

Grade: 4	Unit: 2	Timeline: 10 Weeks
<b>ESSENTIAL STANDARDS ADDRESSED IN THIS UN</b>		
<p><b><u>Number and Operations In BaseTen</u></b>  <b>4.NBT.B.5</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</li> </ul>	<p><b><u>Operations and Algebraic Thinking</u></b>  <b>4.OA.A.3</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</li> </ul> <p>Focus on all 4 operations in a multistep word problem, interpreting remainders and reasonableness of answers in Unit 2.</p>	<p><b><u>Operations and Algebraic Thinking</u></b>  <b>4.OA.B.4</b></p> <ul style="list-style-type: none"> <li>• Find all factor pairs for a whole number in the range 1-100.</li> <li>• Recognize that a whole number is a multiple of each of its factors.</li> <li>• Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number.</li> <li>• Determine whether a given whole number in the range 1-100 is prime or composite.</li> </ul> <p>Note: Informal classroom discussion might include divisibility rules, finding patterns and other strategies.</p> <p><b>4.OA.C.5</b></p> <ul style="list-style-type: none"> <li>• Generate a number or shape pattern that follows a given rule.</li> <li>• Identify apparent features of the pattern that were not explicit in the rule itself.</li> </ul> <p>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 why the numbers will continue to alternate in this way.</p>
<b>LEARNING PROGRESSION</b>		

<u>Grade Below</u>	<u>Grade Above</u>
<p><b>3.NBT.A.3:</b> Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., <math>9 \times 80</math>, <math>5 \times 60</math>) using strategies based on place value and properties of operations.</p> <p><b>3.OA.D.8:</b> Solve two-step word problems using the four operations.</p> <ul style="list-style-type: none"> <li>• Represent these problems using equations with a letter standing for the unknown quantity.</li> <li>• Assess the reasonableness of answers using mental computation and estimation strategies including rounding</li> </ul> <p><b>3.OA.B.5:</b> Apply properties of operations as strategies to multiply and divide.</p> <p><b>3.OA.D.9:</b> Identify arithmetic patterns (including, but not limited to, patterns in the addition table or multiplication table), and explain them using properties of operations.</p>	<p><b>5.NBT.B.5:</b> Fluently (efficiently, accurately and with some degree of flexibility) multiply multi-digit whole numbers using a standard algorithm.</p> <p><b>5.OA.B.3:</b></p> <ul style="list-style-type: none"> <li>• Generate two numerical patterns, each using a given rule.</li> <li>• Identify apparent relationships between corresponding terms by completing a function table or input/output table.</li> <li>• Using the terms created, form and graph ordered pairs in the first quadrant of the coordinate plane.</li> </ul>
<b>STUDENT-FRIENDLY LEARNING TARGETS</b>	
<p><b>4.NBT.B.5</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</li> </ul> <p><i>Learning Targets:</i></p> <ul style="list-style-type: none"> <li>• <i>Find total number of objects when objects are arranged in equal groups.</i></li> <li>• <i>Use the properties of multiplication to help solve equations.</i></li> <li>• <i>Understand that area models and rectangular arrays can represent multiplication equations.</i></li> </ul> <p><b>4.OA.A.3</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</li> </ul>	<p style="text-align: center;"><b><u>ASSESSMENTS AND EVIDENCE</u></b></p> <p><b>Please read:</b>  <a href="#">FSPS Curriculum Maps</a></p> <p><b>Pre-Assessments</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Fort Smith Pre-Assessment</a></li> </ul> <p><b>Formative Assessments (Team Generated)</b></p> <ul style="list-style-type: none"> <li>• <b>Observations</b></li> <li>• <b>Exit slips</b></li> <li>• <b>iStation</b></li> <li>• <b>STARMath</b></li> </ul>

**Learning Target:**

- Solve unfamiliar multiplication problems using properties of multiplication and division.
- Understand how multiplication and division are related.
- Organize work to solve a multi-step problem one step at a time.
- Make estimates using rounding to check for reasonable answers to questions.

**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.

**Learning Target:**

- Understand that one factor indicates number of objects in a group and the other factor indicated the number of groups. Understand that a product is the total objects in all groups.
- Identify prime and composite numbers and connect to factoring.
- Relate skip counting to multiples.

