Grade 4 Math Unit 1

Content Area: **Mathematics**
Course(s):
Time Period: **Trimester 1**
Length: **59 Days**
Status: **Published**

Brief Summary of Unit

In this unit, students will use what they know about place value to read, write, and compare multi-digit numbers. Students will learn that each place in a number is ten times greater than the place to its right, and use this understanding to determine the value of numbers. Students will also apply their understanding of place value to round, add, and subtract multi-digit numbers.

Students will explore solving problems involving multiplicative comparisons by using multiplication or division. They will also learn to use rules to generate or extend number and shape patterns. Finally, students will use a variety of strategies to solve multi-step word problems.

Revision Date: August 2024

Essential Questions/Enduring Understandings

Essential Questions:

- How does place value help with the understanding of multi-digit numbers?
- How can place value be used to round and compare numbers?
- How do operations affect numbers?
- What are the different ways to represent a multiplication strategy?
- How can you use a variety of strategies to solve multi-step word problems?
- What are some simple methods for solving multiplication and division problems?
- What patterns of multiplication and division can assist us in problem solving?

Enduring Understandings:

- Numbers are read and written using the base-ten numeration system, using digits, word form or expanded form based on place value understanding.
- Our number system is based on groups of ten. In a multi-digit whole number, a digit in one place

represents ten times what it would represent in the place immediately to its right.

- Multiplication and division have an inverse relationship. The inverse relationship between multiplication and division can be used to find division facts; every division fact has a related multiplication fact.
- Multiplication and division can be used to solve comparison problems where one value is a certain times greater or less than another.
- There are different strategies that can be used, such as modeling or writing equations, to solve multi-step word problems
- Students will understand that you can use what you know about place value to round numbers and to add and subtract multi-digit numbers.
- Students will understand that you can solve problems involving multiplicative comparisons by using multiplication or division.
- Students will understand that you can use rules to generate or extend a number or shape pattern.

Students Will Know/Students Will be Skilled At

Students will know:

- How to express a number in standard form, word form, and expanded form.
- How to compare numbers using >, =, and < for two multi-digit whole numbers up to one million (presented as base ten numerals, number names, or expanded form).
- How to round multi-digit whole numbers up to one million to any place.
- How to add and subtract multi-digit numbers, through millions, using the standard algorithm.
- How to write multiplication equations from multiplicative comparisons given in words (example, 35 is 5 times as many as 7 and 7 times as many as 5) and describe a multiplication equation in words.
- How to multiply or divide to solve word problems involving multiplicative comparisons.
- How to multiply and divide to solve comparison problems, for example: 28 is 4 times as many as 7.
- How to describe rules in number and shape patterns, for example: the pattern “3, 10, 17, 24…” has the rule “add 7” and the numbers go back and forth between odd and even.
- How to model and solve multi-step word problems using equations, for example: (6 x 3) - 11+2 = 9.

Students will be skilled at:

- Writing and Reading multi-digit whole numbers using base-ten numerals, number names, and

expanded form.

- Comparing two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
- Identifying quantitative relationships between places of a multi-digit whole number up to one million when moving from right to left.
- Recognizing 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.
- Rounding multi-digit whole numbers to any place using place value.
- Fluently adding and subtracting multi-digit numbers using the standard algorithm.
- Multiplying and dividing to solve comparison problems, for example: 28 is 4 times as many as 7.
- Describing rules in number and shape patterns, for example: the pattern "3, 10, 17, 24…" has the rule "add 7" and the numbers go back and forth between odd and even.
- Modeling and solving multi-step word problems using equations, for example: (6 x 3) - 11+2 = 9.

Learning Plan

Daily Warm-ups (5-10 minutes):

*As an opening to each math lesson, the instructor can use these different routines

- Number Talks- District Created Resource (Linked Below in Materials)
- Number Bounce- Begin this routine by telling your students that you will count forward or backward by ones starting with a specific number and ending with a specific number. Let your students know that when you tap them, they will have to say the next number. Here is one example using the start number 213 and the end number 235. Start counting forward by ones like: 213, 214, 215, 216. Next, tap a student on the shoulder. The student says 217. Then, continue counting: 218, 219, 220. Tap a different student. The student says 221. Continue to count in this way until I have given most of the students an opportunity to answer. The student who says the last number in the sequence says, "235. Bounce" and gets the opportunity to do a 20-second celebratory dance. This routine also works well for fractions and decimals.
- Base Ten Toss- A beach ball or bean bag is recommended when implementing this routine. Begin this routine by telling your students that they will count in base ten language until they reach a base ten decade with no ones (example: 3 tens 0 ones or 30, 4 tens 0 ones or 40). For this routine, students stand in a circle. After one student counts in base ten language (ex. 7 tens 5 ones…75), he or she passes a beach ball or bean bag to the person standing next to them. When a student says a base ten decade with no ones (ex. 8 tens 0 ones…80) they get the opportunity to toss the beach ball to any classmate of their choice. For example: Count forward starting with 5 tens 9 ones…59. Next person 6 tens 0 ones..60, next person 6 tens 1 one…61, etc. This routine works for larger numbers and decimals

as well. Students can add on hundreds (ex. 6 hundreds 9 tens and 8 ones…698) or hundredths (ex. 6 tens 7 ones and 37 hundredths…67.37). For more of a challenge, they can count backward.

