

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.



In each chapter we will spend time reviewing material taught in prior grades as it relates to the standards being taught in fifth 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.

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

Review Material from Prior Grades
1) Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors. (4.NBT.6)
New Material for 5 th Grade
1) I can explore division using models, rounding, partial products, distributive property, and patterns. (5.NBT.6)
2) I can divide up to four-digit dividends and one-digit divisors with and without remainders. (5.NBT.6)
End of Chapter Expectations
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.

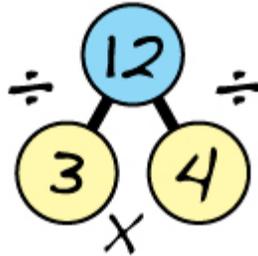
Division Strategies

Number Bond

Shows the relationship between multiplication and division as “part-part-whole”.

Example:

$3 \times 4 = 12$
 $4 \times 3 = 12$
 $12 \div 3 = 4$
 $12 \div 4 = 3$



☺ Family Practice ☺

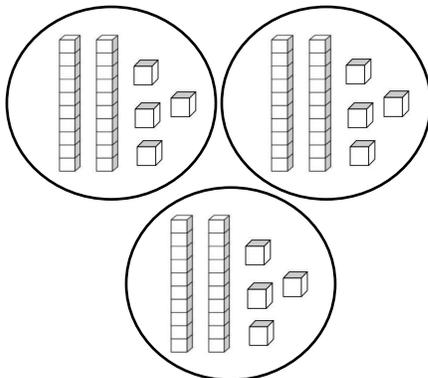
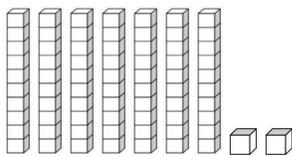
Check out some of these free, math websites to practice multiplication and division skills.

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

Base Ten Models

Example:

dividend divisor quotient
 ↓ ↓ ↓
 $72 \div 3 = 24$



Divide with Base Ten Models:

- Step 1:** Create the model for the dividend and the equal groups.
- Step 2:** Share the ten rods equally over the three groups. Two rods will go into each group with one rod left.
- Step 3:** Trade the rod for ten ones, then share all the ones equally over the three groups. Four ones will be in each group.
- Step 4:** Count the amount of blocks in one group to find the quotient. So, $72 \text{ blocks} \div 3 \text{ groups} = 24 \text{ blocks in each group}$.

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Division Strategies, Continued

Partial Quotients**Example:**

$$\begin{array}{r}
 43 \\
 8 \overline{) 344} \\
 \underline{- 320} \quad 40 \\
 24 \\
 \underline{- 24} \quad + 3 \\
 0 \quad \quad 43
 \end{array}$$

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 number of groups you just pulled out from the dividend.

Step 4: Pull out 3 groups of 8 for a total of 24 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.

Area Model

A strategy that makes division easier by breaking apart the numbers by place value.

Example:

$$448 \div 4$$

$$(400 \div 4) = 100 \quad (40 \div 4) = 10 \quad (8 \div 4) = 2$$

400	40	8
4		

$$100 + 10 + 2 = 112$$

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.

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Division Strategies, Continued

Interpret the Remainder**Round 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.

Example:

Seventeen people are attending a dinner party. Each table at the party can seat five people. How many tables will be needed?

$17 \text{ people} \div 5 \text{ (seats)} = 3 \text{ (tables)}$
R 2 (extra people)

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.

Tip:

Use Round it whenever you can't leave people, animals, or things out.

Drop it

Dropping the remainder (sometimes called ignoring the remainder) means that you are not using it in the answer at all.

Example:

There are seventeen marbles and five girls. How many marbles will each girl get if the marbles are divided equally?

$17 \text{ (marbles)} \div 5 \text{ (girls)} = 3 \text{ (marbles per girl)}$ R 2 (extra marbles)

Since it is not possible to split the 2 extra marbles among the 5 girls, the 2 extra marbles are dropped or ignored. They are not part of the answer at all.

Tip:

Use Drop it when you cannot easily divide the remainder and when rounding up does not make sense.

Share it

Sharing the remainder means that you are including the remainder in the answer and reporting it as a fraction or a decimal.

Example:

Kip and Henry have made five cups of lemonade. How much lemonade will each boy drink if they both drink the same amount?

$5 \text{ (cups)} \div 2 \text{ (boys)} = 2 \text{ (cups each)}$
R 1 (extra cup)

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.

Tip:

Share it is often used with money, food, and measurement. Use Share it when you can easily and equally split the remainder and it makes sense to do so.

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