**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.

**Learning Target:**

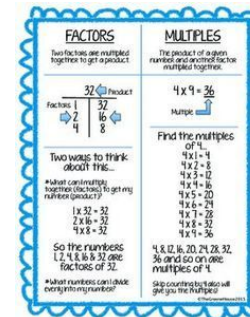
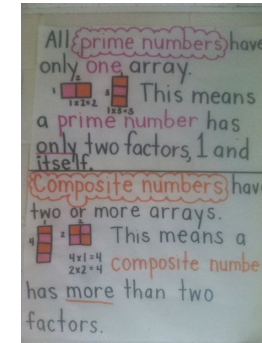
- Use patterns to solve problems
- Identify patterns when solving problems.

- Targeted Daily Skill practice

**Post-Assessments**

- [Fort Smith Post-Assessment](#)

**Resources:**



**KEY ACADEMIC VOCABULARY**

area model array comparison compatible numbers composite distributive property dividend  
 divisor division (repeated subtraction) equation estimate even factors/factor pairs interpret  
 remainders multiples multiplicative comparison multistep problem odd partial product  
 partial quotient pattern prime product properties quotient reasonable remainder  
 round skip counting unknown quantity

**Team SMART Goal**

- **Math- Increase by 10% from pretest to posttest**
- **80% of students will master 0-12 multiplication facts with automaticity as measured by the end of the first semester. 20% will be able to use a strategy to solve multiplication facts 0 -12.**
- **75% of students will master double digit by double digit multiplication. 25% will be able to use one strategy to multiply double digits.**

**On-going Standards**

**Ongoing:**

- 4.NBT.B4 - Multi-digit addition/subtraction

**Ongoing:**

- Multiplication facts 0 to 12

**Ongoing:**

- Multi-step word problems

**Intervention Plan**

**Intensive**

- Small group - practice partial product strategy to find one digit by four digit and two by two digit

**Strategic**

- Expanded form. Multiplication rules.

**Good to Go**

- Ability to expand and multiply place values.  
Ability to add and align place values.

<p><b>Intensive #2</b></p> <ul style="list-style-type: none"> <li>→ Use place value understanding and properties of operation to perform multi-digit arithmetic.</li> <li>→ Apply knowledge to multi-step word problems.</li> </ul>	<p><b>Strategic #2</b></p> <ul style="list-style-type: none"> <li>→ Solve add/subtract multi-digit # problems.</li> <li>→ Solve addition/subtraction using place value and decomposition</li> </ul>	<p><b>Good to Go #2</b></p> <ul style="list-style-type: none"> <li>→ Fluently add/subtract multi-digit numbers with and without regrouping.</li> </ul>
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<p><b>Week 1</b></p>			
<p><b>Learning Target:</b></p>			
<ul style="list-style-type: none"> <li>→ <i>Learning Targets:</i></li> <li>● <i>Find total number of objects when objects are arranged in equal groups.</i></li> <li>● <i>Use the properties of multiplication to help solve equations.</i></li> <li>● <i>Understand that area models and rectangular arrays can represent multiplication equations.</i></li> </ul>			
<p><b>Number Talks</b></p> <ul style="list-style-type: none"> <li>→ Using manipulatives, students will build a simple equal groups and practice using commutative property.</li> </ul>	<p><b>Focused Instruction</b></p> <ul style="list-style-type: none"> <li>→ Connect expanded form and one digit by four digit multiplication.</li> <li>→ Build on previous learned knowledge to use expanded form to make a box and cluster to solve two digit by two digit multiplication.</li> </ul>	<p><b>Daily Cumulative Review</b></p> <ul style="list-style-type: none"> <li>→ Model, group, partner, independent practice</li> <li>→ Activities to build multiplication fluency</li> <li>→ Student choice centers/small group</li> <li>→ Exit slips</li> <li>→ Summative/Formative tests</li> <li>→ <a href="#">One digit by Four digit</a></li> <li>→</li> </ul>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> </ul>
<p><b>Week 2</b></p>			
<p><b>Learning Target:</b></p>			
<ul style="list-style-type: none"> <li>→ <i>Learning Targets:</i></li> <li>● <i>Find total number of objects when objects are arranged in equal groups.</i></li> <li>● <i>Use the properties of multiplication to help solve equations.</i></li> <li>● <i>Understand that area models and rectangular arrays can represent multiplication equations.</i></li> </ul>			

