DIVISION

AS AN UNKNOWN FACTOR

3rd Grade

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AS AN UNKNOWN FACTOR
elated division facts

plication equation below, write a related division

$12 \div 3 = 4$

DIVISION
as an unknown Ra...

ON AS AN UNKNOWN FACTOR
story problems

For each story problem below, write a division equation. Then, write a related
ion fact to help you solve.

The Mangino family is going camping. They have a bag of 32
marshmallows to roast on the campfire, and there are 4 people in the
Mangino family. How many marshmallows will each person get?

Division Equation	$32 \div 4 = ?$
Related Multiplication Fact	$4 \times 8 = 32$
Answer	8 marshmallows

s picture day at Memorial
photos in total. He took one pho
If each class is the same size

Division Equation	$60 \div 5 = ?$
Related Multiplication Fact	$5 \times 12 = 60$
Answer	12 students

MYSTERY SHAPE

Directions: For each division equation, use a related multiplication fact to find the unknown number. Write the multiplication fact and
the quotient. Then, drag the pink squares to fill all squares with that number in the grid. What is the mystery shape?

1. $48 \div 6 =$

2. $25 \div 5 =$

3. $14 \div 2 =$

4. $28 \div 7 =$

5. $72 \div 12 =$

6. $99 \div 9 =$

DIVISION AS AN UNKNOWN FACTOR
fact families

Directions: Use fact families to find the unknown numbers in the equations below.

House 1 — 7, 8, 56:
$8 \times 7 = 56$
$7 \times 8 = 56$

House 2 — 5, 10, 50:
$5 \times 10 = 50$
$10 \times 5 = 50$
$50 \div 10 = 5$
$50 \div 5 = \square$

House 3 — 8, 6, 48:
$6 \times 8 = 48$
$8 \times 6 = 48$
$48 \div 6 = 8$
$48 \div 8 = 6$

House 4 — 2, 16:
$\square \times 8 = 16$
$\square \times 2 = 16$
$16 \div 8 = \square$
$16 \div 2 = 8$

House 5 — 48, 4, 12:
$12 \times 4 = 48$
$4 \times 12 = 48$
$48 \div 4 = 12$
$48 \div 12 = 4$

DIVISION AS AN UNKNOWN FACTOR
hamburger heaven

Directions: Cut out the shapes below. Create a hamburger by combining a division equation (top bun), a related multiplication fact (bottom bun), and the corresponding unknown number (patty).

Top buns:
- $60 \div 6 = ?$ (A)
- $33 \div 11 = ?$ (D)
- $16 \div 2 = ?$ (E)
- $14 \div 7 = ?$ (E)

Patties: 5, 10, 2, 9

Bottom buns:
- $9 \times ?$ (F)
- $6 \times ? = 30$ (C)
- $11 \times ? = 33$ (B)
- $\square = 16$ (D)
- $7 \times \square$

DIVISION AS AN UNKNOWN F...
related division facts

Directions: For each multiplication equation below, write a related division fac...

ex $3 \times 4 = 12$ **you write** $12 \div 3 = 4$ or $12 \div 4 = 3$

1. $4 \times 5 = 20$
$20 \div 5 = 4$
$20 \div 4 = 5$

2. $8 \times 6 = 48$
$48 \div 8 = 6$
$48 \div 6 = 8$

3. $9 \times 10 = 90$
$90 \div 10 = 9$
$90 \div 10 = 9$

4. $7 \times 7 = 49$
$49 \div 7 = 7$

5. $3 \times 2 = 6$
$6 \div 3 = 2$
$6 \div 2 = 3$

6. $12 \times 6 = 72$
$72 \div 6 = 12$
$72 \div 12 = 6$

7. $1 \times 5 = 5$
$5 \div 1 = 5$
$5 \div 5 = 1$

8. $11 \times 10 = 110$
$110 \div 11 = 10$
$110 \div 10 = 11$

DIVISION AS

Directions: For each story prob... multiplication fact to help you s...

