

We

Flip

For Math


Flip Books for Math Topics:

How to Divide Using
Partial Quotient Method

Mrs. B's Best

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Partial Quotient

~Step-By-Step Guide~

How to Divide Using the Partial Quotient Method

The purpose of a 'We Flip for Math' Flip Book, is to provide a struggling student with a step-by-step guide to take them through the process they are struggling with.

I have various flip books available in my classroom (and my TpT Store), but only after I have taught the concept and we have practiced it a number of times. The complexity of some skills can be quite challenging for many students. Being able to remember all the steps can simply become too overwhelming. A flip-book can help 'walk' children through a multiple step mathematical process. In addition, I have found flip-books can be helpful when sending homework home.

I have heard from many parents how much they appreciated having this valuable resource available when working with their child.

This packet contains a 'three examples + practice' flip-book. The 1st example provides a step-by-step guide for dividing a 3-digit number by a 1-digit number (no remainder). The 2nd example shows how to divide a 4-digit number by a 1-digit number (with remainder). The final example demonstrates how to divide a 3-digit number by a 2-digit number (with remainder). The final section provides several practice problems along with an answer key. In addition, I included some ready-made index tabs for marking each of the four sections.

To assemble each Flip Book simply run single-sided copies of all pages.
Laminate for durability. Cut on the dotted line. Put the pages in sequential order-- cover should be on top. Bind or staple (binding works best) across the top!
(Pictures of assembly on Proceeding Page)

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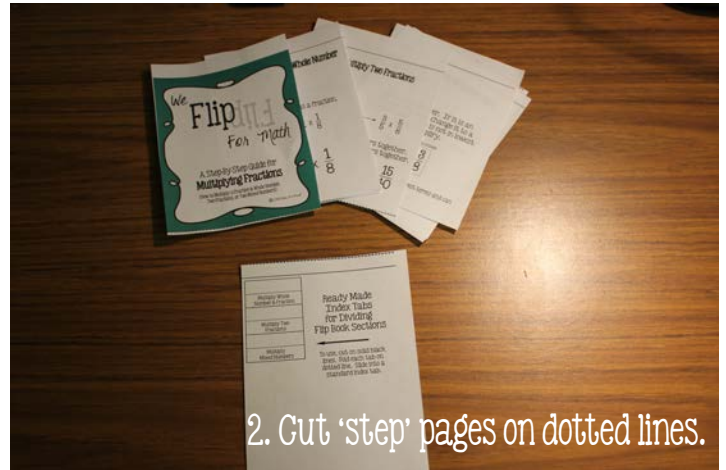
How to Assemble 'We Flip for Math'

Be sure to laminate for durability!

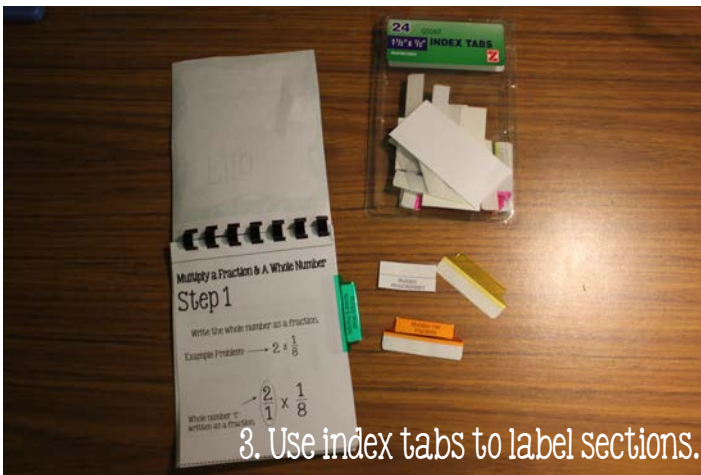
Attach a library checkout pocket/card on the back of the book.
Children can 'check out' book to use with homework.



1. Download product.



2. Cut 'step' pages on dotted lines.



3. Use index tabs to label sections.



4. Assembled product (outside).



5. Assembled product (inside).



6. Visit my TpT Store for more "We Flip" books.

We

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For Math

A Step-By-Step Guide for
How to Divide Using
Partial Quotient Method

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Understanding Partial Quotient

The partial quotient method for dividing, allows the dividend to be broken into smaller amounts. Each time the dividend is decreased the problem becomes more manageable.

To be successful with this method, you must have a good understanding of working with multiples of 10.

Solve the following
division problem.

$$456 \div 3$$

First, write the problem
in long division format.

$$3 \overline{)456}$$

Step 1: Identify

Ask:

Which digit has the largest value in
the dividend?