<p><b>Number Talks</b></p> <ul style="list-style-type: none"> <li>→ Using area models and arrays, students will represent the groups they built.</li> <li>→ Finally, students will make the connection and write an equation.</li> </ul>	<p><b>Focused Instruction</b></p> <ul style="list-style-type: none"> <li>→ Build on previous learned knowledge to use expanded form to make a box and cluster to solve two digit by two digit multiplication.</li> <li>→ Begin using commutative property and connect to numbers talk to master division.</li> </ul>	<p><b>Daily Cumulative Review</b></p> <ul style="list-style-type: none"> <li>→ Model, group, partner, independent practice</li> <li>→ Activities to build multiplication fluency</li> <li>→ Student choice centers/small group</li> <li>→ Exit slips</li> <li>→ Summative/Formative tests</li> <li>→ <a href="#">Two digit by Two digit multiplication Answer Sheet</a></li> <li>→ <a href="#">Two by Two digit Quick Check</a></li> <li>→ <a href="#">Communicative Properties</a></li> </ul>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> </ul>
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**Week 3**

**Learning Targets**

- *Solve unfamiliar multiplication problems using properties of multiplication and division.*
- *Understand how multiplication and division are related.*
- *Organize work to solve a multi-step problem one step at a time.*
- *Make estimates using rounding to check for reasonable answers to questions.*

<p><b>Number Talks</b></p>	<p><b>Focused Instruction</b></p>	<p><b>Daily Cumulative Review</b></p> <ul style="list-style-type: none"> <li>→ Continue practicing fact families and multi-step word problems with partners and independently. <a href="#">Page 81 integrates rounding with multi-step word problems</a></li> </ul>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> </ul>
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**Week 4**

**Learning Targets**

- *Learning Target:*
- *Use patterns to solve problems*
- *Identify patterns when solving problems.*

<p><b>Number Talks</b></p> <ul style="list-style-type: none"> <li>→ Pose problems and ask students to figure out how to solve them.</li> <li>→ Share and Compare different ways to identify patterns.</li> <li>→ Record patterns using boxes and graphing.</li> <li>→ multiplication/division relationship</li> </ul>	<p><b>Focused Instruction</b></p> <ul style="list-style-type: none"> <li>→ Make connections between patterns from last year and making your own patterns</li> <li>→ Make your own pattern game using the activities in the TpT bundle purchased (Math Centers and Activities)</li> <li>→ This is week is for simple patterns and background knowledge, review of the previous skills. Next week, connections will be made with patterns and factoring</li> </ul>	<p><b>Daily Cumulative Review</b></p> <ul style="list-style-type: none"> <li>→ Model different solving different patterns and how to record your findings.</li> <li>→ Work in groups/partners.</li> <li>→ Record patterns using boxes and graphs.</li> <li>→ Complete independently</li> <li>→ Practice using mobymax.</li> <li>→ Page 86 above link has activities/number talks for practicing for relationship of multiplication/division though to page 103</li> </ul>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> <li>→ Continue practicing one digit by four digit and two digit by two digit page 66 of Georgia Standards has activities.</li> </ul>
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**Week 5**

**Learning Targets**

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<p><b>Number Talks</b></p>	<p><b>Focused Instruction</b></p>	<p><b>Daily Cumulative Review</b></p>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> </ul>
<p><b>Week 6</b>  <b>Learning Targets</b>  <i>Learning Target:</i></p> <ul style="list-style-type: none"> <li>• <i>Understand that one factor indicates number of objects in a group and the other factor indicated the number of groups. Understand that a product is the total objects in all groups.</i></li> <li>• <i>Identify prime and composite numbers and connect to factoring.</i></li> <li>• <i>Relate skip counting to multiples.</i></li> </ul> <p>→</p>			
<p><b>Number Talks</b></p>	<p><b>Focused Instruction</b></p>	<p><b>Daily Cumulative Review</b></p>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> </ul>
<p><b>Week 7</b>  <b>Learning Targets</b></p> <p>→</p>			



<p><b>Number Talks</b></p>	<p><b>Focused Instruction</b></p>	<p><b>Daily Cumulative Review</b></p>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> </ul>
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**Week 8**  
**Learning Targets**  
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<p><b>Number Talks</b></p>	<p><b>Focused Instruction</b></p>	<p><b>Daily Cumulative Review</b></p>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> </ul>
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**Week 9**  
**Learning Targets**  
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<p><b>Number Talks</b></p>	<p><b>Focused Instruction</b></p>	<p><b>Daily Cumulative Review</b></p>	<p><b>Fact Fluency</b></p> <ul style="list-style-type: none"> <li>→ MobyMax fluency fact practice</li> <li>→ Timed tests each week</li> <li>→ Student choice center work</li> </ul>
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<b>Week 10</b> Learning Targets →			
<b>Number Talks</b>	<b>Focused Instruction</b>	<b>Daily Cumulative Review</b>	<b>Fact Fluency</b> → MobyMax fluency fact practice → Timed tests each week → Student choice center work