_9780547673677/assets/pdf/TE/MIF_GapFillers4A_C03_L3.5a.pdf">https://www-k6.thinkcentral.com/content/hsp/math/hspmath/n a/gr4/Online_Standards_Success_P lanner_9780547673677/assets/pdf/TE/MIF GapFillers4A_C03_L3.5a.pdf</a></td>
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<tr>
<td></td>
<td>5-minute Warm Up: Word Problem</td>
</tr>
<tr>
<td></td>
<td>Assessment: Let’s Practice pp. 2</td>
</tr>
</tbody>
</table>
2 days  |  Chapter Wrap Up Assessment  
---|---
| represents the total number of seats. Write an equation that can be used to find \( k \).  

| Chapter Wrap Up | Review strategies for:  
- multiplying and dividing whole numbers  
- use multiplication and division strategies in solving real-world problems |

| CCSS: | 4.NBT.A.1  
4.NBT.A.2  
4.NBT.A.3  
4.NBT.B.5  
4.NBT.B.6  
4.OAA.1  
4.OAA.2  
4.OAA.3  

| TE-4A: | pp. 117-119  
A-4: | pp. 17-19  

| Chapter Wrap Up: pp. 118-119  
Chapter Test: Whole Number Multiplication and Division Assessment Book: pp. 17-19

### INSTRUCTIONAL FOCUS OF UNIT

- Students extend their understanding of place value to multiply and divide numbers.  
- Students discover that division is the inverse of multiplication.  
- Students use estimation to check the reasonableness of an answer.

### PARCC FRAMEWORK/ASSESSMENT

#### NJ DOE Model Curriculum Samples:

1. Use the equation \( 72 = 8 \times 9 \) to complete the following statement.  

\[ 72 \text{ is } 8 \text{ times as many as } ____ \text{ and } 9 \text{ times as many as } ____ . \]

2. Which expression is equal to 3,452 \( \times 6 \)?  
   a. \( 2,000 \times 6 + 300 \times 6 + 40 \times 6 + 5 \times 6 \)  
   b. \( 2,000 \times 6 + 400 \times 6 + 30 \times 6 + 5 \times 6 \)  
   c. \( 3,000 \times 6 + 400 \times 6 + 50 \times 6 + 2 \times 6 \)  
   d. \( 3,000 \times 6 + 500 \times 6 + 40 \times 6 + 2 \times 6 \)

3. Maria was asked to multiply 23 by 18. She showed the following work.
23
\times 18
200
160
30
\underline{+ 24}
414

Draw an area model and use it to explain how Maria got her answer.

4. Show how to find \( 288 \div 4 \).

5. Mr. Bruno ordered 78 pencils for the students in his class. He ordered enough pencils for each student to have exactly 3 pencils. How many students are in Mr. Bruno's class? Mr. Bruno ordered 78 pencils for the students in his class. He ordered enough pencils for each student to have 3 pencils. How many students are in Mr. Bruno's class? Use a letter to represent the number of students in Mr. Bruno's class. Write an equation and use it to solve the word problem.

6. A group of 5 friends has a total of 74 marbles. Each of the friends is given an equal number of marbles and there are 4 marbles left over. How many marbles did each friend get? Use a letter to represent the number of marbles each friend got. Write an equation and use it to solve the word problem.

### 21ST CENTURY SKILLS
(4Cs & CTE Standards)

- "MODIFICATIONS/ACCOMMODATIONS"
  - Use base-ten models to model finding products and quotients
  - Draw pictures to illustrate multiplication and division stories
  - Identify number stories as multiplication or division stories
  - Create and solve new multiplication and division problems using those in the chapter as models

### APPENDIX
(Teacher resource extensions)

- **4.NBT.A.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.
- **4.NBT.A.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.
- **4.NBT.A.3** - Use place value understanding to round multi-digit whole numbers to any place.
- **4.NBT.B.4** - Fluently add and subtract multi-digit whole numbers using the standard algorithm.
- **4.NBT.B.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.
value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

**4.NBT.B.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.

**4.OA.A.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.

**4.OA.A.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.

**4.OA.A.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.

---

### Benchmark 1: Cumulative Review of Chapters 1-3

**Total Number of Days:** 3  
**Grade/Course:** 4

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
</table>
WKBK-4B: pp. 87-92  
ExtraP-4B: pp. 69-76 | • Students complete review found in the workbook and extra practice book in preparation for benchmark 1 test |
| 1 day  | Assessment: Benchmark 1: Chapters 1-3 | Benchmark 1 Test  Assess concepts and skills developed in chapters 1-3 | CCSS: 4.NBT.A.1 4.NBT.A.2 4.NBT.A.3 4.NBT.B.4 4.NBT.B.5 4.NBT.B.6 4.OAA.1 4.OAA.2 | TE-4A: pp. 147C-147D  
A-4: pp. 94-102 | Assessment: Benchmark 1 Test |
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<tr>
<th>4.OA.A.3</th>
<th>4.OA.B.4</th>
<th>4.OA.C.5</th>
</tr>
</thead>
</table>

**MODIFICATIONS/ACCOMMODATIONS**

- Use grid paper to draw rectangles that represent different factors of the same number
- Draw arrays to show multiples and factors of numbers
- Use base-ten models to model finding products and quotients
- Draw pictures to illustrate multiplication and division stories
- Identify number stories as multiplication or division stories
- Create and solve new multiplication and division problems using those in the chapter as models

**APPENDIX**

*(Teacher resource extensions)*

- **4.NBT.A.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.
- **4.NBT.A.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.
- **4.NBT.A.3** - Use place value understanding to round multi-digit whole numbers to any place.
- **4.NBT.B.4** - Fluently add and subtract multi-digit whole numbers using the standard algorithm.
- **4.NBT.B.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.
- **4.NBT.B.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.
- **4.OA.A.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.
- **4.OA.A.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.
- **4.OA.A.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.
- **4.OA.B.4** - Find all factor pairs for a whole number in the range 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.
- **4.OA.C.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.
Chapter 4: Tables and Line Graphs - OMIT

Total Number of Days: 0  Grade/Course: 4

<table>
<thead>
<tr>
<th>ESSENTIAL QUESTIONS</th>
<th>ENDURING UNDERSTANDINGS</th>
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<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
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<td>Chapter 4 does not cover common core standards for fourth grade.</td>
<td>Math in Focus</td>
<td>OTHER (e.g., tech)</td>
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Chapter 5: Data and Probability - OMIT

Total Number of Days: 0  Grade/Course: 4

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<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
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<td></td>
<td>Math in Focus</td>
<td>OTHER (e.g., tech)</td>
</tr>
</tbody>
</table>
Chapter 5 does not cover common core standards for fourth grade.

Probability can be done at the end of the year if time allows.

Chapter 6: Fractions and Mixed Numbers

Total Number of Days: 23 Grade/Course: 4

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<thead>
<tr>
<th>ESSENTIAL QUESTIONS</th>
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<tbody>
<tr>
<td>• Why does the denominator remain the same when I add fractions with like denominators?</td>
<td></td>
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<tr>
<td>• How can improper fractions and mixed number be used interchangeably?</td>
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<tr>
<td>• How can I multiply whole number by a fraction?</td>
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<tr>
<td>• How do we apply our understanding of fractions in everyday life?</td>
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<tr>
<td>• Fractions can be represented visually and in written form.</td>
<td></td>
</tr>
<tr>
<td>• Fractions and mixed numbers are used to name wholes, and parts of a whole.</td>
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</tr>
<tr>
<td>• Fractions and mixed numbers can be added and subtracted.</td>
<td></td>
</tr>
<tr>
<td>• Fractional amounts can be multiplied.</td>
<td></td>
</tr>
<tr>
<td>• Mixed numbers and improper fractions can be used interchangeably.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
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<tbody>
<tr>
<td>1 day</td>
<td>Pre-Test</td>
<td>1. Represent fractions on a number line.</td>
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<td>2. Reduce Fractions to lowest term</td>
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<td>CCSS: 4.NF.A.1</td>
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<td>TE-4A: pp. 220-223</td>
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<td>Pre-Test: Chapter Test: Fractions and Mixed Numbers Assessment Bk pp. 50-52</td>
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<td>2 days</td>
<td>6.1.a: Equivalent Fractions</td>
<td>1. Reduce Fractions to lowest term</td>
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<td>2. Find equivalent fractions</td>
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<td>CCSS: 4.NF.A.1</td>
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<td>Grade 3 Reteach-3B pp. 85-96</td>
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<td>ExtraP-3B: Lesson 14.2</td>
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<td>Think Central <a href="https://www-k6.thinkcentral.com/ePC/view">https://www-k6.thinkcentral.com/ePC/view</a> Resources.do?m ethod=retrieve</td>
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<td>• Math Playground- Reducing</td>
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</tbody>
</table>
### Lesson 14.3 Resources

**Fractions Video:**

- Hands-On Activity: Reduce Fractions Shoot

- Assessment: Let's Practice pp. 226

### 1 day

#### 6.1: Adding Fractions

**(NOTE: As per common core standards students are responsible for adding fractions with like denominators only therefore omit problems that are unnecessary.)**

Refer to Grade 3 at Think Central when necessary.

1. Add fractions with like denominators
2. Add 3 or more fractions with like denominators
3. Decompose a fraction into a sum of fractions with the same denominator in more than one way.

For example,

\[
\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} ;
\]

\[
\frac{3}{8} = \frac{1}{8} + \frac{2}{8} ;
\]

\[
2 \frac{1}{8} = 1 + \frac{1}{8} = 8/8 + 8/8 + 1/8.
\]

**CCSS:**
- 4.NF.A.1
- 4.NF.B.3a
- 4.NF.B.3b

**MP:**
- MP.2
- MP.4
- MP.7
- MP.8

**TE-4A:**
- pp. 224-226

**Core:**
- WKBK-4A: pp. 137-138
- ExtraP-4A: pp. 95-96

**Basic:**
- Reteach-4A: pp. 139-146

**Advanced:**
- Enrich-4A: pp. 45

**ELL:**
- TE-4A: pp. 225

- Math Man Adding Fractions:

#### 5-minute Warm Up:
- pp. 224

- Hands-On Activity: Fruit Shoot Addition of Fractions
  [http://www.sheppardsoftware.com/mathgames/fractions/FruitShootFractionsAddition.htm](http://www.sheppardsoftware.com/mathgames/fractions/FruitShootFractionsAddition.htm)

- Assessment: Let's Practice pp. 226

### 1 day

#### 6.2: Subtracting Fractions

**(NOTE: As per common core standards students are responsible for subtracting fractions)**

1. Subtract fractions with like denominators

**CCSS:**
- 4.NF.A.1
- 4.NF.B.3a

**MP:**
- MP.2
- MP.4
- MP.7

**TE-4A:**
- pp. 227-229

**Core:**
- WKBK-4A: pp. 139-140

**ExtraP-4A:**
- pp. 45

- Math Man Subtracting Fractions:

#### 5-minute Warm Up:
- pp. 227

- Hands-On Activity: Fruit Shoot Subtraction of Fractions
  [http://www.sheppardsoftware.com/mathgames/fractions/FruitShootFractionsSubtraction.htm](http://www.sheppardsoftware.com/mathgames/fractions/FruitShootFractionsSubtraction.htm)