- Amazing Race: Students work in pairs to decompose a given number in as many different ways as they can. You should provide each partner pair with a blank piece of paper or this sheet. You can give your students 5 – 10 minutes to record as many different ways to represent the number as possible. After the time is up, 1 or 2 partner pairs can randomly be selected to share what they recorded, in front of the class. This routine can easily be adapted to fractions or decimals. For example, you can write 7/10 or 0.7 as the number of the day. Students get a chance to be as creative as possible when recording. When you first start this routine, your students may only have 2 or 3 different ways. That's OKAY….. If you consistently use this routine your students will evolve and ultimately fill the page! As a quick tip, you can award team points to partner pairs that had the most inventive and correct ways. It is very important to check for accuracy.

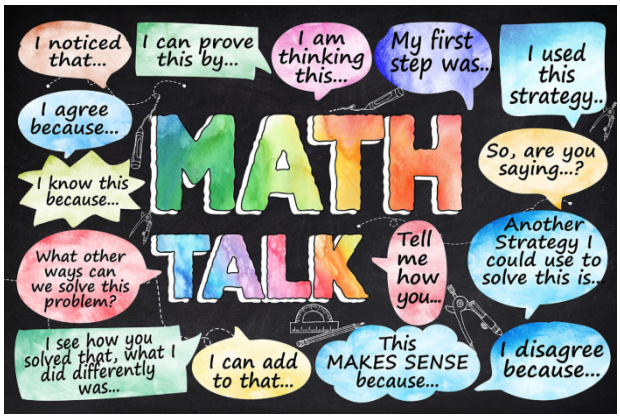
- Number Strings- This routine helps to build students' mental math capabilities. The teacher writes a problem horizontally on the board in a whole group or small setting. The students mentally solve the problem and share with the whole group how they solved it. They must justify and defend their reasoning. The teacher records the students' thinking in an open number line and poses extended questions to draw out deeper understanding for all. The teacher can have students share other students' strategies to the whole group or with turn and talk. Eventually provide a few number sentences on the board to solve within 20 and multiplication to te and model how you can use mental math strategies to solve them in a snap just like they would on a fact test, then let them try solving in a snap as you point to each number sentence.

1. Fourth graders need to be fluent in multiplying to twelve. This is a skill that should be worked on throughout the year utilizing the Ready Math Program and supplemental resources that are located under materials.

2. Lessons for the First Five Days- Teach students the Try-Discuss-Connect routine. Guide students to apply this routine while reviewing prerequisite skills of rounding, adding, and subtracting multi-digit numbers.

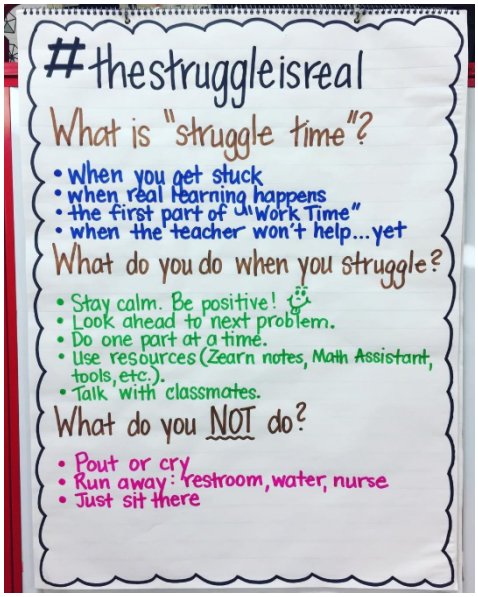
a. Complete Lesson 0, Sessions 1-5 (5 days)

b. Emphasize "math talk" and give students lots of practice discussing their mathematical thinking with partners/groups. Sentence starters can be provided to prompt students to share their thinking.



c. Create an anchor chart that gives students strategies for persevering through something that is challenging

for them in math.



d. Lesson Vocabulary: partial sums, place value, round

3. Understand Place Value- Teach students how to read and write numbers to the millions place. Instruct students to express numbers in standard numerals, expanded form, and word form. Guide students to notice patterns in the base-ten place value system, and recognize that a digit in one place has 10 times the value it would have in the place to its right.

a. Complete Lesson 1, Sessions 1-3 (3 days)

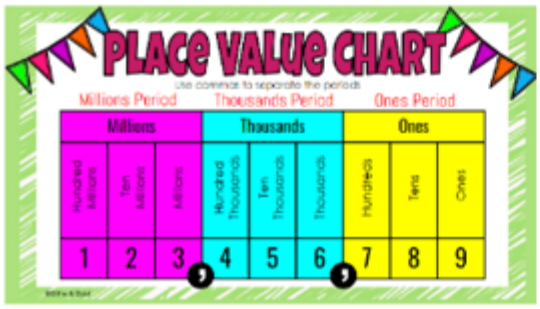
b. Possible strategies include but are not limited to:

   i. Base-ten blocks

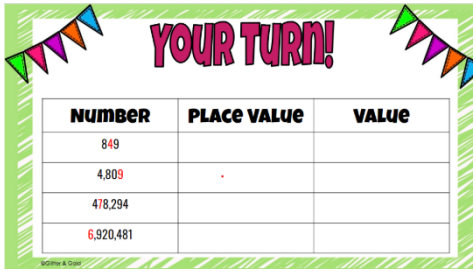
   ii. Place value chart

   iii. Multiplying by 10

c. Begin by reviewing the base-ten place value system. Students should be able to name the different places in the place value chart. Extend their previous knowledge of numbers to the thousands place, to identify and pronounce numbers through millions. This is a big jump for students, so they need explicit instruction on how to do this. Once students can correctly identify places to the millions, you can focus on identifying the place and value of a digit in a multi-digit number.