1. The Mangino family is ... marshmallows to roast ... Mangino family. How m...

Division Equation	$32 \div$ ...
Related Multiplication Fact	$4 \times$ ...
Answer	8...

2. It is picture day ... photos in total. ... If each class ...

Division Equation	6...
Related Multiplication Fact	
Answer	

STORY PROBLEMS

Directions: For each story problem, write a division equation. Then, write a related multiplication fact to help you solve.

1. The Mangino family is going camping. They have a bag of 32 marshmallows to roast on the campfire, and there are 4 people in the Mangino family. How many marshmallows will each person get?

Division Equation	___ ÷ ___ = ?
Related Multiplication Fact	___ x ___ = ___
Answer	___

Name: _____   Date: _____

DIVISION AS AN UNKNOWN FACTOR

Directions: Cut out the sh___
bun), a related multiplicat___

✂

60 ÷ 6 = ?

16 ÷ 2 = ?

| 5 |

| 2 |

| 9 x ? = |

| 11 x ? = |

Name: _____   Date: _____

DIVISION AS AN UNKNOWN FACTOR
relat___

Directions: For each multiplication ___

ex   3 x 4 = ___

1 4 x 5 = 20
   20 ÷ 5 = 4
   20 ÷ 4 = 5

3 9 x 10 = 90
   90 ÷ 10 = 9
   90 ÷ 10 = 9

5 3 x 2 = 6
   6 ÷ 3 = 2
   6 ÷ 2 = 3

7 1 x 5 = 5
   5 ÷ 1 = 5
   5 ÷ 5 = 1

Name: _____

DIVISION AS ___

Directions: Use fact families to f___

7
8   56

8 x 7 =	56
7 x 8 =	56
56 ÷ 8 =	7
56 ÷ 7 =	8

9
4   36

| 9 x 4 = 36 |
| 9 x 9 = 36 |
| 36 ÷ 9 = 4 |
| 36 ÷ 4 = 9 |

6
3   18

| 6 x 3 = 18 |
| 6 x 3 = 18 |
| 18 ÷ 3 = 6 |
| 18 ÷ 6 = ☐ |

Name: _____

DIVISION AS A___
st___

Directions: For each story problem b___
multiplication fact to help you solve.

1 The Mangino family is going ca___
   marshmallows to roast on the ___
   Mangino family. How many mars___

Division Equation	$32 ÷ 4 = ?$
Related Multiplication Fact	$4 x 8 = 32$
Answer	8 marshmallo___

2 It is picture day at Memorial Elemen___
   photos in total. He took one photo of e___
   If each class is the same size, how m___

Division Equation	$60 ÷ 5 = ?$
Related Multiplication Fact	$5 x 12 = 60$
Answer	12 students

• • • • • • • • • DIVIS___
as an unkn___

H___

How can ___
multiplica___
solve division___

I see...

I think...

I do...

DIVISION
AS AN UNKNOWN FACTOR

3ʳᵈ grade

Table of Contents

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DIVISION

as an unknown factor

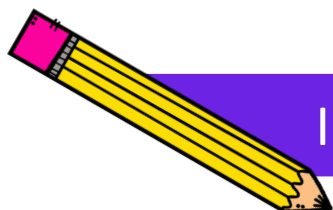How can I use multiplication facts to solve division equations?
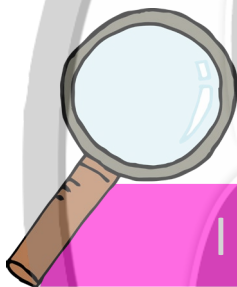
I see...

$$54 \div 9 = ?$$

I think...

$$9 \times ? = 54$$

9 times what number is equal to 54?

I do...

$$9 \times 6 = 54$$

so

$$54 \div 9 = 6$$

Name: _____ Date: _____

DIVISION AS AN UNKNOWN FACTOR

fact families

Directions: Use fact families to find the unknown numbers in the equations below.