- Assessment: Let's Practice pp.
<table>
<thead>
<tr>
<th>2 days</th>
<th>6.3: Mixed Numbers</th>
</tr>
</thead>
</table>
| 1. Write a mixed number for a model  
*For example,*  
\[
\begin{array}{cccc}
\underline{\text{\textbullet}} \quad \underline{\text{\textbullet}} \quad \underline{\text{\textbullet}}
\end{array}
\]
\[= \ 2 \frac{1}{2}\]  
2. Draw models to represent mixed numbers  
3. Add a whole number and a fraction to get a mixed number  
*For example,*  
\[
\begin{array}{c}
3 \quad + \frac{1}{2}
\end{array}
\]
\[= 3 \frac{1}{2}\]  
4. Represent mixed numbers on a number line  
5. Write fractional parts of a mixed number in simplest form  
*For example,*  
\[
\begin{array}{c}
3 \quad \frac{1}{2}
\end{array}
\]
\[= 3 \frac{1}{2}\]  
| **CCSS:** | **TE-4A:** |
| 4.NF.B.3a | pp. 230-236 |
| **MP:** | **Core:** |
| MP.3 | - WKBK-4A: pp. 141-146  
- ExtraP-4A: pp. 99-102 |
| MP.4 | **Basic:** |
| MP.5 | Reteach-4A: pp. 155-158 |
| MP.6 | **Advanced:** |
| | TE-4A: pp. 231 |
| | **ELL:** |
| | TE-4A: pp. 231 |

- 5-minute Warm Up: pp. 230  
- Brain Pop Video: Mixed Numbers  
- Hands-On Activity: Use Fraction Circles to Show Mixed Numbers pp.231  
- Problem of the Lesson: pp. 231  
- Assessment: Let's Practice pp. 235
| 2 days | 6.4: Improper Fractions | 1. Write an improper fraction for a model.  
2. Express mixed numbers as improper fractions  
3. Express improper fractions in simplest form | CCSS:  
4.NF.B.3a  
4.NF.B.3b  
4.NF.B.4a  
MP:  
MP.3  
MP.4  
MP.6  
MP.7  
MP.8 | TE-4A:  
pp. 237-242  
Core:  
- WKBK-4A:  
pp. 147-150  
- ExtraP-4A:  
pp. 103-108  
Basic:  
Reteach-4A:  
pp. 159-164  
ELL:  
TE-4A:  
pp. 240  
Fraction Splat:  
- 5-minute Warm Up: pp. 237  
- Interactive Game: Fraction Splat  
- Problem of the Lesson: pp. 240  
- Assessment: Let’s Practice pp. 240 |
|---|---|---|---|---|---|
| 2 days | 6.5: Renaming Improper Fractions and Mixed Numbers | 1. Rename improper fractions as mixed numbers or whole numbers using models  
For example,  
\[
\frac{1}{2} = \frac{4}{2} + \frac{1}{2} = \frac{1}{2}
\]  
2. Rename improper fractions as mixed numbers or whole numbers using division  
For example,  
\[
7 \div 3 = 2 \text{ R} 1
\] | CCSS:  
4.NF.B.3b  
4.NF.B.4a  
MP:  
MP.4  
MP.5  
MP.7  
MP.8 | TE-4A:  
pp. 243-249  
Core:  
- WKBK-4A:  
pp. 151-154  
- ExtraP-4A:  
pp. 109-112  
Basic:  
Reteach-4A:  
pp. 165-172  
Advanced:  
TE-4A:  
pp. 244  
ELL:  
TE-4A:  
pp. 244  
Math Playground:  
Mixed Number to Improper Fraction  
http://www.mathplayground.com/fractions_mixed.html  
Math Playground:  
Improper Fraction to Mixed Number  
http://www.mathplayground.com/fractions_improper.html |  
- 5-minute Warm Up: pp. 243  
- Problem of the Lesson: pp. 244  
- Game: Roll and Rename pp. 246  
- Hands-On Activity: Interactive Practice: Math Playground  
- Assessment: Let’s Practice pp. 249 |
3. Rename a mixed number as an improper fraction using multiplication

For example,
Method 1:

Rename $3\frac{3}{4}$ as an improper fraction.

\[
3\frac{3}{4} = 3 + \frac{3}{4} \rightarrow \frac{15}{4} = \frac{15}{4}
\]

Method 2:

Rename $3\frac{3}{4}$ as an improper fraction.

First → whole x the denominator

\[
3 \times 4 = 12
\]

Next → product + numerator

\[
12 + 3 = 15
\]

Last → keep same denominator

\[
3\frac{3}{4} = \frac{15}{4}
\]

### 1 day

<table>
<thead>
<tr>
<th>6.0: Comparing Unlike Fractions</th>
<th>1. Compare unlike fractions using the symbols &gt;, =, or &lt;. For example, Compare using &gt;, &lt;, or =. $\frac{5}{7} &gt; \frac{3}{4}$</th>
</tr>
</thead>
</table>

### CCSS: 4.NF.A2 | Not in Math in Focus Book |
### MP: MP.6 | Common Core Focus Lessons and Activities [https://www-k6.thinkcentral.com/content/hsp/math/hspmath/na/gr4/Onlin e_Standards_Success_Planner_9780547673677/ebook.html](https://www-k6.thinkcentral.com/content/hsp/math/hspmath/na/gr4/Onlin e_Standards_Success_Planner_9780547673677/ebook.html) |

- Activity: Students compare unlike fractions using equivalent fractions.
- Activity: Students compare unlike fractions by coloring in fraction bar models.
- Let’s Practice: pp. 2-3
- Interactive Game: Tug Team Fractions
3. Complete inequalities with addition and subtraction of fractions.

*For example, Compare using >, <, or =.*

<table>
<thead>
<tr>
<th>2 days</th>
<th>6.6: Renaming Whole Numbers when Adding and Subtracting Fractions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(NOTE: As per common core standards students are responsible for adding and subtracting mixed numbers with like denominators only therefore omit problems that are unnecessary.)</td>
</tr>
<tr>
<td></td>
<td>1. Add two fractions with like denominators to get a mixed number as the sum</td>
</tr>
<tr>
<td></td>
<td>2. Subtract fractions from whole numbers</td>
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<tr>
<td></td>
<td>3. Add and subtract mixed numbers with like denominators</td>
</tr>
<tr>
<td></td>
<td>For example, ( \frac{5}{6} + \frac{1}{6} = \frac{5}{12} - \frac{1}{12} = )</td>
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<td><strong>CCSS:</strong> 4.NF.A.1 4.NF.B.3a 4.NF.B.3c</td>
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<td><strong>MP:</strong> MP.2 MP.4</td>
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<td><strong>TE-4A:</strong> pp. 250-254</td>
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<td><strong>Core:</strong> WKBK-4A: pp. 155-156  ExtraP-4A: pp. 113-114</td>
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<td><strong>Basic:</strong> Reteach-4A: pp. 173-180</td>
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<td><strong>Advanced:</strong> Enrich-4A: pp. 48-49</td>
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<td><strong>ELL:</strong> TE-4A: pp. 251</td>
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</tbody>
</table>

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<thead>
<tr>
<th>2 days</th>
<th>6.7: Fraction of a Set</th>
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<tbody>
<tr>
<td></td>
<td>1. Use a model to find a fractional part of a number</td>
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<tr>
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<td>2. Multiply to find a fractional part of a number</td>
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<td><strong>CCSS:</strong> 4.NF.B.4b 4.NF.B.4c</td>
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<td><strong>MP:</strong> MP.2 MP.4 MP.7 MP.8</td>
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<tr>
<td></td>
<td><strong>TE-4A:</strong> pp. 255-258</td>
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<tr>
<td></td>
<td><strong>Core:</strong> WKBK-4A: pp. 157-160  ExtraP-4A: pp. 115-116</td>
</tr>
<tr>
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<td><strong>Basic:</strong> Brain Pop Jr. More Fractions: <a href="http://www.brainpopjr.com/math/fractions/morefractions/preview.weml#">http://www.brainpopjr.com/math/fractions/morefractions/preview.weml#</a></td>
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<td><strong>TE-4A:</strong> pp. 255-258</td>
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<td><strong>TE-4A:</strong> pp. 255-258</td>
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<td><strong>Core:</strong> WKBK-4A: pp. 157-160  ExtraP-4A: pp. 115-116</td>
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<td><strong>TE-4A:</strong> pp. 255-258</td>
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<tr>
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<td><strong>TE-4A:</strong> pp. 255-258</td>
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<tr>
<td></td>
<td><strong>Core:</strong> WKBK-4A: pp. 157-160  ExtraP-4A: pp. 115-116</td>
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<tr>
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<td><strong>Basic:</strong> Brain Pop Jr. More Fractions: <a href="http://www.brainpopjr.com/math/fractions/morefractions/preview.weml#">http://www.brainpopjr.com/math/fractions/morefractions/preview.weml#</a></td>
</tr>
</tbody>
</table>
| 1 day | 6.7.a: Multiplying Fractions and Whole Numbers  
(Found in the Common Core Focus Lessons and Activities at Think Central) | 1. Solve word problems by multiplying a fraction and a whole number  
For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? | CCSS: 4.NF.B.4c  
MP:  
MP.1  
MP.4  
• Assessment: Let’s Practice: pp. 2 |
| 2 days | 6.8: Real-World Problems: Fractions  
(NOTE: As per common core standards students are responsible for adding and subtracting fractions with like denominators only therefore omit problems that are unnecessary.) | 1. Solve word problems involving addition and subtraction of fractions referring to the same whole and have like denominators  
For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie? | CCSS: 4.NF.A.1  
4.NF.B.3a  
4.NF.B.3d  
4.NF.B.4b  
4.NF.B.4c  
MP:  
MP.1  
MP.2  
• Problem of the Lesson: pp. 262  
• Hands-On Activity: Saxon Math Interactive Activity  
• Assessment: Let’s Practice pp. 267 |
### 2 days

#### 6.8a: Line Plots with Fractions of a Unit

1. Make a line plot to show a data set and use it to solve problems.
2. Show measurements in a line plot with a scale of fractions of a unit.
3. Solve problems by adding and subtracting fractions from data in a line plot.

*For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

**CCSS:**
- 4.MD.B.4

**MP:**
- MP.1
- MP.4

**TE-4A:** pp. 268-269

**ELL:**
- Not in Math in Focus Book

- **Hands-On Activity:** Make a line plot to show data and use it to solve problems.
- **Hands-On Activity:** Make a line plot with a scale of fraction of a unit.
- **Assessment:** Let's Practice pp. 3

---

### 2 days

#### Chapter Wrap Up

**Assessment**

Review the strategies for:
- adding and subtracting fractions
- renaming improper fractions and mixed numbers
- find fractions of a set
- add and subtract mixed numbers
- multiplying fractions and wholes
- creating and interpreting line plots

**CCCS:**
- 4.NF.A.1
- 4.NF.A.2
- 4.NF.B.3a
- 4.NF.B.3b
- 4.NF.B.3c
- 4.NF.B.3d
- 4.NF.B.4a
- 4.NF.B.4b
- 4.NF.B.4c
- 4.MD.B.4

**TE-4A:**
- pp. 270-273

**A-4:**
- pp. 50-52

- **Chapter Wrap Up:** pp. 272-273
- **Cumulative Review:** WKBK: pp 174-175, 179 #40, 180

Chapter Test: Fractions and Mixed Numbers

**(NOTE:** Omit any questions that were not addressed. Add questions for concepts that were added.)

---

### INSTRUCTIONAL FOCUS OF UNIT

- Students will learn to show amounts that are parts of a whole using decimals.
- Students will compare and order decimals.
Students will complete number patterns.
Students will express a fraction as a decimal and a decimal as a fraction.

