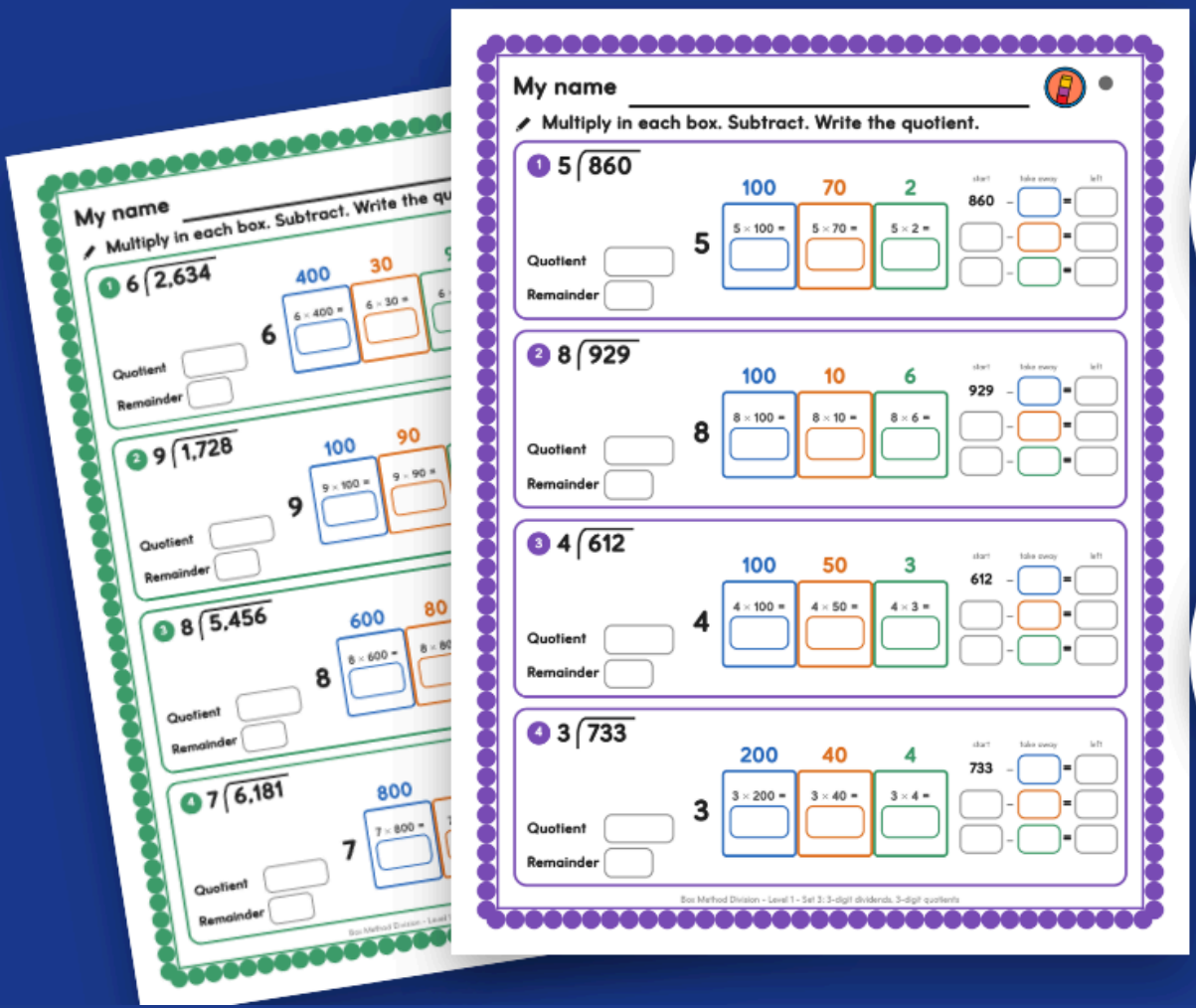
BOX METHOD DIVISION

WORKSHEETS FOR GRADES 4-5



3 LEVELS

ANSWER KEY

Bright Path Sped

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PREVIEW

How to Use It: Five Short Routines

Talk through one problem together first, then let children try.