House 1 (7, 8, 56)

$8 \times 7 = \square$

$7 \times \square = 56$

$56 \div \square = 7$

$56 \div 7 = \square$

House 2 (5, 10, 50)

$5 \times 10 = \square$

$10 \times \square = 50$

$\square \div 10 = 5$

$50 \div 5 = \square$

House 3 (8, 6, 48)

$6 \times 8 = \square$

$8 \times \square = 48$

$48 \div 6 = \square$

$\square \div 8 = 6$

House 4 (9, 4, 36)

$9 \times \square = 36$

$4 \times \square = 36$

$\square \div 9 = 4$

$36 \div 4 = \square$

House 5 (2, 8, 16)

$2 \times 8 = \square$

$8 \times \square = 16$

$16 \div 8 = \square$

$16 \div \square = 8$

House 6 (48, 4, 12)

$12 \times 4 = \square$

$\square \times 12 = 48$

$\square \div 4 = 12$

$48 \div \square = 4$

House 7 (6, 3, 18)

$\square \times 3 = 18$

$6 \times \square = 18$

$\square \div 3 = 6$

$18 \div 6 = \square$

House 8 (11, 5, 55)

$11 \times 5 = \square$

$5 \times \square = 55$

$55 \div \square = 5$

$55 \div \square = 11$

House 9 (7, 2, 14)

$2 \times 7 = \square$

$7 \times \square = 14$

$14 \div \square = 2$

$\square \div 2 = 7$

DIVISION AS AN UNKNOWN FACTOR
Related division facts

Directions: For each multiplication equation below, write a related division fact.

ex 3 x 4 = 12   **you write**   12 ÷ 3 = 4
or
12 ÷ 4 = 3

1 4 x 5 = 20

2 8 x 6 = 48

3 9 x 10 = 90

4 7 x 7 = 49

5 3 x 2 = 6

6 12 x 6 = 72

7 1 x 5 = 5

8 11 x 10 = 110

DIVISION AS AN UNKNOWN FACTOR
Story problems

Directions: For each story problem below, write a division equation. Then, write a related multiplication fact to help you solve.

1 The Mangino family is going camping. They have a bag of 32 marshmallows to roast on the campfire, and there are 4 people in the Mangino family. How many marshmallows will each person get?
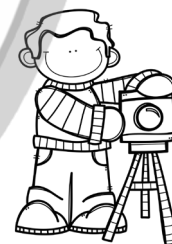
Division Equation	
Related Multiplication Fact	
Answer	

2 It is picture day at Memorial Elementary. The photographer took 60 photos in total. He took one photo of each student in 5 different classes. If each class is the same size, how many students are in each class?

Division Equation	
Related Multiplication Fact	
Answer	

DIVISION AS AN UNKNOWN FACTOR
memory

Directions: Cut out and shuffle the cards. Place them face down in neat rows. Flip over any two cards, trying to create a match between a division equation and a related multiplication fact. If you get a pair, keep the matching cards. If you do not get a pair, flip the cards back over. Play one of three ways:

<u>Independently</u>: Time yourself. How quickly you can find all the matches?

<u>Collaboratively</u>: Work cooperatively with a partner to see how quickly you can find all the matches together.

<u>Competitively</u>: Take turns with a partner, flipping over two cards per turn. Who can get more matches?

Be sure to pay close attention to the cards the other player turns over!

42 ÷ 6 = ?	5 x 9 = 45	18 ÷ 3 = ?	3 x 6 = 18
8 x 10 = 80	6 x 7 = 42	80 ÷ 8 = ?	27 ÷ 9 = ?
24 ÷ 12 = ?	45 ÷ 5 = ?	12 x 2 = 24	3 x 9 = 27