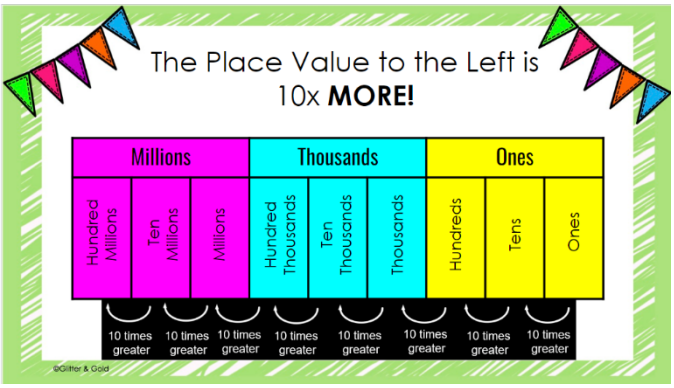
d. Provide explicit instruction on how the value of a digit gets 10x greater as it moves to the left in a number. Give students lots of practice naming the relationship between the same digit in different places within a multi-digit number. If students struggle with naming the relationship, you can provide a fill in the blank statement to guide them:

For example, suppose the number was 3,357

"The value of the _____ in the _____ place is _____ than the value of the _____ in the _____ place."

The value of the _3_ in the thousands place is ten times greater than the value of the_3_ in the hundreds place.

*Students can justify their thinking by using their understanding of multiplying by 10: 300 x 10 = 3,000



e. Give students practice, not only rewriting numbers given in standard for in expanded or word form, but also taking numbers in expanded form/word form, and rewriting in standard form.

f. "From Place to Place" task cards

g. Lesson Vocabulary: period, standard form, word form, digit, expanded form, place value

4. Compare Whole Numbers- Instruct students to compare multi-digit numbers by looking at the values of the digits in each place. Teach them to use place-value charts and expanded form to identify the value of each digit. Students should also be taught to write comparison statements using the symbols <,>, and =. Guide students to generalize the idea that a whole number that has more digits is greater than another whole number that has fewer digits. They should learn the importance of accurately lining up digits in two numbers to compare the digits in the same place-value positions.

a. Complete Lesson 2, Sessions 1-3 (3 days)

b. Possible strategies include but are not limited to:

i. Place value charts

Place Value Chart

Thousands	Hundreds	Tens	Ones
4	5	6	3
4	5	8	1
↑ same	↑ same	↑ 6 tens < 8 tens	

ii. Expanded form

4,563 = 4,000 + 500 + **60** + 3

4,581 = 4,000 + 500 + **80** + 1

60 < 80, so 4,563 < 4,581

c. Begin by having students consider times it may be necessary to compare whole numbers. Students should be given experience solving real-world problems involving comparing whole numbers.

d. Give students opportunities to engage in discussion with peers to describe the strategies they are using to prove that one number is greater than, less than, or equal to another number. Challenge students to explain their thinking in a different way. For example, if they lined up the numbers in a place value chart, encourage them to also prove their thinking using expanded form.

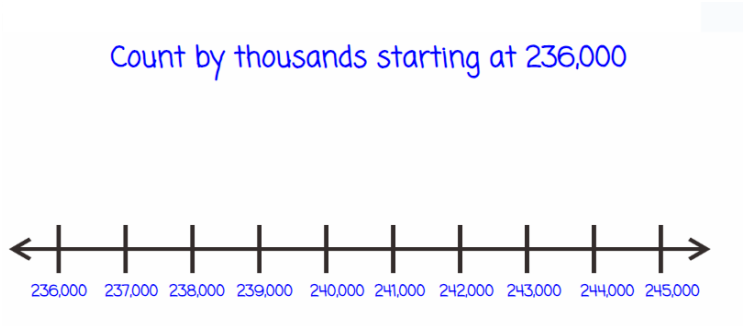
e. Lesson Vocabulary: compare, equal sign, greater than symbol (>), less than symbol (<)

5. Round Whole Numbers- Instruct students to use models such as place-value charts and number lines to round four, five, and six-digit numbers to the nearest ten, hundred, ten-thousand, or hundred-thousand. Teach students to also apply a rounding rule using the halfway point between two numbers to decide whether to round a number up or down.

a. Complete Lesson 3, Sessions 1-3 (3 days)

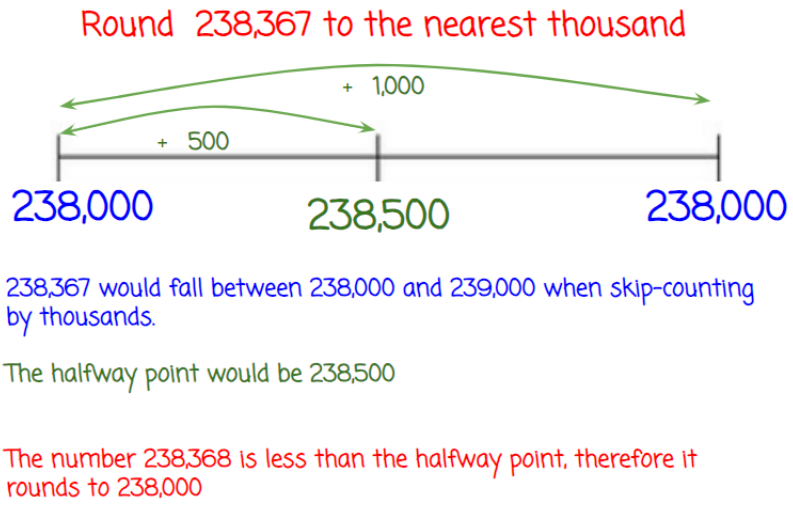
b. Some students tend to have difficulty with the concept of rounding. To begin, be sure students understand what it means to round a number to a given place. For example, they should understand that, when rounding to the thousands place, they are trying to find which thousand the actual number would be closest to when skip-counting by thousands. The same is true for rounding for the other places.