1. Teach the box

- Show how the box works (page 5): the divisor goes on the left, and each cell is one place value.
- Use the poster (page 6) to find the bite for each place: how many hundreds fit, how many tens, how many ones.

2. Pick a level

- Level 1 (circle): the bite is printed on top of each cell, so a child multiplies, subtracts and writes the quotient.
- Level 2 (square): an empty box and chain; the child picks the bites. Level 3 (triangle): a blank page with room to draw the box.

3. Pick a set

- Sets 1 and 2 use a 3-digit dividend with a 2-digit quotient, set 2 with a remainder. Set 3 has 3-digit quotients.
- Sets 4 and 5 use a 4-digit dividend (set 5 with a remainder). Set 6 mixes both. Every divisor is 2 to 9.

4. Let children choose their bites

- The key shows the place-value bites. A child who takes a different bite in the box and still reaches the same quotient and remainder is right.
- Check the quotient and the remainder (key, pages 31 to 34).

5. Check, then talk

- Send children to the check page (page 29): multiply the answer back and see if it matches the dividend.
- Send the home note (page 36) so families see the same box.

Notes on your day

PREVIEW

Preview - Bright Path Sped

FIND THE BITE

1,389 ÷ 6: take the biggest bite that fits.

1 HUNDREDS: HOW MANY FIT?

$6 \times 200 = 1{,}200$ fits

$6 \times 300 = 1{,}800$ too big

2 TENS: HOW MANY FIT?

$6 \times 30 = 180$ fits

$6 \times 40 = 240$ too big

3 ONES: HOW MANY FIT?

$6 \times 1 = 6$ fits

$6 \times 2 = 12$ too big

4 ADD THE TOP NUMBERS

$200 + 30 + 1 = 231$

5 CHECK IT

$231 \times 6 = 1{,}386$

$1{,}386 + 3 = 1{,}389$

6 LEFT OVER?

$1{,}389 - 1{,}386 = 3$

3 is less than 6: 231 R 3

PREVIEW

Preview - Bright Path Sped

WORKED STEPS: 4-DIGIT

Same steps, a bigger number.

$4\overline{)3{,}648}$

	900	10	2
4	4×900 **3,600**	4×10 **40**	4×2 **8**

3,648 − 3,600 = 48

48 − 40 = 8

8 − 8 = 0

1. Fill the hundreds cell
   $4 \times 900 = 3{,}600$ left: 48
2. Fill the tens cell
   $4 \times 10 = 40$ left: 8
3. Fill the ones cell
   $4 \times 2 = 8$ left: 0
4. Add the top numbers
   900 + 10 + 2 = <u>912</u>
5. Check by multiplying
   $912 \times 4 = 3{,}648$

$7\overline{)5{,}329}$

	700	60	1
7	7×700 **4,900**	7×60 **420**	7×1 **7**

5,329 − 4,900 = 429

429 − 420 = 9

9 − 7 = 2

1. Fill the hundreds cell
   $7 \times 700 = 4{,}900$ left: 429
2. Fill the tens cell
   $7 \times 60 = 420$ left: 9
3. Fill the ones cell
   $7 \times 1 = 7$ left: 2
4. Add the top numbers
   700 + 60 + 1 = <u>761</u> R 2
5. Check by multiplying
   $761 \times 7 + 2 = 5{,}329$

PREVIEW

Preview - Bright Path Sped

My name _____



Pick a divisor. Write its multiples.

My divisor	
× 1	
× 2	
× 3	
× 4	
× 5	
× 6	
× 7	
× 8	
× 9	
× 10	

My divisor	
× 1	
× 2	
× 3	
× 4	
× 5	
× 6	
× 7	
× 8	
× 9	
× 10	

My divisor	
× 1	
× 2	
× 3	
× 4	
× 5	
× 6	
× 7	
× 8	
× 9	
× 10	

My divisor	
× 1	
× 2	
× 3	
× 4	
× 5	
× 6	
× 7	
× 8	
× 9	
× 10	

PREVIEW

Preview - Bright Path Sped

My name _____

Multiply in each box. Subtract. Write the quotient.

