

In an effort to keep parents and guardians informed of the expectations and content being covered in math class this year, this informational handout will be provided for each chapter. Its intent is to assist in guiding you in ways to support your child in deepening their mathematical understanding.



Scan the QR code to check out teaching strategies for this chapter.

In each chapter we will spend time reviewing material taught in prior grades as it relates to the standards being taught in fourth grade. Our goal is to keep a balance of skill based learning along with enhancing our student's ability to problem solve and think conceptually.

Review Material from Prior Grades
<ol style="list-style-type: none"> 1) Round whole numbers to the nearest 10 or 100. (3.NBT.1) 2) Fluently add and subtract within 1,000. (3.NBT.2) 3) Multiply a single-digit number by a multiple of 10. (3.NBT.3) 4) Apply the properties of multiplication to multiply and divide. (3.OA.5) 5) Fluently multiply and divide within 100. (3.OA.7)
New Material for 4th Grade
<ol style="list-style-type: none"> 1) I can 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.1) 2) I can round multi-digit whole numbers to any place using place value. (4.NBT.3) 3) I can multiply two two-digit numbers. (4.NBT.5) 4) I can find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors. (4.NBT.6) 5) I can solve multi-step word problems using the four operations. (4.OA.3) 6) I can identify factor pairs and multiples of numbers 1-100. (4.OA.4)
End of Chapter Expectations
<ol style="list-style-type: none"> 1) Chapter Assessment

*Please note the list above highlights the main skills to be assessed. Teachers may include additional content to meet the needs of their students.

Division Strategies

Partial Quotients

Step 1: Draw a large division house and place the dividend in the middle and the divisor on the outside. (It will look like a BIG 7.)

Step 2: Next, pull out groups of 8. For example, you can pull out 40 groups of 8 for a total of 320. Place the number of groups on the outside and the total that was pulled out on the inside below the dividend.

Step 3: Subtract the total (320) you just pulled out from the dividend.

Step 4: Pull out 3 groups of 8 (24) from the total 31 and subtract again.

Step 5: You can't pull out any more groups of 8, so add the numbers on the right to get the dividend of 43. The 7 is your remainder.

Example: $351 \div 8$

$$\begin{array}{r}
 8 \overline{) 351} \\
 \underline{- 320} \quad 40 \\
 31 \\
 \underline{- 24} \quad + 3 \\
 7 \quad \quad 43
 \end{array}$$

Partial Quotients

↖
↖
 Remainder Quotient

☺ Family Practice ☺

Check out some of these free, math websites to practice division skills.

- 1) <http://gregtangmath.com/>
- 2) http://www.thinkingblocks.com/ThinkingBlocks_AS/TB_AS_Main.html

Area Model

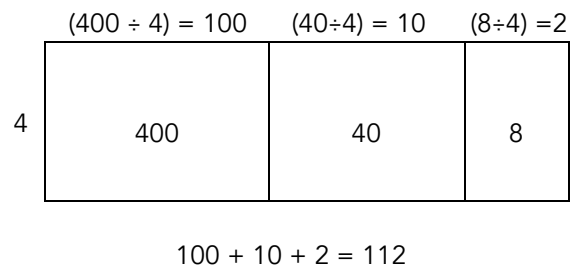
Step 1: Put 448 into expanded form: $400 + 40 + 8$ and place INSIDE the area model. (In multiplication the numbers were placed outside the model.)

Step 2: Place the divisor outside the area model.

Step 3: Divide each section by the divisor (4) and write the quotient above each section of the area model.

Step 4: Add the quotients.

Example: $448 \div 4$



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Division Strategies, Continued

Interpreting Remainders

Round It	Drop It	Share It
Rounding the remainder means that you round it up and include it in the answer. In other words, you are adding one more to the quotient so that everyone or everything will be included.	Dropping the remainder (sometimes called ignoring the remainder) means that you are NOT using it in the answer at all.	Sharing the remainder means that you are including the remainder in the answer and reporting it as a fraction or a decimal.
<p>Example: Seventeen people are attending a dinner party. Each table at the party can seat five people. How many tables will be needed? $17 \text{ (people)} \div 5 \text{ (seats)} = 3 \text{ (tables)} R2 \text{ (extra people)}$</p>	<p>Example: There are seventeen marbles and five girls. How many marbles will each girl get if the marbles are divided equally? $17 \text{ (marbles)} \div 5 \text{ (girls)} = 3 \text{ (marbles per girl)} R2 \text{ (extra marbles)}$</p>	<p>Example: Kip and Henry made five cups of lemonade. How much lemonade will each boy drink if they both drink the same amount? $5 \text{ (cups)} \div 2 \text{ (boys)} = 2 \text{ (cups each)} R1 \text{ (extra cup)}$</p>
Since the 2 extra people cannot sit on the floor, you will need to round the remainder and add 1 extra table, giving you an answer of 4 tables.	Since it is not possible to split the 2 extra marbles among the 5 girls, the 2 extra marbles are dropped or ignored.	Since 1 cup can easily be divided between the 2 boys, each boy can have an extra half-cup, making the answer $2 \frac{1}{2}$ cups. The remainder is shown as a fraction.

Equal Groups

We have 252 buttons to put in 4 boxes. How many buttons can we put in each box? ($252 \div 4$)

We can put 50 in each box (4×50) = 200

We can put 10 in each box (4×10) = 40

We can put 3 in each box (4×3) = 12

63

252

So, we can put 63 buttons in each box.