4 has the greatest value.
4 represents 4 hundreds or 400.

$$3 \overline{)456}$$

Step 2: Multiply & Subtract

Think:

Since 4 is in the hundred's place, start with multiples of 100. Ask will 3 go into 456 one hundred times? Yes, $3 \times 100 = 300$. Will 3 go into 456 two hundred times? No, $3 \times 200 = 600$. 200 is too big, so we can easily say 3 goes into 456, 100 times. So, multiply 3×100 and...

$$\begin{array}{r} 3 \overline{)456} \\ - 300 \\ \hline 156 \end{array} \quad \begin{array}{l} 100 \\ \leftarrow \\ \text{Write 100 on} \\ \text{the right side} \\ \text{of the vertical} \\ \text{line.} \end{array}$$

Subtract 300 from 456.

Step 3: Multiply & Subtract

Think:

After subtracting, we are left with 156. Think of this as our new 'smaller' dividend. Focusing on multiples of 10, ask will 3 go into 156, 10 times, 20 times, 30 times, 40 times, 50 times, 60 times?

3 goes into 156, 50 times without going over. So, multiply 3×50 and...

$$\begin{array}{r} 3 \overline{)456} \\ - 300 \\ \hline 156 \\ - 150 \\ \hline 6 \end{array} \quad \begin{array}{l} 100 \\ \\ 50 \\ \leftarrow \\ \text{Write 50 on the} \\ \text{right side of the} \\ \text{vertical line.} \end{array}$$

Subtract 150 from 156.

Step 4: Multiply & Subtract

Think:

After subtracting, we are left with 6. Now our 'remaining dividend' (6) is so small, it is easy to see that 3 goes into 6, two times.

So multiply 3×2 and...

$$\begin{array}{r} 3 \overline{)456} \\ - 300 \\ \hline 156 \\ - 150 \\ \hline 6 \\ - 6 \\ \hline 0 \end{array} \quad \begin{array}{l} 100 \\ \\ 50 \\ \\ 2 \\ \leftarrow \\ \text{Write 2 on the} \\ \text{right side of the} \\ \text{vertical line.} \end{array}$$

Subtract 6 from 6.

Step 5: Add

Add the numbers on the right side of the vertical line.

$$\begin{array}{r} 3 \overline{)456} \\ - 300 \\ \hline 156 \\ - 150 \\ \hline 6 \\ - 6 \\ \hline 0 \end{array} \quad \begin{array}{l} 100 \\ \\ 50 \\ \\ + 2 \\ \hline 152 \\ \leftarrow \\ \text{The sum} \\ \text{is the} \\ \text{quotient.} \end{array}$$

Final Answer

$$456 \div 3 = 152$$

Solve the following division problem.

$$7,223 \div 6$$

First, write the problem in long division format.

$$6 \overline{)7223}$$

Step 1: Identify

Ask:

Which digit has the largest value in the dividend?

7 has the greatest value.
7 represents 7 thousands
or 7000.

$$6 \overline{)7223}$$

Step 2: Multiply & Subtract

Think:

Since 7 is in the thousands's place, start with multiples of 1000. Ask will 6 go into 7223, 1000 times? Yes, $6 \times 1000 = 6000$. Will 6 go into 7223 two thousand times? No, $6 \times 2000 = 12,000$. 12,000 is too big, so we can easily say 6 goes into 7223, one thousand times. So, multiply 6×1000 and...

$$\begin{array}{r} 6 \overline{)7223} \\ - 6000 \\ \hline 1223 \end{array} \quad 1000$$

Subtract 6000 from 7223.

Write 1000 on the right side of the vertical line.

Step 3: Multiply & Subtract

Think:

After subtracting, we are left with 1223. Think of this as our new 'smaller' dividend. Focusing on multiples of 100, ask will 6 go into 1200, 100 times, 200 times, 300 times?

6 goes into 1223, 200 times without going over. So, multiply 6×200 and...

$$\begin{array}{r} 6 \overline{) 7223} \quad 1000 \\ - 6000 \\ \hline 1223 \quad 200 \\ - 1200 \\ \hline 23 \end{array}$$

Subtract 1200 from 1223. \rightarrow

\uparrow Write 200 on the right side of the vertical line.

Step 4: Multiply & Subtract

Think:

After subtracting, we are left with 23. Think of this as our new 'smaller' dividend. Focusing on multiples of 10, ask will 6 go into 23, ten times? No, 6×10 is too big.