**PARCC FRAMEWORK/ASSESSMENT**

**PARCC MODEL CONTENT FRAMEWORK FOR MATHEMATICS FOR GRADE 4**

- Fraction equivalence is an important theme within the standards that begins in grade 3. In grade 4, students extend their understanding of fraction equivalence to the general case, \( \frac{a}{b} = \frac{(n \cdot a)}{(n \cdot b)} \) (3.NF.3 \& 4.NF.1). They apply this understanding to compare fractions in the general case (3.NF.3d \& 4.NF.2).

- Students’ work with decimals (4.NF.5–7) depends to some extent on concepts of fraction equivalence and elements of fraction arithmetic. Students express fractions with a denominator of 10 as an equivalent fraction with a denominator of 100; comparisons of decimals require that students use similar reasoning to comparisons with fractions.

1. The label on a box of cookies states that one serving is \( \frac{1}{8} \) of the box. Each of the 6 people in a family ate one serving of the cookies. What fraction of the box of cookies did the family eat?

2. Jake wants to find the value of \( \frac{4}{10} + \frac{27}{100} \).
   
   **Part A**: What fraction can Jake write that is equal to \( \frac{4}{10} \) and has a denominator of 100.
   
   **Part B**: Show how you can use the fraction from Part A to find the value of \( \frac{4}{10} + \frac{27}{100} \).

3. Holly gives \( \frac{1}{3} \) cup of cat food to each of her 4 cats every morning. How much food does Holly need each morning to feed her 4 cats?
   
   **Part A**: Draw a model for the problem.
Part B: How much food does Holly need each morning to feed her 4 cats?

4. Which of the following fraction models can be used to show $3 \times \frac{2}{5}$?
   
   a. 
   
   b. 
   
   c. 
   
   d. 

   What is the value of $3 \times \frac{2}{5}$? ____________

5. The students in a study group each measured the thickness of their math notebooks. The results are shown in the line plot below.

   If the students stack their notebooks one on top the other, what will be the total thickness of the stack?

   a. $1\frac{7}{8}$ inches
   
   b. $2\frac{3}{8}$ inches
   
   c. $2\frac{1}{2}$ inches
   
   d. $2\frac{7}{8}$ inches

6. Which symbol ($<$, $=$, or $>$) belongs in the box below to make a true comparison? Write your answer in the box.
Draw a picture and use it to explain your answer.

7. Train A and train B left a train station at the same time and headed in the same direction. After five minutes, train A was \(5 \frac{1}{10}\) miles from the station and train B was \(2 \frac{7}{10}\) miles from the station. How much farther from the station is train A than train B? Show your work with an equation or a model.

21ST CENTURY SKILLS
(4Cs & CTE Standards)

MODIFICATIONS/ACCOMMODATIONS

- Use manipulatives to represent different fractions and mixed numbers
- Draw pictures to illustrate the addition and subtraction of fractions
- Tell stories involving the addition and subtraction of fractions

APPENDIX
(Teacher resource extensions)

4.NF.A.1 - Explain why a fraction \( \frac{a}{b} \) is equivalent to a fraction \( \frac{n \times a}{n \times b} \) 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.

4.NF.A.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 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.

4.NF.B.3 - Understand a fraction \( \frac{a}{b} \) with \( a > 1 \) as a sum of fractions \( \frac{1}{b} \).

4.NF.B.3a - Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

4.NF.B.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.

4.NF.B.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.

4.NF.B.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.

4.NF.B.4 - Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

4.NF.B.4a - Understand a fraction \( \frac{a}{b} \) as a multiple of \( \frac{1}{b} \).

4.NF.B.4b - Understand a multiple of \( \frac{a}{b} \) as a multiple of \( \frac{1}{b} \), and use this understanding to multiply a fraction by a whole number.

4.NF.B.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
Chapter 7: Decimals
Total Number of Days: 13    Grade/Course: 4

**ESSENTIAL QUESTIONS**

- How are decimals and fractions related?
- How can I model decimal fractions using the base-ten and place value system?
- When can tenths and hundredths be used interchangeably?
- When we compare two decimals, how can you determine which one has a greater value?
- Why is the number 10 important in our number system?

**ENDURING UNDERSTANDINGS**

- Decimals are another way to show amounts that are parts of a whole.
- Fractions can be expressed as decimals.
- Decimals can be represented visually and in written form.
- Tenths can be expressed using an equivalent fraction with a denominator of 100.

**PACING**

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
</table>
| 1 day  | Recall Prior Knowledge: Review | 1. Express fractions as equivalent fractions with a denominator of 10
2. Simplifying fractions with a denominator of 10
3. Round numbers to the nearest ten | CCSS:
4.NBT.A.1
4.NBT.A.2
Quick Check: pp. 3 (review)
Pre-Test: Chapter Test: Decimals Assessment Bk. pp. 62-63 |
| 2 days | 7.1: Understanding Tenths | 1. Write fractions in tenths as decimals
2. Find equivalent ones and tenths | CCSS:
4.NBT.A.1
4.NBT.A.2

**RESOURCES**

- TE-4B:
- Other (e.g., tech): [http://www.brainpop.com/math/numbersandoperations/decimals/](http://www.brainpop.com/math/numbersandoperations/decimals/)
<table>
<thead>
<tr>
<th>3 days</th>
<th>7.2: Understanding Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>3. Write mixed numbers as decimals</strong></td>
</tr>
<tr>
<td></td>
<td><strong>4. Write improper fractions as decimals</strong></td>
</tr>
<tr>
<td></td>
<td><strong>1. Express fractions with a denominator of 100 as decimals</strong></td>
</tr>
<tr>
<td></td>
<td><em>For example,</em> express 3/10 as 30/100; 0.3 as 0.30</td>
</tr>
<tr>
<td></td>
<td><strong>3. Represent and interpret hundredths models</strong></td>
</tr>
<tr>
<td></td>
<td><strong>4. Express ones, tenths, and hundredths as decimals</strong></td>
</tr>
<tr>
<td></td>
<td><strong>5. Express mixed numbers and improper fractions as decimals</strong></td>
</tr>
<tr>
<td></td>
<td><strong>6. Identify the place and value of each digit in a decimal</strong></td>
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<tr>
<td></td>
<td><strong>7. Use decimals to write dollars and cents</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Hands-On Activity:</strong> Use place-value chips and decimal place-value charts to express mixed numbers as decimals</td>
</tr>
<tr>
<td></td>
<td><strong>Hands-On Activity:</strong> Use place-value chips and decimal place-value charts to express improper fractions as decimals</td>
</tr>
<tr>
<td></td>
<td><strong>Interactive Game:</strong> Math Frog Naming Decimals</td>
</tr>
<tr>
<td></td>
<td><strong>Assessment:</strong> Let’s Practice</td>
</tr>
<tr>
<td></td>
<td><strong>5-minute Warm Up:</strong> pp. 13</td>
</tr>
<tr>
<td></td>
<td><strong>Problem of the Lesson:</strong> pp. 14</td>
</tr>
<tr>
<td></td>
<td><strong>Hands-On Activity:</strong> Use a decimal place-value chart and place-value chips to demonstrate regrouping hundredths as tenths</td>
</tr>
<tr>
<td></td>
<td><strong>Hands-On Activity:</strong> Use a decimal place-value chart and place-value chips to demonstrate how to express fractions as decimals</td>
</tr>
<tr>
<td></td>
<td><strong>Hands-On Activity:</strong> Use a decimal place-value chart and place-value chips to express mixed numbers as decimals</td>
</tr>
<tr>
<td></td>
<td><strong>Assessment:</strong> Let’s Practice</td>
</tr>
<tr>
<td></td>
<td><strong>pp.21-23</strong></td>
</tr>
</tbody>
</table>
For example, 33 dollars and 5 cents = $33.05

For example, 3 days 7 hours = 3.3 days

Comparing Decimals

1. Compare decimals using >, <, =, and justify conclusions by using models.

For example:
Complete each statement using >, <, or = to compare each pair of decimal numbers.
   a) 0.07 ______ 0.7
   b) 4.3 _____ 4

For example:
Daniel says that 0.62 is greater than 0.8 since 62 is greater than 8. Is Daniel correct? Use the grids below to create visual models to help explain your answer.

2. Order decimals

For example:
Order the decimals from least to greatest.
0.49, 0.4, 0.53

3. Complete number patterns

CCSS:
4.NBT.A.1
4.NBT.A.2
4.NF.C.7

MP:
MP.1
MP.3
MP.4
MP.5
MP.6
MP.7
MP.8

TE-4B:
pp. 24-34

Core:
WKBK-4B: pp. 9-12
Extra P-4B: pp. 13-16

Basic:
Reteach-4B: pp. 29-46

Advanced:
WKBK-4B: pp. 20

ELL:
TE-4B: pp. 25

Fruit Shoot
Comparing Decimals:
http://www.sh eppardsoftware .com/mathgame s/decimals/Co mpareDecimals .htm

Balloon Pop – Ordering Decimals:
http://www.sh eppardsoftware .com/mathgame s/decimals/Ball oonPopDecimal s1.htm

Balloon Pop Decimal Patterns:
http://www.sh eppardsoftware .com/mathgame s/decimals/Ball oonDecimalPatt erns.htm

5-minute Warm Up: pp. 24
Problem of the Lesson: pp. 25
Assessment: Let’s Practice pp. 27
Game: Decimal Game pp. 30
Hands-On Activity: pp. 31 - Use a ten-sided die to form and compare 2-digit decimals between 0 and 1
Let’s Explore: pp.32
Math Journal: pp. 33
Assessment: Let’s Practice pp. 34
### For example:

Find the missing number in the pattern.
3.34, 3.37, ____, ____, 3.46

<table>
<thead>
<tr>
<th>7.4: Rounding Decimals</th>
<th>OMIT not a common core standard for grade 4 is under grade 5</th>
</tr>
</thead>
</table>

### 2 days

<table>
<thead>
<tr>
<th>7.5: Fractions and Decimals</th>
</tr>
</thead>
</table>

1. Express fractions as decimals

*For example,*

Write \( \frac{7}{10} \) as a decimal.

\[ \frac{7}{10} = 0.7 \]

Write \( \frac{3}{100} \) as a decimal.

\[ \frac{3}{100} = 0.03 \]

2. Express decimals as fractions

*For example,*

Write 0.7 as a fraction.

\[ 0.7 = \frac{7}{10} \]

Write 0.03 as a fraction.

\[ 0.03 = \frac{3}{100} \]

3. Express improper fractions and mixed numbers as decimals

### CCSS:

4.NF.A.1
4.NF.B.3a
4.NF.C.6
4.NF.C.7

### MP:

MP.4
MP.5
MP.7
MP.8

### TE-4B:

pp. 42-47

### Core:

WKBK-4B: pp. 17-18

### ExtraP-4B:

pp. 21-22

### Basic:

Reteach-4B: pp. 51-56

### Advanced:

Enrich-4B: pp. 2-3

### ELL:

TE-4B: pp. 43

### Fruit Shoot Fractions to Decimals:

http://www.sheppardsoftware.com/mathgames/fractions/FractionsToDecimals.htm

### 5-minute Warm Up:

pp. 42

### Problem of the Lesson:

pp. 42

### Game:

Match Game pp. 46

### Interactive Practice:

Fruit Shoot

### Assessment:

Let’s Practice pp. 47
2 days  | Chapter Wrap Up Assessment  | Review the strategies for:  
- reading and writing tenths and hundredths  
- place value of decimals  
- completing patterns  
- comparing decimals  
- ordering decimals  
- expressing fractions as decimals  | CCCS:  
4.NBT.A.1  
4.NBT.A.2  
4.NF.A.1  
4.NF.B.3a  
4.NF.C.5  
4.NF.C.6  
4.NF.C.7  | TE-4B:  
pp. 50-52  
A-B:  
pp. 62-63  | • Chapter Wrap Up: pp. 51-52  
• Chapter Test: Decimals  
(NOTE: Omit any questions that were not addressed. Add questions for concepts that were added.)