To illustrate this concept, it would be helpful to spend time skip-counting by tens, hundreds, thousands, ten-thousands, and hundred-thousands with larger numbers. This will help students understand what it means to find the closest thousand, ten-thousand, etc.



c. The above number line work will also pave the way for helping students understand how to use a number line to round whole numbers. For example, suppose they needed to round 238,367 to the nearest thousand. Students should first ask themselves, “Which two thousands would the number fall between on a number line?”

Then, students can determine where the number is in reference to the halfway point.



** Some students may struggle with determining the halfway point. If this is the case, give them lots of practice labeling two intervals and finding the half-way point before they begin trying to round numbers. It is helpful for them to label the number line with what the interval is counting by, to determine what would be considered half of that. (See green text in image above). This activity can also reinforce finding the halfway point.

** If students know the rhymes for "looking at the neighbor to the right, and determining what to do", ensure they can explain why that rhyme works using a number line or place value charts.

d. Possible strategies include but are not limited to:

i. Place value charts

ii. Number lines

e. Lesson Vocabulary: estimate, round

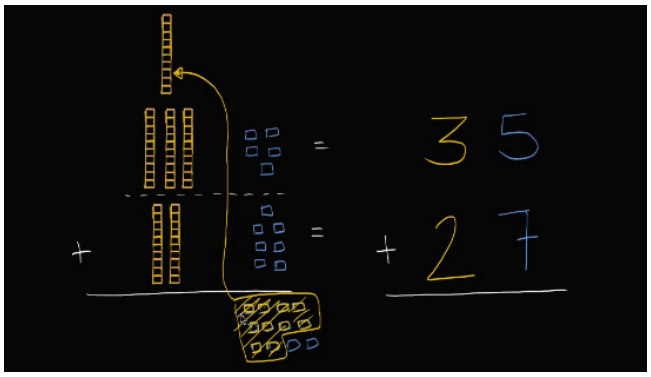
6. Add Whole Numbers- Students should be taught to use strategies based on place value to build an understanding of the standard algorithm for addition. Instruct students to use the standard algorithm to add multi-digit numbers up to 999,999. Students should be taught and provided opportunities to add the multi-digit whole numbers with accuracy and efficiency using the standard algorithm.

a. Complete Lesson 4, Sessions 1-4 (4 days)

b. Possible strategies include but are not limited to:

i. Standard algorithm

c. Emphasize what happens when it is necessary to "regroup" or "carry the 1" when adding multi-digit numbers. It is important for students to recognize that each place value position can only have the digits 0-9. If they add the ones together, and get a number greater than 9, that means they need to regroup the ten to the tens place, and keep the ones in the ones place. So, rather than saying, "carry the 1", encourage students to say, "regroup 1 ten to the tens place". The same thinking should apply for adding digits in different place value positions together. This can also be modeled using base ten blocks.



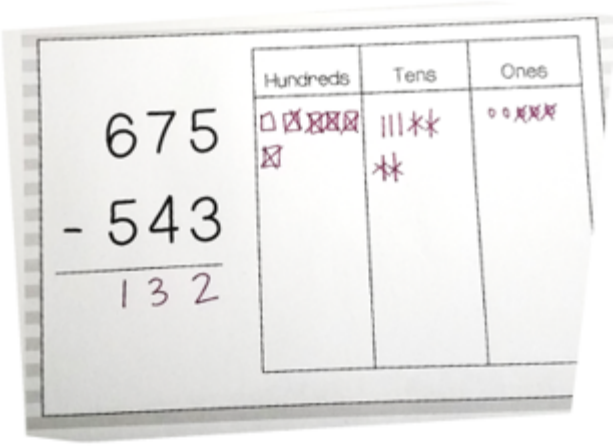
d. Lesson Vocabulary: reasonable, regroup, addend, algorithm, estimate (verb), round, sum

7. Subtract Whole Numbers- Students should be taught to use strategies based on place value to build an understanding of the standard algorithm for subtraction. Instruct students to subtract multi-digit numbers using the algorithm. Students should be taught to check their answers to subtraction problems using addition and estimating strategies based on rounding. Students should be taught and provided opportunities to subtract the multi-digit whole numbers with accuracy and efficiency using the standard algorithm. .

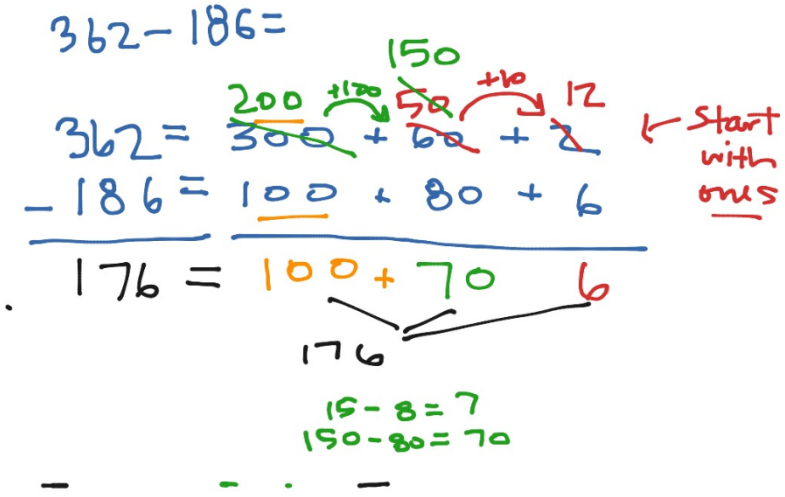
a. Complete Lesson 5, Sessions 1-4 (4 days)

b. Possible strategies include but are not limited to:

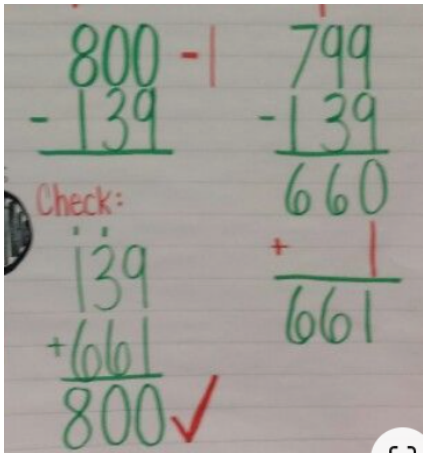
i. Some students may have difficulty with subtracting with regrouping. One way to show students the meaning behind regrouping would be to use place value blocks and have students physically move the blocks, Scale numbers back to working with numbers in the hundreds and thousands and build to larger numbers. If you do not have place value blocks, you can use place value disks or drawings of the place value blocks. Using the blocks wil



ii. Another strategy you can use is subtracting the numbers when they are in expanded form. Expanded form shows the actual number and that students see the value of each number and realize that you aren't 'borrowing a one' it is actually a ten or hundred, etc and it can be seen.



iii. Subtracting across zeros can also be difficult for some students. If shown a problem like this 800 - 139, students can take one away from the top digit, subtract and then add the one on. Remind students that it is important to add on what they take off

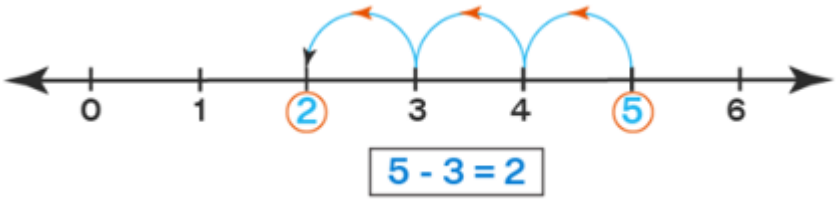


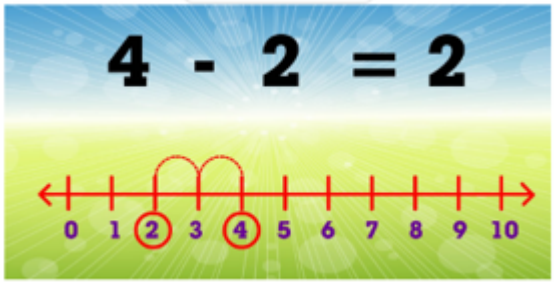
Another way to subtract across a zero is to use the above strategy, however students take one away from both

the subtrahend and minuend . This works because the numbers are the same distance away on a number line. Show students an example on a number line.

5-3 = 2 4 - 2 = 2 (taking 1 away from the 5 and 3)

You can see on the number lines that you get the same answer.





c. Lesson Vocabulary: algorithm, difference, estimate (noun), estimate (verb), reasonable, regroup, sum

8. Understand Multiplication as a Comparison- Students should be taught to extend the idea of multiplication to include multiplicative comparison. (7 X 3 = 21 means both 21 is 3 times as many as 7 and 21 is 7 times as many as 3) Instruct students students to recognize that a statement such as "16 id 8 times as many as 2" can be represented by the two equations 2 x 8 = 16 and 8 x 2 = 16. Instruct students to use the multiplication sign in place of the word 'times' when representing a comparison situation.

a. Complete Lesson 6, Sessions 1-3 (3 days)

b. Possible strategies include but are not limited to:

i. It is important for students to understand that multiplication is a way to compare two numbers. Two factors can be in different positions and the product remains the same. Students should use pictures and bar models to compare the two numbers. In a multiplicative comparison, the underlying question is 'what factor would multiply one quantity in order to result in the other?'

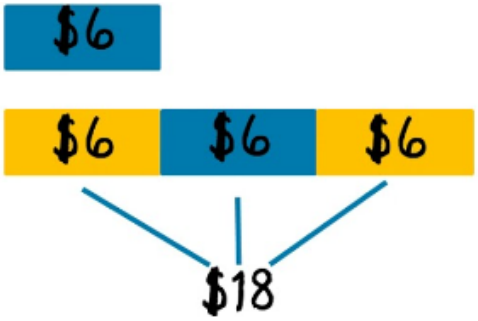
For example:

8 is 4 times as many as 2 8 is 2 times as many as 4

8 = 4 x 2 **8 = 2 x 4**



The bar model below shows that 18 is 3 times as many as 6. 18 = 3 x 6



ii. Sample problems you can use with your class. The bottom section has problems you can use without a note sheet and they are numberless so you can differentiate the work with your students.

iii. Here is a task you can use: Threatened and Endangered

c. Lesson Vocabulary: multiplicative comparison, equation, factor, multiplication, multiply

9. Multiplication and Division in Word Problems- Students should be taught to solve multiplication and division word problems. Instruct students to model problems involving times as many situations, write an equation using symbols, and solve to find the unknown.

a. Complete Lesson 7, Sessions 1-4 (4 days)

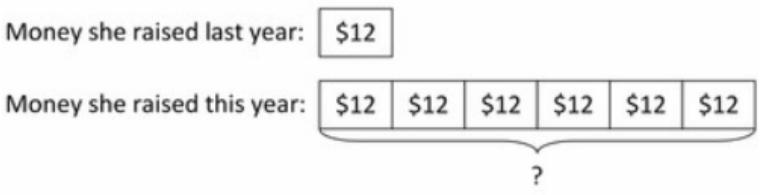
b. Possible strategies include but are not limited to:

i. In these problems students will multiply or divide to solve word problems involving multiplicative comparison. They will use drawings and equations with a symbol for the unknown number to represent the problem.

ii. Here are some sample problems that students should be exposed to.