So...write a 0 under 200.

$$\begin{array}{r} 6 \overline{) 7223} \quad 1000 \\ - 6000 \\ \hline 1223 \quad 200 \\ - 1200 \\ \hline 23 \quad 0 \end{array}$$

\leftarrow Write 0 below the 200.

Step 5: Multiply & Subtract

Think:

Our 'remaining dividend' (23) is small enough to easily see that 6 goes into 23, three times.

So multiply 6×3 and...

$$\begin{array}{r} 6 \overline{) 7223} \quad 1000 \\ - 6000 \\ \hline 1223 \quad 200 \\ - 1200 \\ \hline 23 \quad 0 \\ - 18 \\ \hline 5 \end{array}$$

Subtract 18 from 23. \rightarrow

\uparrow Write 3 below the 0.

Step 6: Check

After working all the way across the dividend from left to right, the division problem is finished.

If the final difference is not zero, make sure it is a number less than the divisor. This difference is the remainder.

$$\begin{array}{r} 6 \overline{) 7223} \quad 1000 \\ - 6000 \\ \hline 1223 \quad 200 \\ - 1200 \\ \hline 23 \quad 0 \\ - 18 \\ \hline 5 \end{array}$$

Remainder \rightarrow 5

Step 7: Add

Add the numbers on the right side of the vertical line. The sum is the quotient. Don't forget to include the remainder.

$$\begin{array}{r|l} 6 \overline{) 7223} & 1000 \\ - 6000 & \\ \hline 1223 & 200 \\ - 1200 & 0 \\ \hline 23 & + 3 \\ - 18 & \\ \hline 5 & 1203 \end{array}$$

Include remainder in final answer. →

Sum is the quotient. ←

Final Answer

$$7,223 \div 6 = 1203 \text{ r}5$$

Solve the following division problem.

$$869 \div 45$$

First, write the problem in long division format.

$$45 \overline{) 869}$$

Step 1: Identify

Ask:

Which digit has the largest value in the dividend?

8 has the greatest value.
8 represents 8 hundreds or 800.

$$45 \overline{) 869}$$

Step 2: Multiply & Subtract

Think:

Since this problem has a double digit divisor, our process changes. Keeping it simple, will make solving much easier. We can easily see the 45 will go into 869, ten times.

So, multiply 45 x 10 and...

$$\begin{array}{r} 45 \overline{)869} \\ - 450 \\ \hline 419 \end{array}$$

Subtract 450 from 869. \rightarrow

10 \swarrow
Write 10 on the right side of the vertical line.

Step 3: Multiply & Subtract

Think:

After subtracting, we are left with 419. Think of this as our new 'smaller' dividend. We know that $45 \times 10 = 450$. 450 is close to our new dividend (419). So, instead of ten times, try 9 times.

So, multiply 45 x 9 and...

$$\begin{array}{r} 45 \overline{)869} \\ - 450 \\ \hline 419 \\ - 405 \\ \hline 14 \end{array}$$

Subtract 405 from 419. \rightarrow

10
9 \swarrow
Write 9 on the right side of the vertical line.

Step 4: Multiply & Subtract

Think:

After subtracting, we are left with 14. Our divisor (45) is larger than the difference, so 14 is the remainder.

$$\begin{array}{r} 45 \overline{)869} \\ - 450 \\ \hline 419 \\ - 405 \\ \hline 14 \end{array}$$

Remainder \rightarrow 14

9 \swarrow
Write 9 on the right side of the vertical line.

Step 5: Add

Add the numbers on the right side of the vertical line.

$$\begin{array}{r} 45 \overline{)869} \\ - 450 \\ \hline 419 \\ - 405 \\ \hline 14 \end{array}$$

Don't forget to include the remainder in your final answer. \rightarrow

10
+ 9

19

The sum is the quotient. \rightarrow

Final Answer

$$869 \div 45 = 19 \text{ r}14$$

Ready Made
Index Tabs
for Dividing
Flip Book Sections

Partial Quotient No Remainder
Partial Quotient With Remainder
Partial Quotient Double Digit Divisor
Practice Problems

To use, cut on solid black lines. Fold each tab on dotted line. Slide into a standard index tab.

Practice

$$475 \div 5 =$$
$$1,808 \div 7 =$$
$$1,570 \div 2 =$$
$$389 \div 4 =$$
$$2,424 \div 12 =$$

Answer Key

$$475 \div 5 = 95$$
$$1,808 \div 7 = 258\text{r}2$$
$$1,570 \div 2 = 785$$
$$389 \div 4 = 97\text{r}1$$
$$2,424 \div 12 = 202$$



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Again, thank you for your purchase! I look forward to hearing from you in the future.

Wishing You the Best,

Mrs. B