INSTRUCTIONAL FOCUS OF UNIT
• Students will learn to show amounts that are parts of a whole using decimals.  
• Students will compare and order decimals.  
• Students will express fractions as decimals.

PARCC FRAMEWORK/ASSESSMENT

PARCC MODEL CONTENT FRAMEWORK FOR MATHEMATICS FOR GRADE 4
Students’ work with decimals (4.NF.5–7) depends to some extent on concepts of fraction equivalence and elements of fraction arithmetic. Students express fractions with a denominator of 10 as an equivalent fraction with a denominator of 100; comparisons of decimals require that students use similar reasoning to comparisons with fractions.

NJ DOE Model Curriculum Samples:

1. Howard placed 100 pennies in a pile. He removed 48 pennies from the pile.
   Part A: Write a fraction to represent the part of the pile of pennies that Howard removed.
   Part B: Write a decimal to represent the part of the pile of pennies that Howard removed.

2. Kelly finds \( \frac{7}{10} + \frac{11}{100} \). Her work is shown in the box below.

Since the two fractions have different denominators, I wrote \( \frac{7}{10} \) with a denominator of 100. \( \frac{7}{10} = \frac{70}{100} \), so I added \( \frac{70}{100} + \frac{11}{100} = \frac{81}{100} \).
Kelly’s work contains an error. State the error that Kelly made. Show how to find \( \frac{7}{10} + \frac{11}{100} \) correctly.

3. Complete the table below with the decimal number that is equal to each fraction.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{18}{100} )</td>
<td>( 0.18 )</td>
</tr>
<tr>
<td>( \frac{3}{10} )</td>
<td>( 0.3 )</td>
</tr>
<tr>
<td>( \frac{7}{100} )</td>
<td>( 0.07 )</td>
</tr>
<tr>
<td>( \frac{76}{100} )</td>
<td>( 0.76 )</td>
</tr>
</tbody>
</table>

21ST CENTURY SKILLS
(4Cs & CTE Standards)

MODIFICATIONS/ACCOMMODATIONS

APPENDIX
(Teacher resource extensions)

4.NBT.A.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.
4.NBT.A.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.
4.NF.A.1 - Explain why a fraction \( \frac{a}{b} \) is equivalent to a fraction \( \frac{n \times a}{n \times b} \) 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.
4.NF.B.3a - Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
4.NF.C.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.
4.NF.C.6 - Use decimal notation for fractions with denominators 10 or 100.
4.NF.C.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.

### Chapter 8: Adding and Subtracting Decimals

#### Total Number of Days: 6  Grade/Course: 4

<table>
<thead>
<tr>
<th>ESSENTIAL QUESTIONS</th>
<th>ENDURING UNDERSTANDINGS</th>
</tr>
</thead>
</table>
| ▪ Why is place value important when adding whole numbers and decimal numbers?  
  ▪ Why is place value important when subtracting whole numbers and decimal numbers?  
  ▪ What strategies can I use to add and subtract decimals? | ▪ Decimals can be added and subtracted in the same ways as whole numbers.  
  ▪ Addition and subtraction with decimals are based on the concept of adding and subtracting the numbers in like position values. |

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>OTHER (e.g. tech)</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
</table>
| 1 day  | Pre-Test|        |                     |           |                  | Pre-Test: Chapter Test: Adding and Subtracting Decimals  
  Assessment Bk. pp. 66-68 |
|        |         | 1. Add and subtract money amounts with or without regrouping  
  2. Solve real-world problem using addition and subtraction of fractions. | CCSS:  
  4.OA.A.3  
  4.MD.A.2 | TE-4B:  
| 1 day  | 8.1 and 8.2: Adding Decimals and Subtracting Decimals | 1. Add decimals up to two decimal places.  
  2. Subtract decimals up to two decimal places. | CCSS:  
  4.OA.A.3  
  4.MD.A.2  
  MP:  
  MP.2  
  MP.3  
  MP.4  
  MP.5  
  MP.7  
  MP.8 | TE-4B:  
  pp. 56-71 | Core:  
  WKBK-4B:  
  pp. 21-32 | Baseball Math – Adding Fractions:  
  Extra P-4B:  
  pp. 25-30  
  Basic:  
  Reteach-4B:  
  Hoop Shoot – | |
|        |         |                     |           |           |                   | 5-minute Warm Up: pp. 65  
  Problem of the Lesson: pp. 57  
  Problem of the Lesson: pp. 67  
  Hands-On Activity: Model addition and subtraction of decimals using place-value chips  
  Interactive Game: Baseball Math  
  Interactive Game: Hoop Shoot  
  Assessment: Let’s Practice pp. 60 and pp. 71 |
problems using money therefore lesson 1 and 2 are being combined as review.)

### 2 days

#### Lesson 8.3: Real-World Problems: Decimals

1. Solve real-world problems involving addition and subtraction of decimals.

   For example, Paul saved up $71. Then he got $12 for his allowance. Paul spent $9 on a pair of gloves, $10 on a winter hat, and $29 on a scarf. How much money does Paul have left?

   For example, Peter is 0.08 meter taller than Nick. Sam is 0.16 meter shorter than Peter. If Sam is 1.65 meters tall, what is Nick's height?

   **CCSS:**
   - 4.OA.A.3
   - 4.MD.A.2

   **MP:**
   - MP.1
   - MP.2
   - MP.3
   - MP.4
   - MP.6
   - MP.7
   - MP.8

### 2 days

#### Chapter Wrap Up

Review the strategies for:
- adding and subtracting fractions
- solve word problems involving money and simple decimals

**CCCS:**
- 4.OA.A.3
- 4.MD.A.2

**TE-4B:**
- pp. 77-79

**A-4B:**
- pp. 66-68

**Advanced:**
- TE-4B:
  - pp. 76

**ELL:**
- TE-4B:
  - pp. 57 & 66

### Subtraction Fractions


### Math Playground


### 5-minute Warm Up

- pp. 72

### Problem of the Lesson

- pp. 72

### Hands-On Activity: Math Playground Bar Model Activity

### Assessment: Let's Practice

- pp. 75

**NOTE:** Omit any questions that were not addressed. Add questions for concepts that were added.)
INSTRUCTIONAL FOCUS OF UNIT

- Students add and subtract decimals by using the same algorithms as whole numbers.
- Students solve real-world problems involving addition and subtraction of decimals.

PARCC FRAMEWORK/ASSESSMENT

Study Island Samples:  
https://www50.studyisland.com/cfw/test/print-practice-worksheet/a01a7?CFID=24628155&CFTOKEN=55943067&packId=b73c7b&qgList=bb1d2591

1. Daniel bought a cell phone for $50, a service plan for $21.65, and a pocket protector for the phone for $18.75. How much did he spend?

2. Chelsea bought a sandwich for $7.16. She paid with a $20 bill. Which of the following could be the change she received?
   A. 1 $10-bill, 2 $1-bills, 2 quarters, 2 dimes, and 4 pennies
   B. 1 $10-bill, 3 $1-bills, 2 quarters, 3 dimes, and 4 pennies
   C. 1 $10-bill, 2 $1-bills, 3 quarters, 3 dimes, and 4 pennies
   D. 1 $10-bill, 2 $1-bills, 2 quarters, 3 dimes, and 4 pennies

3. Barbara bought one bag of grapes, one bunch of bananas, and one bag of apples from a farmers market. Using the price chart below, how much did she spend?

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>apples</td>
<td>$3.40 a bag</td>
</tr>
<tr>
<td>kiwi</td>
<td>$0.33 each</td>
</tr>
<tr>
<td>grapes</td>
<td>$2.50 a bag</td>
</tr>
<tr>
<td>oranges</td>
<td>$0.78 each</td>
</tr>
<tr>
<td>bananas</td>
<td>$1.39 a bunch</td>
</tr>
</tbody>
</table>

4. Cheyenne has $0.65 in nickels, $2.40 in dimes, and $1.75 in quarters. How much total money does she have?

5. Mrs. Thompson loves to send money to her 6 grandchildren for the holidays. She sent a total of $42.00 to her grandchildren last year. She gave an equal amount to each grandchild. How much money did each grandchild receive for the holidays last year?

6. Henry earns $8.00 each week mowing his neighbor's lawn. How much money does he earn in 7 weeks?

7. Bill washes his mom's car once every 2 weeks and gets paid $20.00 each time. How much does he earn in 22 weeks?
Chapter 9: Angles

Total Number of Days: 11  Grade/Course: 4

<table>
<thead>
<tr>
<th>ESSENTIAL QUESTIONS</th>
<th>ENDURING UNDERSTANDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How does a turn relate to an angle?</td>
<td>• Angles can be seen and measured when two rays or sides of a shape meet.</td>
</tr>
<tr>
<td>• What do we actually measure when we measure an angle?</td>
<td>• Angle measurement can be thought of as a measure of rotation.</td>
</tr>
<tr>
<td>• How are angles present in our environment?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>OTHER (e.g., tech)</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 days</td>
<td>9.1: Understanding and Measuring Angles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Use letters to name rays and angles For example,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which label below describes an angle in the figure above?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. XYP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. RQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. MNS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. QS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Estimate angles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For example, Estimate the measurement of this angle.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Measure angles with a protractor For example, Use a protractor to find the measurement of this angle.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Estimate whether the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CCSS:**
- 4.MD.C.5a
- 4.MD.C.6
- 4.MD.C.7
- 4.G.A.1

**MP:**
- MP.2
- MP.3
- MP.4
- MP.5
- MP.6

**TE-4B:**
- pp. 85-93

**Core:**
- WKBK-4B: pp. 45-50
- ExtraP-4B: pp. 37-42

**Basic:**
- Reteach-4B: pp. 95-100

**ELL:**
- TE-4B: pp. 86


**Math Journal:**
- pp. 92

**Assessment:**
- Let's Practice pp. 93

- 5-minute Warm Up: pp. 85
- Problem of the Lesson: pp. 86
- Hands-On Activity: Use Angle Strips to Make Right-Angle Turns pp. 87
- Hands-On Activity: Estimate and Measure Angles pp. 91
- Interactive Activity: Math Playground Measuring Angles
- Math Journal: pp. 92
- Assessment: Let's Practice pp. 93
| 2 days | 9.2: Drawing Angles to 180° | 1. Use a protractor to draw acute and obtuse angles.  
*For example,*  
Ray FE is given below. Draw ray FG so that angle EFG is an obtuse angle.  

| CCSS: | 4.MD.C.6  
4.MD.C.7  
4.G.A.1  
**MP:** | MP.2  
MP.3  
MP.4  
MP.5  
MP.6  
**TE-4B:** | pp. 94-97  
**Core:** | WKBK-4B:  
pp. 51-54  
ExtraP-4B:  
pp. 43-44  
**Basic:** | Reteach-4B:  
pp. 101-102  
**Advanced:** | Enrich-4B:  
pp. 15-16  
**ELL:** | TE-4B:  
pp. 95  
**Math in Focus Virtual Manipulatives:** | Core:  
Virtual Angles:  
https://www-k6.thinkcentral.com/ePC/viewResources.do?method=retrieveResources&pageName=resourcePage  
**Math Playground Alien Angles:** | http://www.mathplayground.com/alienangles.html  
**5-minute Warm Up:** | pp. 94  
**Problem of the Lesson:** | pp. 95  
**Hands-On Activity:** | Draw Estimated Angle Measures pp. 96  
**Interactive Game:** | Alien Angles  
**Assessment:** | Let’s Practice pp. 97 |

| 2 days | 9.3: Turns and Right Angles | 1. Relate $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, and full turns to the number of right angles  
*For example,*  
105° is between a ______ turn and a ______ turn.  