1 $4\overline{)188}$

40	7
$4 \times 40 =$	$4 \times 7 =$
4	

start	take away	left
188	–	=
	–	=

Quotient

Remainder

2 $5\overline{)485}$

90	7
$5 \times 90 =$	$5 \times 7 =$
5	

start	take away	left
485	–	=
	–	=

Quotient

Remainder

3 $3\overline{)267}$

80	9
$3 \times 80 =$	$3 \times 9 =$
3	

start	take away	left
267	–	=
	–	=

Quotient

Remainder

4 $7\overline{)553}$

70	9
$7 \times 70 =$	$7 \times 9 =$
7	

start	take away	left
553	–	=
	–	=

Quotient

Remainder

PREVIEW

Preview - Bright Path Sped

My name _____

Multiply in each box. Subtract. Write the quotient.

1 $5\overline{)860}$

Quotient ☐

Remainder ☐

100	70	2
5 × 100 = ☐	5 × 70 = ☐	5 × 2 = ☐

5

start	take away	left
860	– ☐	= ☐
☐	– ☐	= ☐
☐	– ☐	= ☐

2 $8\overline{)929}$

Quotient ☐

Remainder ☐

100	10	6
8 × 100 = ☐	8 × 10 = ☐	8 × 6 = ☐

8

start	take away	left
929	– ☐	= ☐
☐	– ☐	= ☐
☐	– ☐	= ☐

3 $4\overline{)612}$

Quotient ☐

Remainder ☐

100	50	3
4 × 100 = ☐	4 × 50 = ☐	4 × 3 = ☐

4

start	take away	left
612	– ☐	= ☐
☐	– ☐	= ☐
☐	– ☐	= ☐

4 $3\overline{)733}$

Quotient ☐

Remainder ☐

200	40	4
3 × 200 = ☐	3 × 40 = ☐	3 × 4 = ☐

3

start	take away	left
733	– ☐	= ☐
☐	– ☐	= ☐
☐	– ☐	= ☐

PREVIEW

Preview - Bright Path Sped

My name _____

Multiply in each box. Subtract. Write the quotient.

1 $6\overline{)4{,}618}$

700	60	9
6 × 700 =	6 × 60 =	6 × 9 =

6

start	take away	left
4,618	–	=
	–	=
	–	=

Quotient

Remainder

2 $3\overline{)1{,}624}$

500	40	1
3 × 500 =	3 × 40 =	3 × 1 =

3

start	take away	left
1,624	–	=
	–	=
	–	=

Quotient

Remainder

3 $7\overline{)2{,}193}$

300	10	3
7 × 300 =	7 × 10 =	7 × 3 =

7

start	take away	left
2,193	–	=
	–	=
	–	=

Quotient

Remainder

4 $2\overline{)1{,}985}$

900	90	2
2 × 900 =	2 × 90 =	2 × 2 =

2

start	take away	left
1,985	–	=
	–	=
	–	=

Quotient

Remainder

PREVIEW

Preview - Bright Path Sped

My name _____

Pick the bites. Fill the box. Subtract.

1 $9\overline{)162}$

Quotient ☐

Remainder ☐

9 ☐☐

start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐

2 $4\overline{)144}$

Quotient ☐

Remainder ☐

4 ☐☐

start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐

3 $8\overline{)496}$

Quotient ☐

Remainder ☐

8 ☐☐

start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐

4 $7\overline{)672}$

Quotient ☐

Remainder ☐

7 ☐☐

start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐

PREVIEW

Preview - Bright Path Sped

My name _____

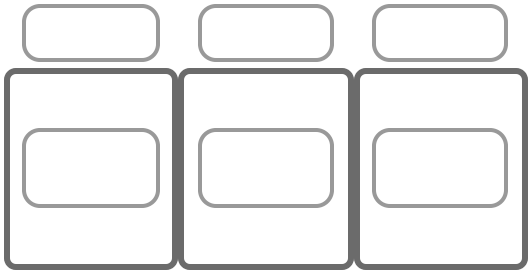
Pick the bites. Fill the box. Subtract.