$252 \div 4 = 63$

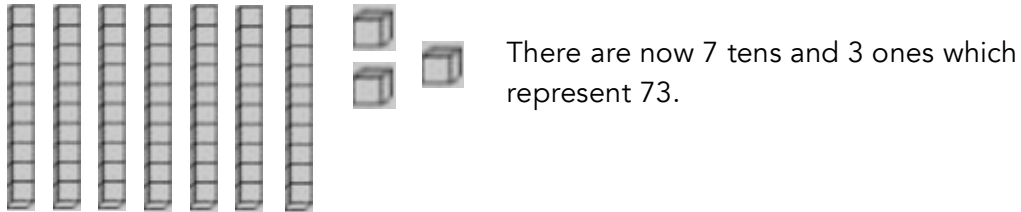
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Division Strategies, Continued

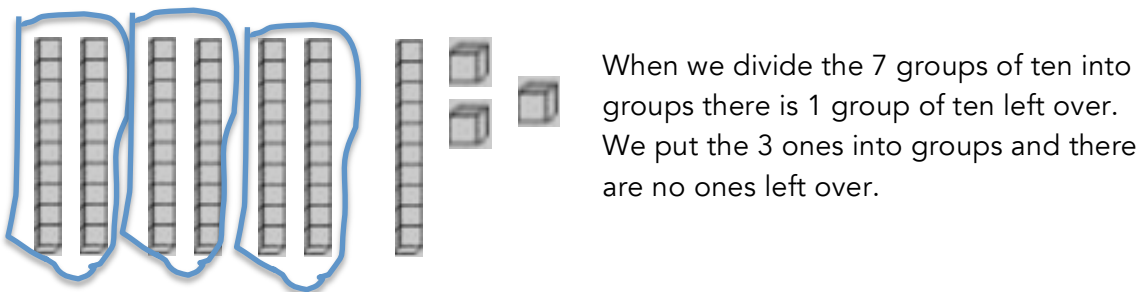
Dividing with Base Ten Models

Example: $73 \div 3$

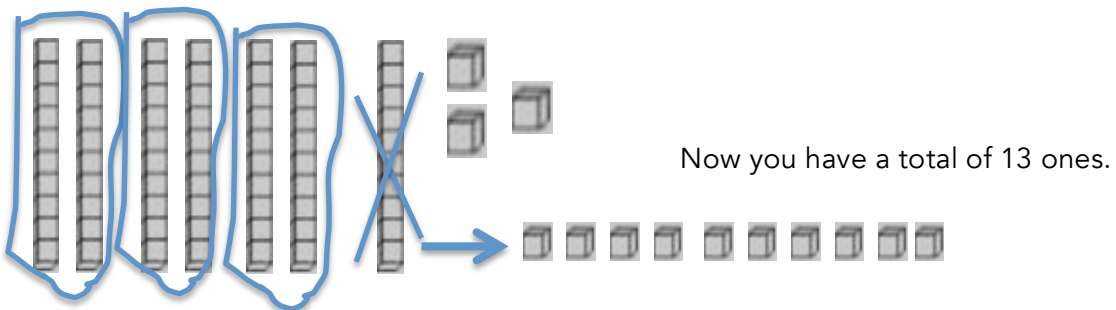
1) Use base ten blocks to show 73.



2) Begin by dividing the base ten blocks into groups of three. Draw 3 boxes or circles and share the base ten blocks into three groups.



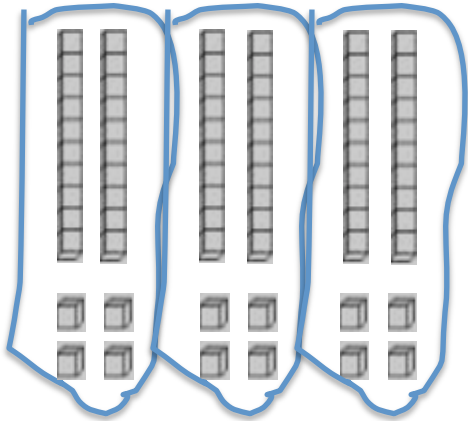
3) To finish sharing the last group of 10, it needs to be traded for 10 ones.



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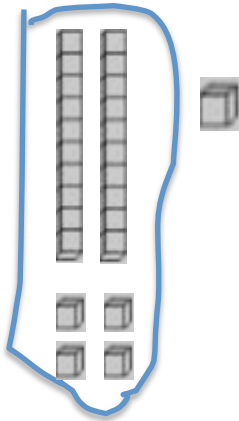
Division Strategies, Continued

4) Make three equal groups with your ones.



You will have 1 leftover.

5) Your answer (quotient) will be one of those groups and the remainder (leftover).



24 R1

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Division Strategies, Continued**Compatible Numbers**

When estimating, friendly numbers are numbers that are close in value to the actual numbers, and which makes it easy to do mental math.

Another approach is to break apart the dividend into “friendly numbers.” Consider $252 \div 4$. We could break 252 into $(240 + 12)$ and divide each by 4.

$$240 \div 4 = 60$$

$$60 + 3 = 63$$

$$12 \div 4 = 3$$

$$\text{So, } 252 \div 4 = 63$$

Think Multiplication

Use the relationship between multiplication and division (inverse operations)

We may also consider Think Multiplication to work with division. Consider $932 \div 45$.

We can think of “What times 45 equals 932?”

We might think $45 \times 10 = 450$, so...

$$45 \times 20 = 900$$

20 groups of 45 is 900. We have 32 leftover but that is not enough for another group.

$932 \div 45 = 20$ with 32 leftover.

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