| CCSS: | 4.MD.C.5a  
4.MD.C.5b  
4.MD.C.6  
4.MD.C.7  
4.G.A.1  
**MP:** | MP.1  
**TE-4B:** | pp. 98-100  
**Core:** | WKBK-4B:  
pp. 55-58  
ExtraP-4B:  
pp. 45-46  
**Kung Fu Angles:** | Core:  
Kung Fu Angles:  
http://www.bbc.co.uk/keyskills/flash/kfa/kfa.shtml  
**5-minute Warm Up:** | pp. 98  
**Problem of the Lesson:** | pp. 98  
**Hands-On Activity:** | Use Angle Strips to Show Turns pp. 99  
**Interactive Game:** | Kung Fu Angles  
**Assessment:** | Let’s Practice pp. 100 |
<table>
<thead>
<tr>
<th>1 day</th>
<th>9.3.a: Understanding Angle Measurement</th>
<th>MP.2</th>
<th>Basic: Reteach-4B: pp. 103-104</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Found in the Common Core Focus Lessons and Activities at Think Central)</td>
<td>MP.3</td>
<td>Advanced: WKBK-4B: pp. 59-60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MP.4</td>
<td>ELL: TE-4-B: pp. 99</td>
</tr>
<tr>
<td></td>
<td>Two right angles make up _______ turn.</td>
<td>MP.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MP.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MP.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MP.8</td>
<td></td>
</tr>
</tbody>
</table>

**Hands-On Activity:** Draw and measure an angle that turns through 1/360 of a circle pp.1

<table>
<thead>
<tr>
<th>1 day</th>
<th>9.3.b: Understanding Angle Measure in Additive</th>
<th>CCSS: 4.MD.C.5a</th>
<th>Not in Math In Focus Book</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Found in the Common Core Focus Lessons and Activities at Think Central)</td>
<td>MP: MP.5</td>
<td>Common Core Focus Lessons and Activities: <a href="https://www-k6.thinkcentral.com/content/hsp/math/hspmath/na/gr4/Online">https://www-k6.thinkcentral.com/content/hsp/math/hspmath/na/gr4/Online</a> Standards_SuccessPlanner_9780547673677/assets/pdf/TE/MIF_GapFillers4B_C09_L9.3a.pdf</td>
</tr>
<tr>
<td></td>
<td>1. Understand that an angle that turns through 1/360 of a circle is called a &quot;one-degree angle&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Find unknown angles on a diagram using addition or subtraction</td>
<td>CCSS: 4.MD.C.7</td>
<td>Not in Math In Focus Book</td>
</tr>
<tr>
<td></td>
<td>For example, The measure of angle NOP is 140°. What is the value of x?</td>
<td>MP: MP.1</td>
<td>Common Core Focus Lessons and Activities: <a href="https://www-k6.thinkcentral.com/content/hsp/math/hspmath/na/gr4/Online">https://www-k6.thinkcentral.com/content/hsp/math/hspmath/na/gr4/Online</a> Standards_SuccessPlanner_9780547673677/assets/pdf/TE/MIF_GapFillers4B_C09_L9.3b.pdf</td>
</tr>
<tr>
<td></td>
<td>2. Solve addition and subtraction problems to find unknown angles on a diagram</td>
<td>MP.4</td>
<td></td>
</tr>
</tbody>
</table>

**Hands-On Activity:** Use a protractor to show angle measure is additive pp.1

**Assessment:** Let's Practice pp. 2-3
2 days | Chapter Wrap Up Assessment
---|---
| **Review the strategies for:**
- naming angles
- measuring angles using a protractor
- drawing angles using a protractor
- find the unknown angles on a diagram
- relate turns to angles

**CCCS:**
4.MD.C.5a
4.MD.C.5b
4.MD.C.6
4.MD.C.7
4.G.A.1

**TE-4B:**
pp. 102-104

**A-4B:**
pp. 72-75

- Chapter Wrap Up: pp. 103-104
- Chapter Test: Angles Assessment Bk. pp. 72-75

### INSTRUCTIONAL FOCUS OF UNIT
- Students estimate and measure angles to 180°.
- Students use a protractor to measure angles.
- Students understand that a ¼ turn is the same as a right angle, a ½ turn is the same as two right angles, a ¾ turn is the same as three right angles, and a full turn is the same as four right angles.

### PARCC FRAMEWORK/ASSESSMENT

**PARCC MODEL CONTENT FRAMEWORK FOR MATHEMATICS FOR GRADE 4**
Standard 4.MD.7 refers to word problems involving unknown angle measures. Before this standard can be met, students must understand concepts of angle measure (4.MD.5) and, presumably, gain some experience measuring angles (4.MD.6). Before that can happen, students must have some familiarity with the geometric terms that are used to define angles as geometric shapes (4.G.1).

**NJ DOE Model Curriculum Samples:**

1. What is the measure of the angle below?

![Angle Image]
2. A scale drawing of the front view of a house is shown below.

What is the measure of angle 1? __________
What is the measure of angle 2? __________

3. The measure of angle $GJH$ is $26^\circ$. What is the measure of angle $HJI$?

4. Every second, a security camera turns $1^\circ$ clockwise and takes a photograph. The camera does this for 75 seconds. What is the total measure, in degrees, of the angle turned by the camera?

5. Kevin is seated in a swivel chair. He turns $71^\circ$ clockwise and then turns $13^\circ$ counterclockwise, as shown in the figure below. How many degrees counterclockwise does Kevin need to turn to face his original direction?

6. The minute hand of a clock turned $300^\circ$. How many one-degree angles did the minute hand turn?
## 21st Century Skills

*(4Cs & CTE Standards)*

- 

## Modifications/Accommodations

- 

## Appendix

*(Teacher resource extensions)*

**4.MD.C.5** - Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

**4.MD.C.5a** - 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 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.

**4.MD.C.5b** - An angle that turns through $n$ one-degree angles is said to have an angle measure of $n$ degrees.

**4.MD.C.6** - Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

**4.MD.C.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.

**4.G.A.1** - Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

### Chapter 10: Perpendicular and Parallel Line Segments

**Total Number of Days:** 8  **Grade/Course:** 4

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>Recall Prior Knowledge: Review</td>
<td>1. Define perpendicular lines</td>
<td><strong>CCSS:</strong> 4.G.A.1, 4.G.A.2</td>
<td><strong>TE-4B:</strong> pp. 105-110</td>
<td><strong>Quick Check:</strong> pp. 109-110 (review)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Define parallel lines</td>
<td></td>
<td>Brain Pop Video: <a href="http://www.brainpop.com/math/geometryandmeasurement/">http://www.brainpop.com/math/geometryandmeasurement/</a></td>
<td><strong>Pre-Test:</strong> Chapter Test: Perpendicular and Parallel Line Segments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Identify perpendicular lines in everyday objects</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 2 days | 10.1: Drawing Perpendicular Line Segments | 1. Draw perpendicular line segments | **CCSS:**  
4.G.A.1  
4.G.A.2  
**MP:**  
MP.3  
MP.4  
MP.5  
MP.6 | **TE-4B:**  
pp. 111-114  
**Core:**  
- WKBK-4B: pp. 61-62  
- ExtraP-4B: pp. 49-50  
**Basic:**  
Reteach-4B: pp. 105-110  
**ELL:**  
TE-4B: pp. 112 | Lines Practice:  
http://www.studyzone.org/testprep/math4/d/lines4p.cfm  
- 5-minute Warm Up: pp. 111  
- Hands-On Activity: Use a Drawing Triangle to Draw Perpendicular Line Segments  
- Problem of the Lesson: pp. 112  
- Hands-On Activity: Use a Straightedge to Draw Perpendicular Line Segments pp. 113  
- Interactive Activity: Lines Practice  
- Assessment: Let’s Practice pp. 114 |
| 2 days | 10.2: Drawing Parallel Line Segments | 1. Draw parallel line segments | **CCSS:**  
4.G.A.1  
4.G.A.2  
**MP:**  
MP.2  
MP.3  
MP.4  
MP.5  
MP.6  
MP.7  
MP.8 | **TE-4B:**  
pp. 115-118  
**Core:**  
- WKBK-4B: pp. 63-64  
- ExtraP-4B: pp. 51-52  
**Basic:**  
Reteach-4B: pp. 111-114  
**Advanced:**  
Enrich-4B: pp.  
**ELL:**  
TE-4B: pp. 116 | Line Shoot:  
http://www.sh eppardsoftware .com/mathgame s/geometry/sh a peshoot/line_sh oot.htm  
- 5-minute Warm Up: pp. 115  
- Problem of the Lesson: pp. 116  
- Interactive Game: Line Shoot  
- Assessment: Let’s Practice pp. 118 |
### 1 day
10.3: Horizontal and Vertical Lines

| 1. Identify and name horizontal and vertical lines |
| 2. Identify and name horizontal and vertical line segments |

**CCSS:** 4.G.A.1  
**MP:**  
- MP.1  
- MP.2  
- MP.4  
- MP.5

**TE-4B:** pp. 119-121  
**Core:**  
- WKBK-4B: pp. 65-68  
- ExtraP-4B: pp. 53-54  
**Basic:**  
- Reteach-4B: pp. 115-116  
**Advanced:**  
- TE-4B: pp. 121  
**ELL:**  
- TE-4B: pp. 120

Math in Focus eBooks:  
https://www-k6thinkcentral.com/ePC/view Resources.do?method=retrieve Resources&pageName=resourcedpage

- 5-minute Warm Up: pp. 119  
- Problem of the Lesson: pp. 120  
- Hands-On Activity: Draw lines and line segments using a straight edge and name them  
- Interactive Game: Kung Fu Angles  
- Assessment: Let’s Practice pp. 121

### 2 days
Chapter Wrap Up Assessment

Review the strategies for:  
- drawing perpendicular and parallel line segments using a protractor and drawing triangle  

**CCCS:**  
4.G.A.1  
4.G.A.2  

**TE-4B:** pp. 122-124  
**A-4B:** pp. 80-85

- Chapter Wrap Up: pp. 123-124  
- Chapter Test: Angles Assessment Bk. pp. 80-85

### INSTRUCTIONAL FOCUS OF UNIT
- Students draw perpendicular and parallel line segments.  
- Students identify horizontal and vertical lines.

### PARCC FRAMEWORK/ASSESSMENT

**NJ DOE Model Curriculum Samples:**

1. The figure below shows trapezoid \( RSTU \).
Name one right angle in trapezoid RSTU 
Name one acute angle in trapezoid RSTU 
Name one obtuse angle in trapezoid RSTU 
Name one pair of parallel line segments in trapezoid RSTU 
Name one pair of perpendicular line segments in trapezoid RSTU 

2. Draw and label lines $AB$ and $CD$ intersecting at point $B$. 

21ST CENTURY SKILLS
(4Cs & CTE Standards)

MODIFICATIONS/ACCOMMODATIONS

APPENDIX
(Teacher resource extensions)
**4.G.A.1** - Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

**4.G.A.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.

---

**Chapter 11: Squares and Rectangles**

**Total Number of Days:** 9  
**Grade/Course:** 4

### ESSENTIAL QUESTIONS

- How do geometric shapes exist in our everyday world?
- How can types of sides be used to classify quadrilaterals?
- How can triangles be classified by the measure of their angles?