1 $2\overline{)850}$

Quotient ☐

Remainder ☐

2



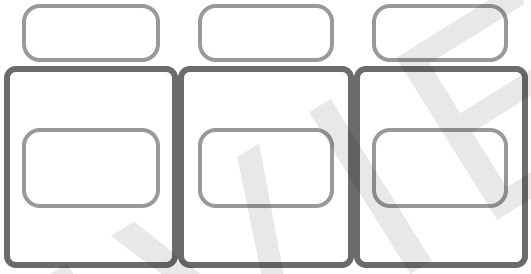
start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐
☐	–	☐	=	☐

2 $6\overline{)859}$

Quotient ☐

Remainder ☐

6



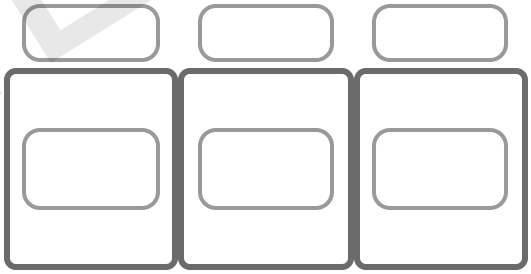
start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐
☐	–	☐	=	☐

3 $4\overline{)884}$

Quotient ☐

Remainder ☐

4



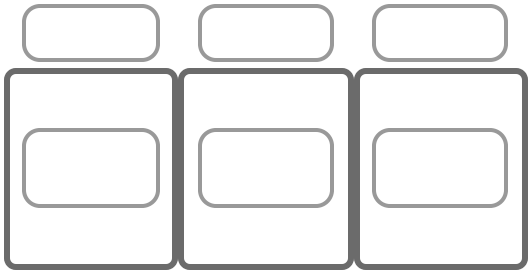
start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐
☐	–	☐	=	☐

4 $3\overline{)641}$

Quotient ☐

Remainder ☐

3



start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐
☐	–	☐	=	☐

PREVIEW

Preview - Bright Path Shed

My name _____

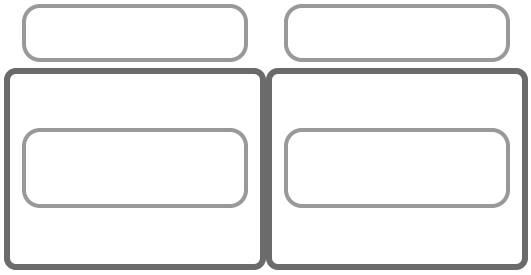
Pick the bites. Fill the box. Subtract.

1 $5\overline{)320}$

Quotient ☐

Remainder ☐

5



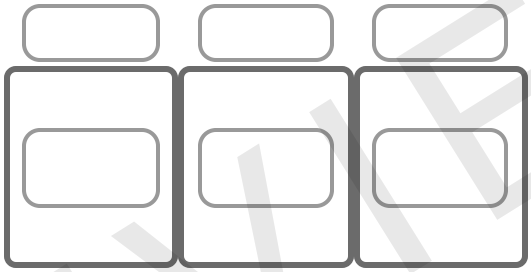
start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐

2 $3\overline{)592}$

Quotient ☐

Remainder ☐

3



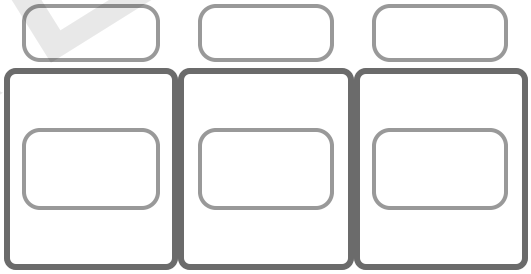
start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐
☐	–	☐	=	☐

3 $7\overline{)1,148}$

Quotient ☐

Remainder ☐

7



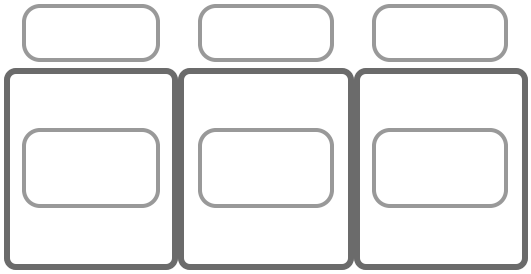
start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐
☐	–	☐	=	☐

4 $6\overline{)4,551}$

Quotient ☐

Remainder ☐

6



start		take away		left
☐	–	☐	=	☐
☐	–	☐	=	☐
☐	–	☐	=	☐

PREVIEW

Preview - Bright Path Sped

My name _____

Draw a box. Divide. Show your work.