1. Helen raised $12 for the food bank last year and she raised 6 times as much money this year. How much money did she raise this year?

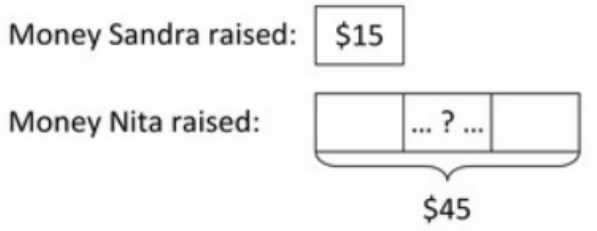
Helen raised six times as much money (as shown in the diagram) so she raised 6 x 12 = 72



Helen raised $72 this year.

1. Sandra raised $15 for the PTA and Nita raised $45. How many times as much money did Nita raise as compared to Sandra?

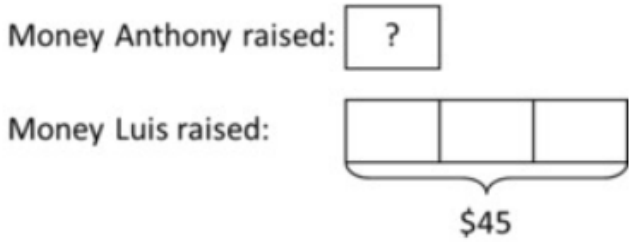
? x 15 = 45 which is equivalent to 45 ÷ 15 = ?



Nita raised 3 times as much as Sandra.

1. Luis raised $45 for the animal shelter, which was 3 times as much money as Anthony raised. How much money did Anthony raise?

3 x ? = 45 is equivalent to 45 ÷ 15 = ?



Anthony raised $15.

iii. Word Problems you can use. They follow the sequence for the week.

c. Lesson Vocabulary: symbol, unknown, divide, division, equation, factor, multiplication, multiplicative comparison, multiply

10. **Number and Shape Patterns**- Students should be taught to identify attributes in number and shape patterns and then reason about the patterns to identify other features of the pattern that are not evident in the rule. For example a number pattern with the rule 'add 5' also has a pattern that alternates between odd and even numbers. Instruct students to use similar reasoning to identify attributes and extend patterns of shapes. Students should be taught that they analyze shape patterns and reason about the numerical position a shape would have in the extended pattern without drawing all the shapes in the pattern.

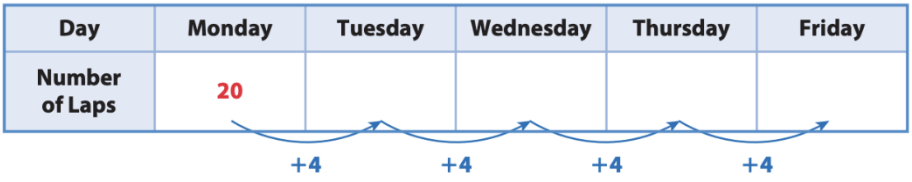
a. Complete Lesson 9, Sessions 1-4 (4 days)

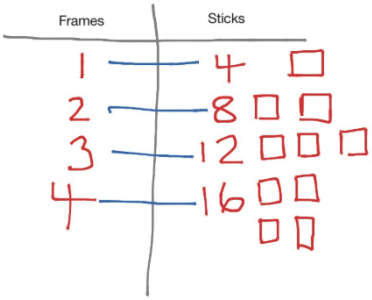
b. Possible strategies include but are not limited to:

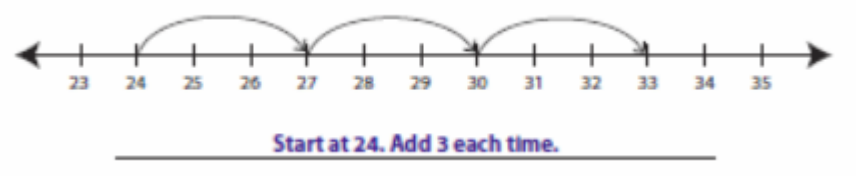
i. It is important to remind students that when working with number patterns, each pattern has a rule and each number or shape in the pattern follows the same rule. Numbers in the patterns can be identified as odd or even.

ii. During transition time or waiting in line, you can create number patterns as a class, for example, you can say, I have the number 8, let's add 4 to each new answer. What's 8+4? How about that answer +4? And that answer +4. You can use this strategy in a context during transition as well. For example you can say I graded 20 papers on Monday, Each day I grade 10 more papers, How many papers will I grade on Tuesday, Wednesday, etc.

1. Students might need a more visual representation so using a table, T-Chart, or number line will really showcase the pattern. See the examples below:







2. Possible questions to pose:

Jack, from Love That Dog, went to the shelter and wanted to count all of the dog eyes he saw. If there was one dog how many eyes would there be? What if there were 2 dogs? Three Dogs? One hundred dogs? Suppose you wanted to find out how many eyes and tails there were all together. How many eyes and tails would there be for one dog? Two dogs? Three dogs? One hundred dogs? Organize the information. Do you see a relationship between the number of dogs and the total number of eyes/tails? How would you describe this relationship?