### ENDURING UNDERSTANDINGS

- Squares and rectangles are four-sided figures with special properties.
- Geometric figures can be classified based on their properties.

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
</table>
| 1 day  | Recall Prior Knowledge: Review | 1. Identify Squares and Rectangles  
2. Decompose shapes made up of squares and rectangles  
3. Find the perimeter of a square and a rectangle | **CCSS:**  
4.MD.A.1  
4.MD.A.2  
4.MD.C.7  
4.OA.A.3  
4.G.A.2 | **TE-4B:** pp. 125-128 | **Quick Check:** pp. 127-128 (review)  
**Pre-Test:** Chapter Test: Squares and Rectangles  
Assessment Bk. pp. 94-102

( NOTE: Omit any questions that will not be addressed. Add questions for concepts that will be added.)

| 1 day  | 11.0.a: Classifying Shapes | 1. Classify shapes by properties of their lines and angles  
For example,  
A figure has exactly four right angles. What type of figure is it?  
A. trapezoid | **CCSS:**  
4.G.A.1  
4.G.A.2 | Not in Math in Focus Book | Polygon Game: [http://www.mathplay.com/Polygon-Game.html](http://www.mathplay.com/Polygon-Game.html)  
- Polygon Song: [http://www.youtube.com/watch?v=cAka-Kq7CA](http://www.youtube.com/watch?v=cAka-Kq7CA)  
- Hands-On Activity: Students use geoboards to create different types of polygons  
- Assessment: Students draw... |
<table>
<thead>
<tr>
<th><strong>Day</strong></th>
<th><strong>Objective</strong></th>
<th><strong>Topics</strong></th>
<th><strong>Exercises</strong></th>
<th><strong>Resources</strong></th>
</tr>
</thead>
</table>
| **1 day** | **11.0.b: Types of Triangles** | B. triangle  
C. square  
D. pentagon | 1. Identify types of triangles  
*For example,*  
What kind of triangle is shown above?  
*For example,*  
A triangle has angles that measure 63°, 66°, and 51°. What kind of triangle is it? | **CCSS:** 4.G.A.2  
**MP:**  
MP.4  
MP.5 | **Classifying Triangles:** [http://www.math-play.com/classifying-triangles/classifying-triangles.html](http://www.math-play.com/classifying-triangles/classifying-triangles.html)  
**Triangle Song:** [http://www.youtube.com/watch?v=DUNxLGlhF-CqM](http://www.youtube.com/watch?v=DUNxLGlhF-CqM)  
**Hands-On Activity:** Students use geoboards and dot paper to create different types of triangles and then sort them using their properties  
**Assessment:** Students draw examples of the following triangles – right triangle, isosceles triangle, equilateral triangle, and scalene triangle and describe the properties of each triangle |

| **2 days** | **11.1: Squares and Rectangles** | 1. Identify a square and its properties  
2. Identify a rectangles and its properties  
3. Decompose shapes into squares and rectangles | **CCSS:** 4.M.D.A.1  
4.M.D.A.2  
4.M.D.C.7  
4.G.A.2  
**MP:**  
MP.2  
MP.3  
MP.4  
MP.5  
MP.6  
MP.7  
MP.8  
**TE-4B:** pp. 129-138  
**Core:**  
- WKBK-4B: pp. 73-76  
- ExtraP-4B: pp. 59-64  
**Basic:**  
Reteach-4B: pp. 117-118  
**Advanced:**  
WKBK-4B: pp. 84-85 | **Quadrilateral Shape Shoot:** [http://www.sh eppardsoftware.com/mathgames/geometry/shapeshoot/QuadS hapesShoot.htm](http://www.sh eppardsoftware.com/mathgames/geometry/shapeshoot/QuadS hapesShoot.htm)  
**5-minute Warm Up:** pp. 129  
**Hands-On Activity:** Form Squares and Rectangles on a Geoboard pp.133  
**Problem of the Lesson:** pp. 130  
**Hands-On Activity:** Form Composite Figures on a Geoboard pp. 135  
**Hands-On Activity:** Use Paper Strips to Form Squares and Rectangles  
**Assessment:** Let’s Practice pp. 137-138 |
<table>
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<tr>
<th>2 days</th>
<th>11.2: Properties of Squares and Rectangles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Find the unknown angle measures of squares and rectangles</td>
</tr>
<tr>
<td></td>
<td>2. Find the unknown side lengths of squares and rectangles</td>
</tr>
<tr>
<td></td>
<td><strong>CCSS:</strong> 4.MD.A.1 4.MD.A.2 4.MD.C.7 4.OA.A.3</td>
</tr>
<tr>
<td></td>
<td><strong>MP:</strong> MP.1 MP.2 MP.3 MP.4 MP.6 MP.7</td>
</tr>
<tr>
<td></td>
<td><strong>TE-4B:</strong> pp. 130-143</td>
</tr>
<tr>
<td></td>
<td><strong>Math Is Fun – Quadrilaterals:</strong> <a href="http://www.mathsisfun.com/quadrilaterals.html">http://www.mathsisfun.com/quadrilaterals.html</a></td>
</tr>
<tr>
<td></td>
<td><strong>Core:</strong> - WKBK-4B: pp. 139-143 - ExtraP-4B: pp. 65-66</td>
</tr>
<tr>
<td>2 days</td>
<td>Chapter Wrap Up Assessment</td>
</tr>
<tr>
<td></td>
<td>Review: - properties of polygons - types of lines - decomposing squares and rectangles - finding unknown angle measures and side lengths of squares and rectangles</td>
</tr>
<tr>
<td></td>
<td><strong>TE-4B:</strong> pp. 145-147</td>
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<tr>
<td></td>
<td><strong>A-4B:</strong> pp. 89-93</td>
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<td><strong>Chapter Wrap Up: pp. 146-147</strong></td>
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<tr>
<td></td>
<td><strong>Chapter Test:</strong> Squares and Rectangles Assessment Bk. pp. 89-93</td>
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<tr>
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<td><strong>(NOTE: Omit any questions that were not addressed. Add questions for concepts that were added.)</strong></td>
</tr>
</tbody>
</table>

**INSTRUCTIONAL FOCUS OF UNIT**

- Students classify shapes by properties of their lines and angles
- Students identify squares and rectangles based on their properties.
- Students decompose shapes made up of squares and rectangles.
- Students apply their knowledge of squares and rectangles to find unknown angle measures and side lengths of figures.
1. What statement below correctly describes the figure above?
A) A trapezoid with parallel sides and exactly two right angles.
B) A trapezoid with two sets of parallel sides and four perpendicular sides.
C) A trapezoid with parallel sides and four right angles.
D) A trapezoid with parallel sides and four right angles.

2. Which statement below matches the square above?
A. The figure has two pairs of perpendicular lines and no parallel lines.
B. The figure has two pairs of parallel sides that are the same length and perpendicular to each other.
C. The figure has two pairs of parallel lines that are the same length and no perpendicular lines.
D. The figure has two pairs of perpendicular lines and one pair of parallel lines.

3. Which of the triangles below is a right triangle?

4. Which statement below matches the figure above?
A. The figure has two pairs of perpendicular lines and no parallel sides.
B. The figure has two pairs of parallel sides and no perpendicular lines.
C. The figure has two pairs of perpendicular lines and one pair of parallel sides.
D. The figure has two pairs of parallel sides that are perpendicular to each other.

5. A figure has two pairs of parallel lines that are the same length. What type of figure is it?

**NJ DOE Model Curriculum Samples:**

1. Use the figures shown below to answer questions 10–12.

![Figures A to L](image)

a. Circle all of the figures above that appear to have at least one pair of parallel sides.
b. Shade all of the figures above that have at least one right angle.
c. Put an “X” through all of the figures above that do not have an obtuse angle.

### 21st Century Skills

(4Cs & CTE Standards)

- 

### Modifications/Accommodations

- 

### Appendix

(Teacher resource extensions)

4.MD.A.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.

4.MD.A.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.
4.G.A.1 - Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.A.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.

4.OA.A.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.

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<tr>
<th>PACING</th>
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<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
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<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
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</thead>
<tbody>
<tr>
<td>2 days</td>
<td>Cumulative Review: Chapters 7-8</td>
<td>Review concepts and skills developed in chapters 7 and 8.</td>
<td><strong>CCSS:</strong> 4.NBT.A.1 4.NBT.A.2 4.NF.A.1 4.NF.B.3a 4.NF.C.5 4.NF.C.6 4.NF.C.7 4.OA.A.3 4.MD.A.2</td>
<td><strong>TE-4B:</strong> pp. 79A-79B  <strong>WKBK-4B:</strong> pp. 37-44</td>
<td>• Students complete review found in the workbook in preparation for benchmark 2 test</td>
</tr>
<tr>
<td>1 day</td>
<td>Assessment: Benchmark 2 Test: Chapters 7-11</td>
<td>Benchmark 2 Test Assess concepts and skills developed in chapters 7-11</td>
<td><strong>CCSS:</strong> 4.NBT.A.1 4.NBT.A.2 4.NF.A.1 4.NF.B.3a</td>
<td><strong>TE-4A:</strong> pp. 147C-147D  <strong>A-4:</strong></td>
<td>• Assessment: Benchmark 2 Test</td>
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</tbody>
</table>
MODIFICATIONS/ACCOMMODATIONS

| 4.NF.C.5 | pp. 94-102 |
| 4.NF.C.6 |
| 4.NF.C.7 |
| 4.OAA.3 |
| 4.MD.A.1 |
| 4.MD.A.2 |
| 4.MD.C.5a |
| 4.MD.C.5b |
| 4.MD.C.6 |
| 4.MD.C.7 |
| 4.G.A.1 |
| 4.G.A.2 |

APPENDIX
(Teacher resource extensions)

- **4.NBT.A.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.

- **4.NBT.A.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.

- **4.NBT.A.3** - Use place value understanding to round multi-digit whole numbers to any place.

- **4.NBT.B.4** - Fluently add and subtract multi-digit whole numbers using the standard algorithm.

- **4.NBT.B.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.

- **4.NBT.B.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.

- **4.OA.A.1** - Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 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.

- **4.OA.A.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.