DIVISION AS AN UNKNOWN FACTOR

Money in the bank

Directions: Draw a line between the division equation on each coin with a related multiplication fact on the dollar bill. Then, draw a line to the piggy bank with the missing number.
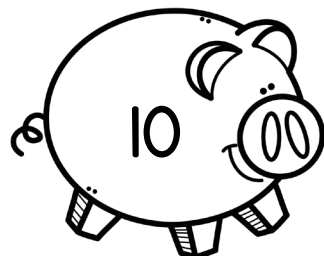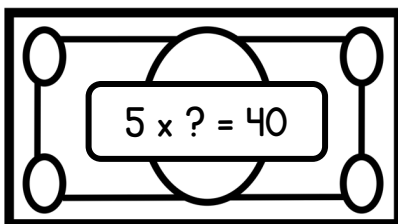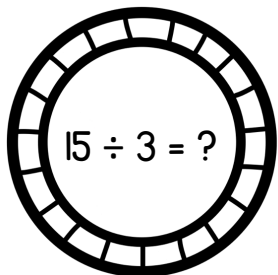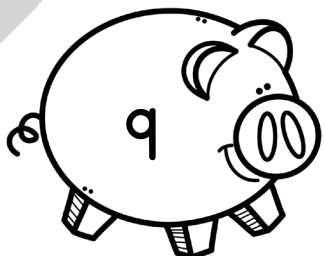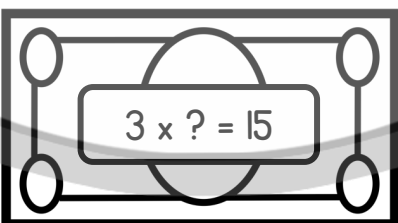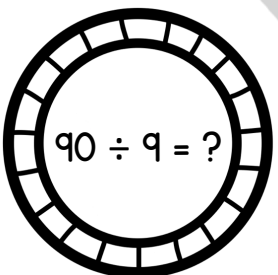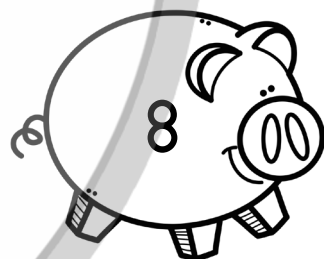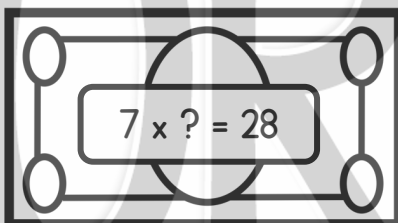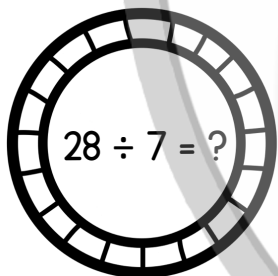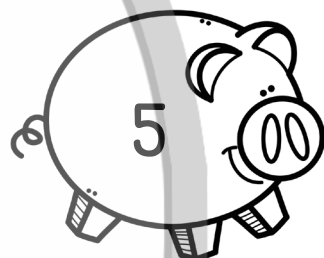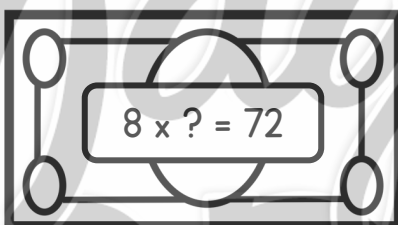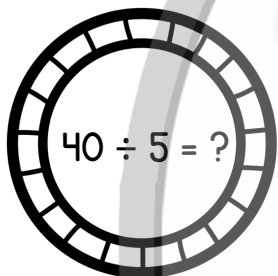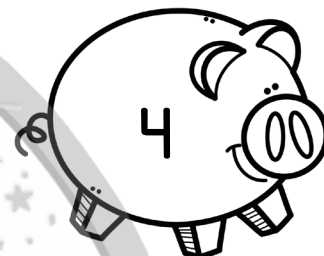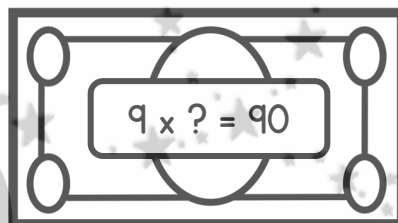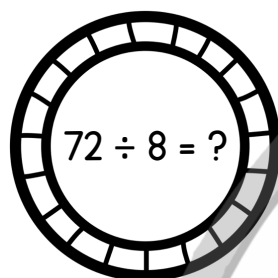
72 ÷ 8 = ?