Suppose an Animal Crossing Amiibo card costs $22. If you have $7 saved already How much more money would you need for the Amiibo card? Write a number sentence that shows how much more money you need. What if the Amiibo card costs $23? $24? Write number sentences for each of these cases.

If P stands for the price of the Amiibo card I want to buy, write a number sentence using P that describes how much more money I need to buy the Animal Crossing Amiibo card.

Saving for a Bicycle Every week Joey's Dad gives him $3 for helping with chores around the house. Joey is saving his money to buy a bicycle. How much money has he saved after 2 weeks? Three weeks? Four weeks? How much money has he saved after twenty weeks?

If the bike costs $60, how many weeks will it take to get enough money for the bicycle? Organize your information. What do you notice?

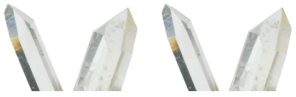
How would you describe this relationship?

How would the relationship change if Joey had saved $5 BEFORE he began receiving an allowance? Explain.

Mrs. Brockman's class is growing crystals. After one day, their crystals looked like this:



After 2 days, their crystals looked like this:



After 3 days, their crystals looked like this:



Organize your data in a table. What will the crystals look like after 4 days?

What relationship do you notice between the number of days the experiment has occurred and the number

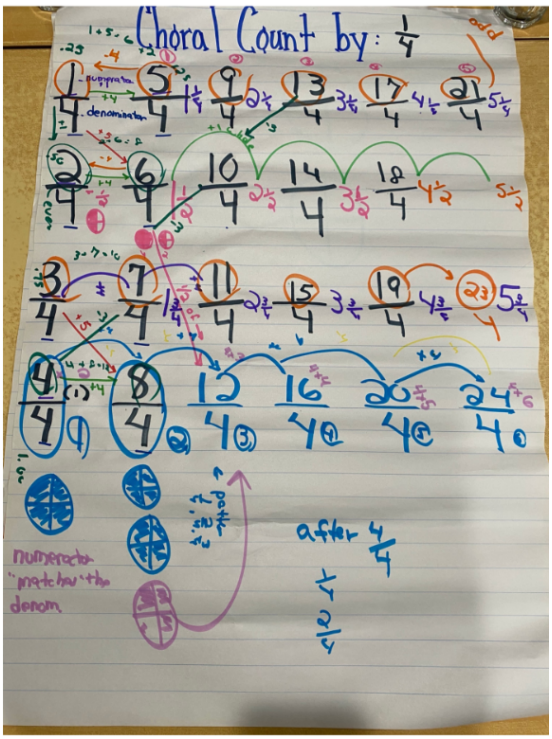
of crystals?

Describe this relationship in words and symbols.

Use this relationship to predicate what the crystals will look like in 150 days, went school gets out for the summer,

iii. Choral counting is another way to look at patterns (This TEDD Talk really explains this). Before class, strategically plan your count (what number to start at, what to count by, how to arrange your chart so students will notice patterns) In class, have all students count out loud as you record the number sequence. Ask: "What patterns do you notice?" and chart all student ideas. Samples can be found here. A step by step plan that was completed with students is here.

You can see all of the patterns the students noticed when counting by ¼.



iv. Using pattern blocks is also very helpful when teaching patterns. Students can make their own patterns following a set rule, a given pattern or create their own. It is important to point out that when describing a shape pattern, students in 4th grade should describe it the pattern in words and numbers, for example:



In words, this pattern would be pentagon, trapezoid, triangle,pentagon, trapezoid, triangle. You can also describe the pattern by the number of sides on each shape: 5, 4, 3, 5, 4, 3. The next shape on the pattern is a pentagon. Ask students what the 18th shape would be? How can they determine the shape without drawing all of the shapes?

c. Lesson Vocabulary: rule, pattern

11. **Model and Solve Multi-Step Problems**-Instruct students to write and solve equations for multi-step problems using letters to represent unknown quantities and check answers for reasonableness.

a. Complete Lesson 10, Sessions 1-4 (4 days)

b. Possible strategies include but are not limited to:

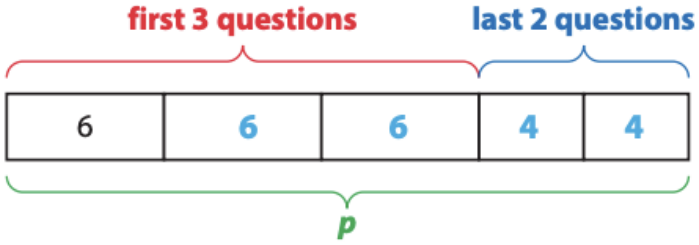
i. It is important to remind students that when solving multi-step problems, students may use different mathematical operations within the same equation and to write them in the same equation using a a letter to represent what they don't know. For example: *Dave is playing a video game. He collected 5 silver stars worth 5 points and 6 gold stars worth 10 points. How many points did he score in all?*

(5 x 5) + (6 x 10)= p

Explain why and how parentheses are used in a given problem.

ii. When solving these types of problems, students get confused because they don't always see one of the steps because they naturally solve the step in their head. Using a model will help them see the step they solved mentally.

iii. Students should be encouraged to use models such as bar models and tables to show their thinking.



Question	1	2	3	4	5
Score	6 points	6 points	6 points	4 points	4 points

iv. The number of steps in a problem should be no more than three and involve only easy and medium difficulty addition and subtraction problems.

v. Here are sets of problems you can use that show a one step problem and a similar problem next to it that has multiple steps. This might be helpful for students that have difficulty determining the next step to solve the problem.

vi. Here are other multi-step problems you can use with exit slips.

vii. Task that involves multiple steps: How Many Teams? Karl's Garden

c. Lesson Vocabulary: expression, remainder, divide, equation, estimate (verb), multiply, reasonable, unknown

GENERAL QUESTIONS FOR TEACHER USE

Adapted from Growing Success and materials from Math GAINS and TIPS4RM (Georgia Department of Education)

Reasoning and Proving

• How can we show that this is true for all cases?