- **4.OA.A.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.
### Chapter 12: Area and Perimeter
#### Total Number of Days: 15  Grade/Course: 4

<table>
<thead>
<tr>
<th>ESSENTIAL QUESTIONS</th>
<th>ENDURING UNDERSTANDINGS</th>
</tr>
</thead>
</table>
| • How can measurements be used to solve problems?  
• How are area and perimeter related?  
• How are units in the same system of measurement related? | • Area and perimeter of a square, rectangle, or composite figure can be found by counting squares or using a formula.  
• Everyday objects have a variety of attributes, each of which can be measured in many ways.  
• What we measure affects how we measure it. |

<table>
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<tr>
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<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
</table>
| 1 day  | Recall Prior Knowledge: Review | 1. Use an area model to show multiplication facts  
2. Find the area of a figure by counting grid squares  
3. Find the perimeter of a figure by adding the lengths of all the sides | CCSS: 4.MD.A.3 | TE-4B: pp. 148-151 | Math in Focus eBooks: https://www-k6.thinkcentral.com/ePC/viewResources.do?method=retrieveResources&packageName=resourcepage  
Quick Check: pp. 150-151 (review)  
Pre-Test: Chapter Test: Area and Perimeter  
Assessment Bk. pp. 106-110  
(NOTE: Omit any questions that will not be addressed. Add questions for concepts that will be added.) |
| 1 day  | 12.0.a: Measurement: Length  
(Found in the Common Core Focus Lessons and Activities at Think Central) | 1. Convert metric units of length  
*For example,* a) How many meters are in 8 kilometers?  
b) How many centimeters are in 4 meters?  
2. Convert customary units of length  
*For example,* How many times larger is 1 | CCSS: 4.MD.A.1  
MP: MP.2  
Interactive Activity: Metric Length Matching Game  
http://www.sheppardsoftware.com/mathgames/measurement/MeasurementMeters.htm  
Interactive Activity: Inches to Feet  
http://www.sheppardsoftware.com/mathgames/measurement/MeasurementInches.htm  
Interactive Activity: Yards to Feet  
http://www.sheppardsoftware.com/mathgames/measurement/MeasurementYards.htm |
| 1 day | **12.0.b:** Measurement: Mass and Weight  
(Found in the Common Core Focus Lessons and Activities at Think Central) | foot than 1 inch? | **CCSS:**  
4.MD.A.1 | **MP:**  
MP.2 MP.6 | Not in Math in Focus Book | Common Core Focus Lessons and Activities:  
http://www.sheppardsoftware.com/mathgames/measurement/MeasurementYards.htm  
• Interactive Activity: Ounces to Pounds Matching  
http://www.sheppardsoftware.com/mathgames/measurement/MeasurementOunces.htm  
• Assessment: Let's Practice pp.2-3 |
|---|---|---|---|---|---|---|---|
| 1 day | **12.0.c:** Measurement: Time  
(Found in the Common Core Focus Lessons and Activities at Think Central) | 1. Convert units of time  
*For example,*  
How many minutes are in 3 hours? | **CCSS:**  
4.MD.A.1 | **MP:**  
MP.2 MP.6 | Not in Math in Focus Book | Common Core Focus Lessons  
http://www.sheppardsoftware.com/mathgames/time/Time_Conversions.htm  
• Interactive Activity: Math Man Elapsed Time  
http://www.sheppardsoftware.com/mathgames/time/mathman_time_elapsed.htm  
• Assessment: Let's Practice pp.2 |
| 1 day | **12.0.d:** Real-World Problems: Measurement  
(Found in the Common Core Focus Lessons and Activities at Think) | 1. Use the four operations to solve word problems involving distance, time, volume, mass, and money  
*For example,*  
It takes Andy 15 minutes to get ready in the morning and 15 minutes to drive to work. | **CCSS:**  
4.MD.A.2 | **MP:**  
MP.1 MP.2 MP.4 | Not in Math in Focus Book | Common Core Focus Lessons  
http://www.ixl.com/math/grade-4  
• Assessment: Let's Practice pp.4-6 |
### 2 days 12.1: Area of a Rectangle

1. Estimate the area of a rectangle by counting grid squares
2. Find the area of a rectangle using a formula
3. Estimate the area of a figure by counting grid squares

**CCSS:**
- 4.MD.A.1
- 4.MD.A.2
- 4.MD.A.3

**MP:**
- MP.2
- MP.3
- MP.4
- MP.5
- MP.6
- MP.7
- MP.8

**TE-4B:**
- pp. 152-162

**Brain Pop Jr.**
- Video Area: [http://www.brainpopjr.com/math/measurement/area/preview.weml](http://www.brainpopjr.com/math/measurement/area/preview.weml)

**Core:**
- WKBK-4B: pp. 93-98
- ExtraP-4B: pp. 77-82

**Basic:**
- Reteach-4B: pp. 121-128

**Advanced:**
- WKBK-4B: pp. 117

**ELL:**
- TE-4B: pp. 153

### 2 days 12.2: Rectangles and Squares

1. Find the perimeter of a rectangle using a formula
2. Find one side of a rectangle given its perimeter and the other side
3. Find one side of a square given its perimeter
4. Find the area of a rectangle using a formula
5. Find one side of a rectangle

**CCSS:**
- 4.MD.A.1
- 4.MD.A.2
- 4.MD.A.3

**MP:**
- MP.4
- MP.5
- MP.6
- MP.7
- MP.8

**TE-4B:**
- pp. 163-169

**Brain Pop Jr.**

**Core:**
- WKBK-4B: pp. 99-106
- ExtraP-4B: pp. 83-88

**Basic:**
- Reteach-4B: pp. 129-138

**Advanced:**
- WKBK-4B: pp. 117

- 5-minute Warm Up: pp. 152
- Problem of the Lesson: 153
- Hands-On Activity: Form Rectangles and Find their Areas pp. 156
- Assessment: Let's Practice pp. 160-162
Given its area and the other side.

For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

6. Find one side and the perimeter of a square given its area.

<table>
<thead>
<tr>
<th>2 days</th>
<th>12.3: Composite Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Find the perimeter of composite figures</td>
<td></td>
</tr>
<tr>
<td>2. Find the area of composite figures</td>
<td></td>
</tr>
<tr>
<td><strong>CCSS:</strong></td>
<td></td>
</tr>
<tr>
<td>4.MD.A.1</td>
<td></td>
</tr>
<tr>
<td>4.MD.A.2</td>
<td></td>
</tr>
<tr>
<td>4.MD.A.3</td>
<td></td>
</tr>
<tr>
<td>4.NBT.B.4</td>
<td></td>
</tr>
<tr>
<td><strong>MP:</strong></td>
<td></td>
</tr>
<tr>
<td>MP.3</td>
<td></td>
</tr>
<tr>
<td>MP.4</td>
<td></td>
</tr>
<tr>
<td>MP.6</td>
<td></td>
</tr>
<tr>
<td>MP.7</td>
<td></td>
</tr>
<tr>
<td>MP.8</td>
<td></td>
</tr>
<tr>
<td><strong>TE-4B:</strong></td>
<td></td>
</tr>
<tr>
<td>pp. 170-175</td>
<td></td>
</tr>
<tr>
<td><strong>Core:</strong></td>
<td></td>
</tr>
<tr>
<td>- WKBK-4B: pp. 107-110</td>
<td></td>
</tr>
<tr>
<td>- ExtraP-4B: pp. 89-92</td>
<td></td>
</tr>
<tr>
<td><strong>Basic:</strong></td>
<td></td>
</tr>
<tr>
<td>Reteach-4B: pp. 139-144</td>
<td></td>
</tr>
<tr>
<td><strong>Advanced:</strong></td>
<td></td>
</tr>
<tr>
<td>Enrich-4B: pp. 46</td>
<td></td>
</tr>
<tr>
<td><strong>ELL:</strong></td>
<td></td>
</tr>
<tr>
<td>TE-4B: pp. 171</td>
<td></td>
</tr>
<tr>
<td>• 5-minute Warm Up: pp. 163</td>
<td></td>
</tr>
<tr>
<td>• Problem of the Lesson: pp. 165</td>
<td></td>
</tr>
<tr>
<td>• Hands-On Activity: Use geoboards and dot paper to complete Let’s Explore pp. 168</td>
<td></td>
</tr>
<tr>
<td>• Assessment: Let’s Practice pp. 169</td>
<td></td>
</tr>
</tbody>
</table>
2 days 12.4: Using Formulas for Area and Perimeter

1. Solve word problems involving estimating area of figures
2. Solve word problems involving area and perimeter of composite figures

**CCSS:**
- 4.MD.A.1
- 4.MD.A.2
- 4.MD.A.3
- 4.OA.A.3

**MP:**
- MP.1
- MP.2
- MP.3
- MP.4
- MP.6
- MP.7
- MP.8

**TE-4B:**
- pp. 176-188

**Core:**
- WKBK-4B: pp. 111-116
- ExtraP-4B: pp. 93-96

**Basic:**
- Reteach-4B: pp. 145-148

**Advanced:**
- Enrich-4B: pp. 47-48

**ELL:**
- TE-4B: pp. 177

**5-minute Warm Up:** pp. 176
**Problem of the Lesson:** pp. 177
**Hands-On Activity:** Estimate the Area of an Irregular Shape pp. 184
**Let’s Explore:** pp.185
**Assessment:** Let’s Practice pp. 186-184

Chapter Wrap Up

**Review:**
- finding the perimeter of a rectangle or square
- finding the length of one side given the perimeter and the length of the other side
- finding are of a rectangle or square
- finding the length of one side of a rectangle given the area and the length of the other side
- finding area and perimeter of composite figures

**CCCS:**
- 4.MD.A.1
- 4.MD.A.2
- 4.MD.A.3
- 4.NBT.B.4
- 4.OA.A.3

**TE-4B:**
- pp. 190-193

**A-4B:**
- pp. 106-110

**Chapter Wrap Up:** pp. 192-193
**Chapter Test:** Area and Perimeter Assessment Bk. pp. 106-110

**Math Playground – Design a Party:**
http://www.mathplayground.com/PartyDesigner/PartyDesigner.html

- **NOTE:** Omit any questions that were not addressed. Add questions for concepts that were added.

### INSTRUCTIONAL FOCUS OF UNIT

- Students convert metric and customary units of length.
- Students convert metric and customary units of weight.
- Students convert units of time.
- Students find the area of a rectangle using the formula length x width.
- Students apply what they learned in the previous chapter to decompose figures into squares and/or rectangles, and to find unknown side lengths of figures.
- Students use the four operations to solve word problems involving distance, time, volume, mass, and money.
- Students solve real-world problems involving area and perimeter of figures.

**PARCC FRAMEWORK/ASSESSMENT**

**NJ DOE Model Curriculum Samples:**

1. Complete the missing amounts in the following table so that the two measurements are equivalent.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. 1 ft</td>
<td>_____ in</td>
</tr>
<tr>
<td>18. 1 kg</td>
<td>_____ g</td>
</tr>
<tr>
<td>19. 1 hr</td>
<td>_____ min</td>
</tr>
<tr>
<td>20. 1 L</td>
<td>_____ mL</td>
</tr>
</tbody>
</table>

2. Kyle swam 40 minutes on Monday, 20 minutes on Tuesday, and 30 minutes on Wednesday. Over the same days, Lavar swam for a total of 20 minutes less than Kyle. What is the total amount of time, in minutes, that Lavar swam? Write an equation using a letter to represent the unknown. Use your equation to answer the question.

3. How many square inches of felt is needed to cover the top of a rectangular table that has a length of 92 inches and a width of 46 inches? Show your work.

4. Mo bought a rectangular piece of carpet for his living room, which has an area of 96 square feet. The length of his rectangular living room is 12 feet. What is the width, in feet, of Mo’s living room? Show your work.

5. Kim's back yard is in the shape of a rectangle and has an area of 4,000 square meters. Kim wants to walk around the outside of the yard to exercise. She measures the width of the yard and finds it to be 20 meters. If Kim walks around the outside of the yard once, how many meters has she walked? Show your work.
6. The mass of one green block is 450 grams. The mass of one yellow block is 0.7 kilograms.
Part A: Which block has a greater mass? How much greater is the mass, in kilograms?
Part B: What is the total mass, in kilograms, of 3 green blocks and 2 yellow blocks?