1 $4\overline{)107}$

Quotient ☐

Remainder ☐

2 $9\overline{)354}$

Quotient ☐

Remainder ☐

3 $8\overline{)763}$

Quotient ☐

Remainder ☐

4 $7\overline{)520}$

Quotient ☐

Remainder ☐

PREVIEW

Preview - Bright Path Sped

My name _____



Draw a box. Divide. Show your work.

1 $8\overline{)6{,}848}$

Quotient ☐

Remainder ☐

2 $4\overline{)3{,}660}$

Quotient ☐

Remainder ☐

3 $5\overline{)1{,}960}$

Quotient ☐

Remainder ☐

4 $9\overline{)5{,}571}$

Quotient ☐

Remainder ☐

PREVIEW

Preview - Bright Path Shed

My name _____



Draw a box. Divide. Show your work.

1 $8\overline{)136}$

Quotient ☐

Remainder ☐

2 $2\overline{)369}$

Quotient ☐

Remainder ☐

3 $9\overline{)3,726}$

Quotient ☐

Remainder ☐

4 $5\overline{)4,783}$

Quotient ☐

Remainder ☐

PREVIEW

Filled Example: One Child's Page

The page is "Level 2, Set 2: 3-digit dividends with remainders" (page 18). Mia (invented child). The child, the teacher and every answer on this page are invented.

Box	The problem	Mia's top numbers	Mia's answer	Right?
1	498 ÷ 7	70 + 1	71 R 1	yes
2	262 ÷ 8	30 + 2	32 R 6	yes
3	254 ÷ 4	60	60 R 14	no: it is 63 R 2
4	288 ÷ 5	50 + 7	57 R 3	yes

Reading the page

3 of 4 boxes were right. In box 3, 254 ÷ 4, Mia filled the tens cell (60) and left the ones cell empty. That left 14, which is more than 4, so another cell was needed.

What the teacher did next

The teacher asked Mia to look at the leftover. Mia saw 14 is bigger than 4, filled the ones cell with 4 × 3 = 12, and added 60 + 3 = 63 with 2 left.

What this example is not

One invented child's page. It sets no typical score, says nothing about any real child and predicts nothing.

My notes

PREVIEW

Key: Level 2 (pages 17 to 22)

Keep this page for yourself. Each answer lists the bite for every place, then the partial products in the cells (gray), then the quotient and the remainder (R).

Box	Set 1 (p. 17)	Set 2 (p. 18)	Set 3 (p. 19)	Set 4 (p. 20)	Set 5 (p. 21)	Set 6 (p. 22)
1	162 ÷ 9 10 + 8 90 + 72 = 18	498 ÷ 7 70 + 1 490 + 7 = 71 R 1	850 ÷ 2 400 + 20 + 5 800 + 40 + 10 = 425	2,384 ÷ 4 500 + 90 + 6 2,000 + 360 + 24 = 596	6,741 ÷ 8 800 + 40 + 2 6,400 + 320 + 16 = 842 R 5	320 ÷ 5 60 + 4 300 + 20 = 64
2	144 ÷ 4 30 + 6 120 + 24 = 36	262 ÷ 8 30 + 2 240 + 16 = 32 R 6	859 ÷ 6 100 + 40 + 3 600 + 240 + 18 = 143 R 1	2,943 ÷ 9 300 + 20 + 7 2,700 + 180 + 63 = 327	1,577 ÷ 2 700 + 80 + 8 1,400 + 160 + 16 = 788 R 1	592 ÷ 3 100 + 90 + 7 300 + 270 + 21 = 197 R 1
3	496 ÷ 8 60 + 2 480 + 16 = 62	254 ÷ 4 60 + 3 240 + 12 = 63 R 2	884 ÷ 4 200 + 20 + 1 800 + 80 + 4 = 221	2,475 ÷ 3 800 + 20 + 5 2,400 + 60 + 15 = 825	3,181 ÷ 5 600 + 30 + 6 3,000 + 150 + 30 = 636 R 1	1,148 ÷ 7 100 + 60 + 4 700 + 420 + 28 = 164
4	672 ÷ 7 90 + 6 630 + 42 = 96	288 ÷ 5 50 + 7 250 + 35 = 57 R 3	641 ÷ 3 200 + 10 + 3 600 + 30 + 9 = 213 R 2	1,445 ÷ 5 200 + 80 + 9 1,000 + 400 + 45 = 289	5,288 ÷ 9 500 + 80 + 7 4,500 + 720 + 63 = 587 R 5	4,551 ÷ 6 700 + 50 + 8 4,200 + 300 + 48 = 758 R 3

Children may take other bites

The bites on this key are the place-value bites: hundreds, then tens, then ones. A child who takes a different bite (40 and 40 instead of 80) is right if the quotient and the remainder match.

