

Base-ten Division Strategies: Divvy Out Method (3.OA.2, 4.NBT.6, 5.NBT.6)

With **Divvy Out**, you pass out your dividend into equal groups of the divisor.

Use **Base 10 Blocks**. When students are ready to move to semi-concrete, have them use the key:



Shaded square
1000 cube



Unshaded square
100 flat



Line
10 rod



Dot
1 cube

Example 1: $72 \div 3 = \underline{\quad}$

	Tens	Ones
72		
$\div 3$		

Step 1: Using Place Value Table, have students put dividend into place value columns of top row using Base 10 blocks. Always have students make 2 rows of five to represent a ten frame for subitizing.

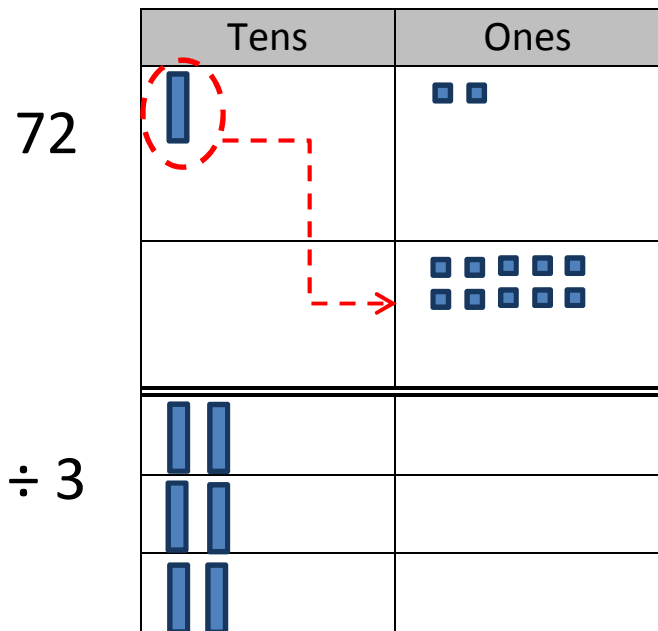
Second row is used for trading.

Group 1

Group 2 [Represents division into 3 groups.]

Group 3

$72 \div 3 = \underline{\quad}$

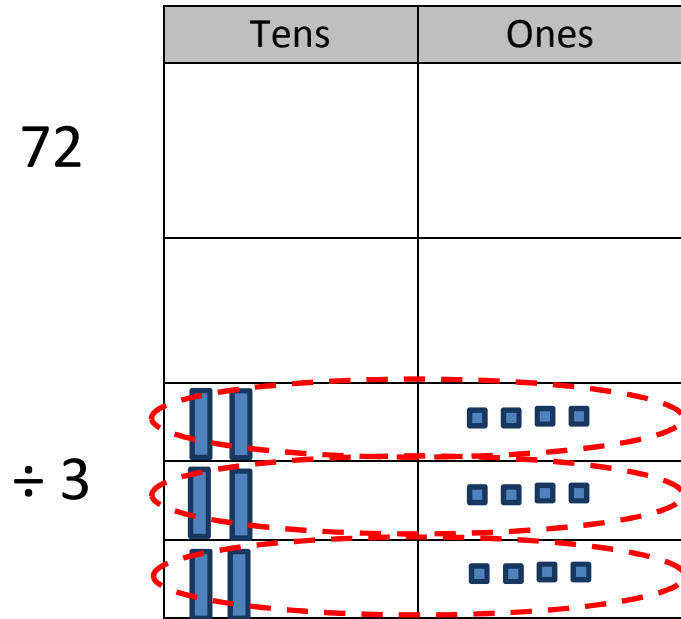


Step 2: Students divvy the blocks into the three groups to make them equal. Start with Tens.

Step 3: 6 tens go into the 3 groups evenly, with 1 ten left. Make a trade for 10 ones.

Step 4: Divvy out the ones.



$$72 \div 3 = \underline{24}$$



Step 5: The quotient is “how many in each group”. Since there are 2 tens and 4 ones in each group, then the quotient is 24.

Example 2: $213 \div 4 = \underline{\quad}$

213

	Tens	Ones
		
$\div 4$		

Step 1: Using Place Value Table, have students put dividend into place value columns, like Example 1

Second row is used for trading.

Group 1

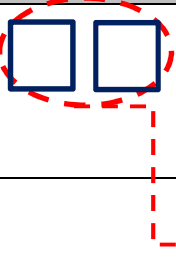



Group 2 [Division into 4 groups.]

Group 3

Group 4

$213 \div 4 = \underline{\quad}$








213

	Hundreds	Tens	Ones
			
			
$\div 4$			

Step 2: Students divvy the blocks into the four groups to make them equal. Start with Hundreds. Students cannot divvy hundreds because there are not enough for each group, so they trade for tens.

$213 \div 4 = \underline{\quad}$

213










	Hundreds	Tens	Ones
			
			
$\div 4$			
			
			
			

Step 3: Divvy out the tens, then trade any left overs for ones.

$$213 \div 4 = \underline{53, 1 \text{ left over}}$$

213




$\div 4$

Hundreds	Tens	Ones
		
<hr/> <hr/>		
		
		
		
		

Step 4: Divvy out the ones. There will be 1 left over.

Step 5: The quotient is “how many in each group”. Since there are 0 hundreds, 5 tens, and 3 ones in each group and 1 left over, then the quotient is 53, left over 1.

Example 3: $3,202 \div 2 = \underline{\quad}$




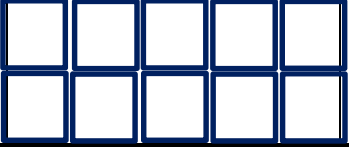


	Thousands	Hundreds	Tens	Ones
3, 202				
$\div 2$				

Step 1: Using Place Value Table, have students put dividend into place value columns, like Example 1

Second row is used for trading.

Group 1
Group 2 [Division into 2 groups.]

$$3,202 \div 2 = \underline{\quad}$$

	Thousands	Hundreds	Tens	Ones
3, 202				
				
$\div 2$				
				

Step 2: Students divvy the blocks into the four groups to make them equal. Start with Thousands.
Trade any left overs for Hundreds.

$$3,202 \div 2 = \underline{\quad}$$

3, 202

	Thousands	Hundreds	Tens	Ones
				■ ■
÷ 2	■	□ □ □ □ □		
		□		
	■	□ □ □ □ □		
		□		

Step 3: Students divvy the Hundreds.

Trade any left overs for Tens.

In this example, there are no Hundreds left over to trade.

$$3,202 \div 2 = \underline{\quad}$$

3, 202

	Thousands	Hundreds	Tens	Ones
				■ ■
÷ 2	■	□ □ □ □ □		
		□		
	■	□ □ □ □ □		
		□		

Step 4: Students divvy the Tens.

Trade any left overs for Ones.

In this example, there are no Tens to divvy out.

$$3,202 \div 2 = \underline{1,601}$$

3, 202

$\div 2$

Thousands	Hundreds	Tens	Ones
■	□ □ □ □ □		■
■	□ □ □ □ □		■

Step 5: Students divvy the Ones.

Step 6: The quotient is “how many in each group”. Since there are 1 thousand, 6 hundreds, 0 tens, and 1 ones in each group, then the quotient is 1,601.