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

With **Measure Out**, you determine how many "groups of" the dividend you can make within each place value.

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

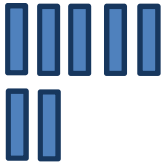
Shaded square
1000 cube

Unshaded square
100 flat

Line
10 rod

Dot
1 cube

Example 1: 72 ÷ 3 = ____

	Tens	Ones
72		
÷ 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.

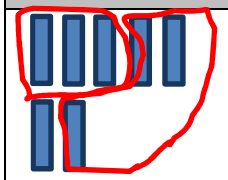
Second row is used for trading.

Only one row needed, as students will determine how many "groups" of 3 you can make in each place value.

72 ÷ 3 = ____

72

÷ 3

Tens	Ones
	
2	

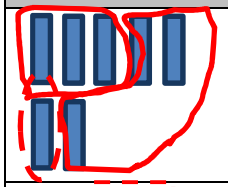
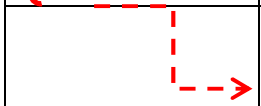
Step 2: Starting with the Tens place, determine how many groups of 3 Tens you can make. Circle them.

Since, you can make 2 groups of 3 Tens, put 2 in the tens place.

72 ÷ 3 = ____

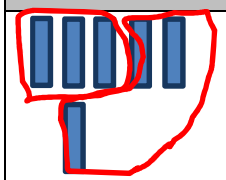
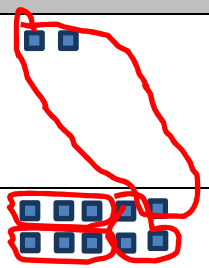
72

÷ 3

Tens	Ones
	
	
2	

Step 3: Trade the left over Ten for Ones.

$72 \div 3 = 24$

	Tens	Ones
72		
÷ 3	2	4

Step 4: Determine how many groups of 3 Ones you can make. Circle them.

Step 5: There are 4 groups of 3 Ones, so put 4 in the Ones place. Since there are 2 groups of 3 Tens and 4 groups of 2 Ones, then $72 \div 3 = 24$

Example 2: 213 ÷ 4 = ____

213

÷ 4

	Tens	Ones
		

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

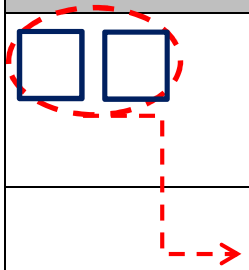
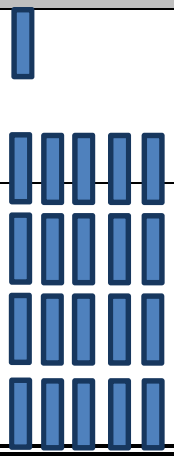
Second row is used for trading.

Only one row needed, as students will determine how many "groups" of 4 you can make in each place value.

213 ÷ 4 = ____

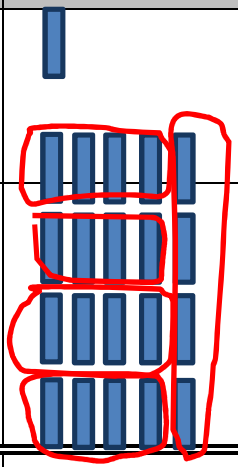
213

÷ 4

Hundreds	Tens	Ones
		

Step 2: Start with grouping Hundreds. Students cannot make a group of 4 Hundreds, so they trade for Tens.

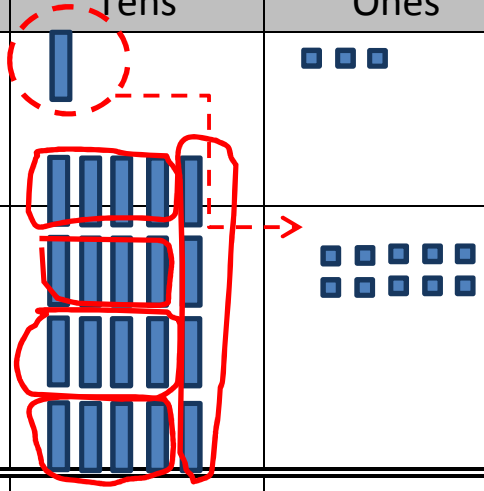
213 ÷ 4 = ____

	Hundreds	Tens	Ones
213			
÷ 4		5	

Step 3: Make groups of 4 Tens. Circle them.