The six sets

- **Set 1:** 3-digit dividends, 2-digit quotients
- **Set 2:** 3-digit dividends with remainders
- **Set 3:** 3-digit dividends, 3-digit quotients
- **Set 4:** 4-digit dividends, no remainder
- **Set 5:** 4-digit dividends with remainders
- **Set 6:** Mixed review, 3-digit and 4-digit

What I noticed (my notes)

PREVIEW

Key: Check My Answers (page 29)

4 of the 6 answers are right. In the other 2, the child left out the last cell, so multiplying back lands short of the dividend.

Box	The answer to check	Multiply back	Is it the dividend?	What to know
1	399 ÷ 7 = 57	57 × 7 = 399	yes, it is 399	right
2	113 ÷ 8 = 10 R 1	10 × 8 = 80 + 1 = 81	no, it is 81	the answer forgot 4; it is 14 R 1
3	546 ÷ 2 = 273	273 × 2 = 546	yes, it is 546	right
4	4,295 ÷ 5 = 859	859 × 5 = 4,295	yes, it is 4,295	right
5	2,952 ÷ 7 = 420 R 5	420 × 7 = 2,940 + 5 = 2,945	no, it is 2,945	the answer forgot 1; it is 421 R 5
6	907 ÷ 2 = 453 R 1	453 × 2 = 906 + 1 = 907	yes, it is 907	right

When a check says no

- Look at what is left after the last cell. If it is not smaller than the divisor, another bite still fits.
- Ask: "Which place value did you skip?" Let the child fix the quotient and check again.

What I noticed (my notes)

PREVIEW

A Note Home: Box Method Division

One page to send home when you start the worksheets.

Date _____ Class _____ Teacher _____

Dear families,

This week we are dividing with the **box method**. Children draw a box with a cell for each place value of the answer, multiply the divisor by a bite for each cell, subtract, and add the top numbers to find the quotient.



$4 \times 100 = 400$

$4 \times 80 = 320$

$4 \times 2 = 8$

$100 + 80 + 2 = 182$

This week we are practicing

_____

_____

You can try this at home

Share a small pile of things (coins, crackers, cards) among a few people. Count how many each person gets and how many are left over. Ask your child: "Which cell of the box did you fill in first?"

_____

_____

A note from me (your words)

_____

_____

_____

Thank you, (teacher) _____ Family signature, if your school asks for one _____

PREVIEW

Phrase Bank

Fill each blank with what you really saw and heard.

Teaching the box

- "Put the divisor on the left. Each cell is one place value of the answer."
- "Pick a bite for the hundreds, then the tens, then the ones."
- "Multiply the divisor by the bite and write it in the cell."
- "Subtract the cell from what you had. Add the top numbers at the end."

Asking a question

- "How many hundreds fit? How do you know the next one is too big?"
- "What is left now? Is it smaller than the divisor?"
- "Which cell did you do first, and why?"
- "How can you check ____ ÷ ____ by multiplying?"

Noticing what a child did

- "You started with the biggest place value."
- "You wrote ____ in the box and subtracted to get ____."
- "You checked by multiplying back."
- "You found your slip in the ____ cell and fixed it."

Sentence starters for children

- My bites are ____ and ____ and ____.
- I wrote ____ in the box because ____ times ____ is ____.
- The quotient is ____ and the remainder is ____.
- I know it is right because ____ × ____ + ____ = ____.

For the note home

- This week we are dividing with a box that has a cell for each place value.
- Ask your child: "Which cell did you fill in first?"
- Try sharing ____ things among ____ people at home and write what is left over.
- Thank you for ____ (what the family did to help).

PREVIEW