Study Island Samples:
https://www13.studyisland.com/cfw/test/print-practice-worksheet/a01a7?CFID=34203971&CFTOKEN=20128484&packID=b73c7b&qlist=b11a9cec
https://www13.studyisland.com/cfw/test/print-practice-worksheet/a01a7?CFID=34203971&CFTOKEN=20128484&packID=b73c7b&qlist=b21c220c
https://www13.studyisland.com/cfw/test/print-practice-worksheet/a01a7?CFID=34203971&CFTOKEN=20128484&packID=b73c7b&qlist=ba1b9c71
https://www13.studyisland.com/cfw/test/print-practice-worksheet/a01a7?CFID=34203971&CFTOKEN=20128484&packID=b73c7b&qlist=b31dabac

1. Richard is measuring the length of a piece of canvas material. Using a meter stick, he found that the length of the material was 5 meters. What would happen to the number of units if he had measured the material in centimeters?
2. A floor tile is 18 inches wide. If the perimeter of the tile is 72 inches, what is the length of the tile?
   A) There would be more units.
   B) There would be the same number of units.
   C) There would be fewer units.
   D) There would be no units.
3. Which value correctly completes the table below?

<table>
<thead>
<tr>
<th>kilometers</th>
<th>meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,000</td>
</tr>
<tr>
<td>2</td>
<td>2,000</td>
</tr>
<tr>
<td>3</td>
<td>?</td>
</tr>
<tr>
<td>4</td>
<td>4,000</td>
</tr>
</tbody>
</table>

4. Which value correctly completes the table below?

<table>
<thead>
<tr>
<th>feet</th>
<th>inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>?</td>
</tr>
<tr>
<td>4</td>
<td>48</td>
</tr>
</tbody>
</table>
5. Trudy bought 9 yards of fabric. If she cuts the fabric into 9-inch pieces, how many pieces will she have?

6. What is the time difference between 7:27 a.m. and 11:46 p.m. on the same day?

7. If a bus left the station at 6:22 a.m. and arrived at its destination at 9:58 p.m. on the next day, how long did the trip take?

8. Claire is lining the bottom of a drawer with paper. If the bottom of the drawer is 9 inches long by 6 inches wide, what is the area of the bottom of the drawer?

21ST CENTURY SKILLS
(4Cs & CTE Standards)

MODIFICATIONS/ACCOMMODATIONS

APPENDIX
(Teacher resource extensions)

4.MD.A.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.

4.MD.A.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.

4.MD.A.3 - Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

4.OA.A.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.

4.NBT.B.4 - Fluently add and subtract multi-digit whole numbers using the standard algorithm.
# Chapter 13: Symmetry

**Total Number of Days:** 7  
**Grade/Course:** 4

<table>
<thead>
<tr>
<th><strong>ESSENTIAL QUESTIONS</strong></th>
<th><strong>ENDURING UNDERSTANDINGS</strong></th>
</tr>
</thead>
</table>
| • How are symmetrical figures created?  
• How is symmetry used in areas such as architecture and art? | • Figures can have line and rotational symmetry.  
• Lines of symmetry for a two-dimensional figure occur when a line can be drawn across the figure such that the figure can be folded along the line into matching parts. |

<table>
<thead>
<tr>
<th><strong>PACING</strong></th>
<th><strong>CONTENT</strong></th>
<th><strong>SKILLS</strong></th>
<th><strong>STANDARDS (CCCS/MP)</strong></th>
<th><strong>RESOURCES</strong></th>
<th><strong>LEARNING ACTIVITIES/ASSESSMENTS</strong></th>
</tr>
</thead>
</table>
| **1 day**  | Recall Prior Knowledge: Review | 1. Identify polygons  
2. Identify congruent figures  
3. Identify symmetric figures | **CCSS:**  
4.G.A.3 | **TE-4B:**  
p. 194-196 | **Quick Check:** pp. 196 (review)  
**Pre-Test:** Chapter Test: Symmetry  
Assessment Bk. pp. 113-117  
*(NOTE: Omit any questions that will not be addressed.)* |
| **2 days** | 13.1: Identifying Lines of Symmetry | 1. Identifying a line of symmetry of a figure | **CCSS:**  
4.G.A.3  
**MP:**  
MP.2  
MP.3  
MP.4  
MP.6 | **TE-4B:**  
p. 197-202  
**Core:**  
- WKBK-4B: pp. 123-124  
- ExtraP-4B: pp. 99-100  
**Basic:**  
Reteach-4B: pp. 149-152  
**Advanced:**  
TE-4B: pp. 213-214  
**ELL:**  
TE-4B: pp. 198  
**Lines of Symmetry Shape Shoot:** [http://www.sh eppardsoftware .com/mathgame s/geometry/shap e/ SymmetryLinesShapeShoot.htm](http://www.sheppardsoftware.com/mathgames/geometry/shapesymmetrylinesshapeShoot.htm) | - 5-minute Warm Up: pp. 197  
- Problem of the Lesson: 198  
- Hands-On Activity: Make Symmetric Figures pp. 199  
- Hands-On Activity: Identify Lines of Symmetry pp. 210  
- Assessment: Let’s Practice pp. 202 |
### 12.2: Rotational Symmetry

**OMIT not a common core standard for grade 4**

#### 2 days

**13.3: Making Symmetric Shapes and Patterns**

- Draw a shape or pattern about a line of symmetry
- Complete a symmetric shape or pattern
- Create symmetric patterns on grid paper

**CCSS:**
- 4.G.A.3
- 4.OA.C.5

**MP:**
- MP.1
- MP.2
- MP.3
- MP.4
- MP.6
- MP.7
- MP.8

**TE-4B:**
- pp. 208-212

**Core:**
- WKBK-4B: pp. 127-130
- ExtraP-4B: pp. 103-104

**Basic:**
- Reteach-4B: pp. 155-160

**Advanced:**
- WKBK-4B: pp. 131-132

**ELL:**
- TE-4B: pp. 209

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### Chapter Wrap Up Assessment

- Review strategies for:  
  - Identifying lines of symmetry  
  - Completing a symmetric shape or pattern given a line of symmetry  
  - Completing a symmetric shapes and patterns on grid paper

**CCSS:**
- 4.G.A.3
- 4.OA.C.5

**TE-4B:**
- pp. 215-217

**A-4B:**
- pp. 113-117

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### INSTRUCTIONAL FOCUS OF UNIT

- Students identify lines of symmetry in figures and identify figures with rotational symmetry.
- They engage in hands-on activities that involve folding and cutting patterns to understand line symmetry and rotational symmetry.
- Students complete and create symmetric patterns on grid paper.

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### Notes

- 5-minute Warm Up: pp. 208
- Problem of the Lesson: pp. 209
- Hands-On Activity: Design Your Own Symmetric Pattern pp. 211
- Assessment: Let's Practice pp. 212

(***NOTE:** Omit any questions that were not addressed.)
1. Draw two lines of symmetry in the shape below.

![Shape](image)

2. Arthur says that the dashed line shown is a line of symmetry of the rectangle. Is Arthur correct? Explain your answer.

3. Which of the following shows a line of symmetry for the figure?

   a. ![Option A](image)

   b. ![Option B](image)

   c. ![Option C](image)

   d. ![Option D](image)
1. Use the picture below.

How many lines of symmetry does the picture have?
2.

Which of the following could be joined with the figure above to create a symmetrical figure with respect to the dashed line?

W.

X.

Y.

Z.
3. Which of the lines is a line of symmetry for the pentagon?

Which of the following could be joined with the figure above to create a symmetrical figure with respect to the dashed line?
### Chapter 14: Tessellations

*(NOTE: Tessellations is not a major focus, can be completed at the end of the year if time permits.)*

**Total Number of Days:** 5  
**Grade/Course:** 4

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>OTHER (e.g., tech)</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 day</strong></td>
<td>Recall Prior Knowledge: Review</td>
<td>1. Draw shapes on dot paper</td>
<td><strong>CCSS:</strong> 4.O.A.5</td>
<td><strong>TE-4B:</strong> pp. 218-220</td>
<td>Math in Focus eBooks: <a href="https://www.k6.thinkcentral.com/ePC/viewResources.do?method=retrieveResources&amp;pageName=resourcepage">https://www.k6.thinkcentral.com/ePC/viewResources.do?method=retrieveResources&amp;pageName=resourcepage</a></td>
<td><strong>Quick Check:</strong> pp. 220</td>
</tr>
</tbody>
</table>
| **2 days** | 14.1: Identifying Tessellations | 1. Recognize and make tessellations | **CCSS:** 4.O.A.5 | **TE-4B:** pp. 221-227 | Let’s Tessellate: [http://www.pb.org/parents/](http://www.pb.org/parents/) | • 5-minute Warm Up: pp. 221  
• Problem of the Lesson: 222  
• Hands-On Activity: Use Dot |
<table>
<thead>
<tr>
<th>2 day</th>
<th>13.2: More Tessellations</th>
<th>1. Tessellate shapes in different ways</th>
<th>2. Identify the unit shape used in a tessellation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>CCSS:</strong> 4.OA.C.5</td>
<td><strong>MP:</strong> MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7</td>
<td><strong>MP:</strong> MP.2 MP.3 MP.4 MP.5 MP.6 MP.7</td>
</tr>
<tr>
<td></td>
<td><strong>TE-4B:</strong> pp. 228-235</td>
<td><strong>Core:</strong> WKBK-4B: pp. 139-142 ExtraP-4B: pp. 117-122</td>
<td><strong>Core:</strong> WKBK-4B: pp. 133-138 ExtraP-4B: pp. 107-116</td>
</tr>
<tr>
<td></td>
<td><strong>TE-4B:</strong> pp. 228-235</td>
<td><strong>Basic:</strong> Reteach-4B: pp. 167-170</td>
<td><strong>Basic:</strong> Reteach-4B: pp. 161-166</td>
</tr>
<tr>
<td></td>
<td><strong>Advanced:</strong> WKBK-4B: pp. 145-146</td>
<td><strong>ELL:</strong> TE-4B: pp. 229</td>
<td><strong>ELL:</strong> TE-4B: pp. 222</td>
</tr>
</tbody>
</table>

**INSTRUCTIONAL FOCUS OF UNIT**

- Students identify tessellations, which are patterns formed by repeated shapes, to cover a surface without gaps or overlaps.
- Students identify the repeated shape used in a tessellation.

Paper to Identify Shapes That Tessellate pp. 225
- Let’s Explore: Tessellating Triangles pp. 226
- Assessment: Let’s Practice pp. 227
• Students tessellate shapes in different ways to form patterns.

### 21ST CENTURY SKILLS
(4Cs & CTE Standards)

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### MODIFICATIONS/ACCOMMODATIONS

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### APPENDIX
(teacher resource extensions)

4.OA.C.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.

## End-Of-Year Test

**Total Number of Days:** 4  
**Grade/Course:** 4

<table>
<thead>
<tr>
<th>PACING</th>
<th>CONTENT</th>
<th>SKILLS</th>
<th>STANDARDS (CCCS/MP)</th>
<th>RESOURCES</th>
<th>LEARNING ACTIVITIES/ASSESSMENTS</th>
</tr>
</thead>
</table>
| 3 days | **End-of-Year Review:** 1. Review concepts and skills developed from the beginning of the school year until the end of the school year | **CCSS:** Covers all 4th grade Common Core State Standards | **TE-4A:** pp. 239D-239I  
**WKBK-4B:** pp. 124-138 | | • Students complete review found in the workbook and extra practice book in preparation for the End-Of-Year Test |
| 1 day  | **Assessment:** End-Of-Year Test  
Assess concepts and skills developed throughout the entire school year | **CCSS:** Covers all 4th grade Common Core State Standards | **A-4:** pp. 127-137 | Assessment: End-Of-Year Test |

### MODIFICATIONS/ACCOMMODATIONS

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