5 groups of 4 Tens can be made, so put 4 in the Tens place.

213 ÷ 4 = ____

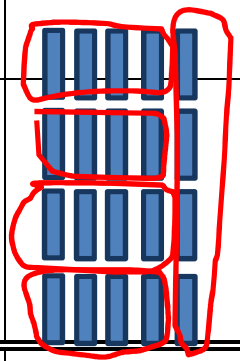
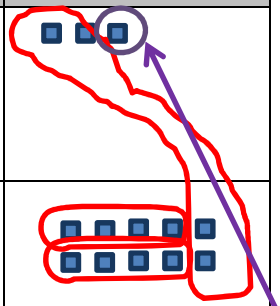
	Hundreds	Tens	Ones
213			
÷ 4		5	

Step 4: Trade left over Tens for Ones.

213 ÷ 4 = 53, 1 left over

213

÷ 4

Hundreds	Tens	Ones
		
	5	3

Step 5: Make groups of 4 Ones. Circle them.

3 groups of 4 Ones can be made, so put 3 in the Ones place.

There is 1 One left over.

Since there are 5 groups of 4 Ten and 3 groups of 4 Ones, with 1 One left, 213 ÷ 4 = 53, 1 left over.

Example 3: 3,202 ÷ 2 = ____

3, 202

÷ 2

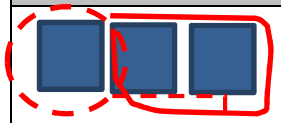
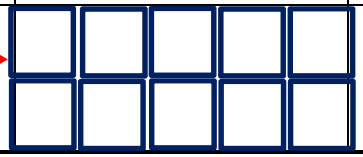
Thousands	Hundreds	Tens	Ones
			

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

Second row is used for trading.

Only one row needed, as students will determine how many "groups" of 2 you can make in each place value.

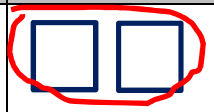
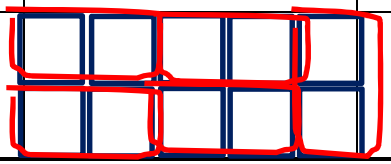
3,202 ÷ 2 = ____

	Thousands	Hundreds	Tens	Ones
3, 202				
				
÷ 2	1			

Step 2: Start with making groups of 2 Thousands. Circle them. Students make 1 group of 2 Thousands. Put 1 in the Thousands place.

Trade any left overs for Hundreds.

3,202 ÷ 2 = ____

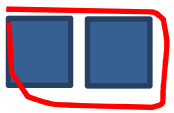
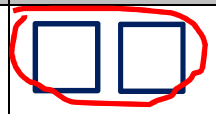
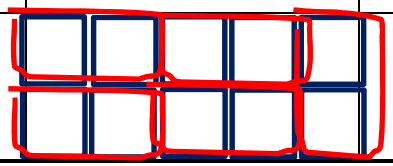
	Thousands	Hundreds	Tens	Ones
3, 202				
				
÷ 2	1	6		

Step 3: Determine how many groups of 2 Hundreds you can make. Circle them.

Trade any left overs for Tens.

In this example, there are no left overs and you can make 6 groups of 2 Tens. Therefore, place a 6 in the Hundreds place.

3,202 ÷ 2 = _____

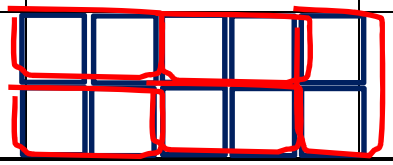
	Thousands	Hundreds	Tens	Ones
3, 202				
				
÷ 2	1	6	0	

Step 4: Determine how many groups of 2 Tens you can make. Circle them.

Trade any left overs for Ones.

In this example, there are no Hundreds to create any groups. So, place a 0 in the Tens place.

3,202 ÷ 2 = 1,601

	Thousands	Hundreds	Tens	Ones
3, 202				
				
÷ 2	1	6	0	1

Step 5: Determine how many groups of 2 Ones you can make. Circle them

There is 1 group of 2 Ones with no left overs. So, place a 1 in the Ones place.

Since there are 1 group of 2 Thousands, 6 groups of 2 Hundreds, 0 groups of 2 Tens, and 1 group of 2 Ones, 3,202 ÷ 2 = 1,601.