• In what cases might our conclusion not hold true?

• How can we verify this answer?

• Explain the reasoning behind your prediction.

• Why does this work?

• What do you think will happen if this pattern continues?

• Show how you know that this statement is true.

• Give an example of when this statement is false.

• Explain why you do not accept the argument as proof.

• How could we check that solution?

• What other situations need to be considered?

Reflecting

• Have you thought about...?

• What do you notice about...?

• What patterns do you see?

• Does this problem/answer make sense to you?

• How does this compare to...?

• What could you start with to help you explore the possibilities?

• How can you verify this answer?

• What evidence of your thinking can you share?

• Is this a reasonable answer, given that...?

Selecting Tools and Computational Strategies

• How did the learning tool you chose contribute to your understanding/solving of the problem? Assist in your communication?

• In what ways would [name a tool] assist in your investigation/solving of this problem?

• What other tools did you consider using? Explain why you chose not to use them.

• Think of a different way to do the calculation that may be more efficient.

• What estimation strategy did you use?

Connections

• What other math have you studied that has some of the same principles, properties, or procedures as this?

• How do these different representations connect to one another?

• When could this mathematical concept or procedure be used in daily life?

• What connection do you see between a problem you did previously and today's problem?

Representing

• What would other representations of this problem demonstrate?

• Explain why you chose this representation.

• How could you represent this idea algebraically? graphically?

• Does this graphical representation of the data bias the viewer? Explain.

• What properties would you have to use to construct a dynamic representation of this situation?

• In what way would a scale model help you solve this problem?

Note: The instructor is encouraged to consult the supplemental resources located under materials to personalize and differentiate instruction for students, as well as address any learning gaps based on formative assessments.

Evidence/Performance Tasks

Formative Assessment:

- Fact Fluency Practice Assessments
- Administer Ready Math Lesson Quizzes at the end of each Lesson
- Administer Comprehension Check (digital)

Summative Assessments:

- Administer Ready Math Mid-Unit Assessments
- Administer Ready Math End of Unit Assessments

Benchmark Assessments:

- iReady Diagnostic
- Fact Fluency Assessment
- Acadience Assessment (As a reference, these assessments are not administered by the classroom teacher)

Alternative Assessments:

- Informal Observation
- Small Group Observation
- Exit Tickets
- Math Journal
- Oral and Written Explanations of Reasoning

Materials

The following are approved resources that teachers can include to further unit related objectives:

- Ready Math Teacher Toolbox Resources
    - Whole Class Instruction
        - Teach: Instruction & Practice, Interactive Tutorials,
        - Assess: Lesson Quizzes & Unit Assessments
    - Small Group Differentiation
        - Prepare: Prerequisite Lessons
        - Reteach: Tools for Instruction
        - Reinforce: Math Center Activities
        - Extend: Enrichment Activities
- Ready Math Workbook
- Ready Math Slides
- Digital Math Tools
- iReady My Path
- Learning Games
- The First 10 Weeks Number Talks
- The Second 10 Weeks Number Talks
- The Third 10 Weeks Number Talks
- The Fourth 10 Weeks Number Talks
- Manipulatives: counters, tens frames, connecting cubes, base 10 blocks, fraction strips,
- White boards
- Number paths
- Hundred charts
- Blank Bar Models
- Grid Paper
- Blank Number Bonds
- CPS District Mathematics Google Drive Folder

- Literature to assist in teaching:
    - *A Million Fish More or Less* by Fred McKissack (Multi-step word problems 4.OA.A.3)

Supplemental Resources:

- Grade 4 NJSLA Questions Organized by Topic
- Acing Math- Card games that support a variety of math skills
- Multiplicative Comparison problems and books related to the concepts.
- Generate patterns of a given rule: problem with student responses
- Checking Addition and Subtraction Using Estimation Lesson
- Number and Shape Patterns

Any additional resources that are not included in this list will be presented to and reviewed by the supervisor before being included in lesson plans. This ensures resources are reviewed and vetted for relevance and appropriateness prior to implementation.

Standards

9.4.5.CI	Creativity and Innovation
1	Make sense of problems and persevere in solving them
P.1	Act as a responsible and contributing community members and employee.
4.OA.A	Use the four operations with whole numbers to solve problems
2	Reason abstractly and quantitatively
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.
P.4	Demonstrate creativity and innovation.
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.
P.5	Utilize critical thinking to make sense of problems and persevere in solving them.
3	Construct viable arguments and critique the reasoning of others
4.OA.A.3	Solve multi-step 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	Model with mathematics
P.8	Use technology to enhance productivity increase collaboration and communicate effectively.
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.
5	Use appropriate tools strategically
6	Attend to precision
7	Look for and make use of structure
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.
8	Look for and express regularity in repeated reasoning
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	With accuracy and efficiency, add and subtract multi-digit whole numbers using the standard algorithm.
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 model.
L.KL.4.1.A	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases.
L.VL.4.2	Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.
SL.PE.4.1.C	Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
SL.PE.4.1.D	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
SL.AS.4.6	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.

Suggested Strategies for Modifications

Possible accommodations/modification for Fourth Grade

Note: Teachers can find more specific modifications for English learners, learners with special needs,learners reading below grade level, and advanced learners on the Ready Math website.