9 x ? = 90

4

40 ÷ 5 = ?

8 x ? = 72

5

28 ÷ 7 = ?

7 x ? = 28

8

90 ÷ 9 = ?

3 x ? = 15

9

15 ÷ 3 = ?

5 x ? = 40

10

DIVISION AS AN UNKNOWN FACTOR

Hamburger heaven

Directions: Cut out the shapes below. Create a hamburger by combining a division equation (top bun), a related multiplication fact (bottom bun), and the corresponding unknown number (patty).

60 ÷ 6 = ?	33 ÷ 11 = ?	30 ÷ 6 = ?
16 ÷ 2 = ?	14 ÷ 7 = ?	81 ÷ 9 = ?
5	10	8
2	9	3
9 x ? = 81	6 x ? = 30	6 x ? = 60
11 x ? = 33	2 x ? = 16	7 x ? = 14

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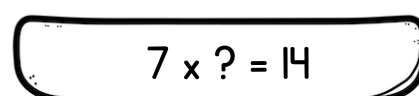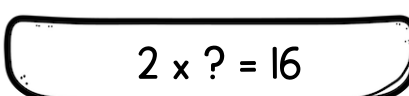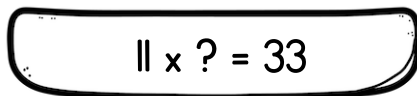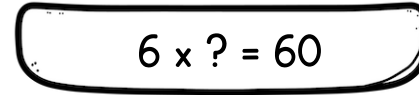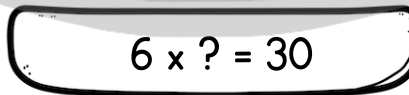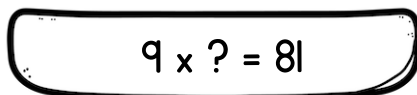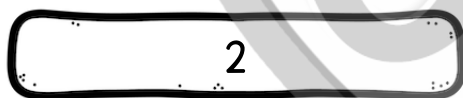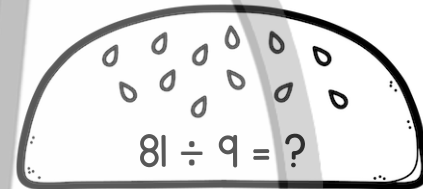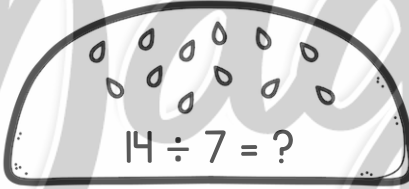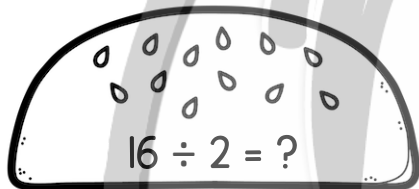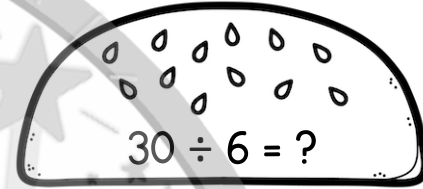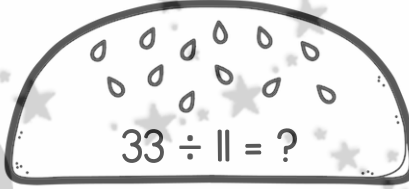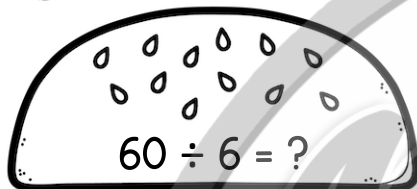
DIVISION AS AN UNKNOWN FACTOR
Mystery shape

Directions: For each division equation, use a related multiplication fact to find the unknown number. Then, on the grid, shade all squares with that number. What is the mystery shape?

1 48 ÷ 6 = ___

2 25 ÷ 5 = ___

3 72 ÷ 12 = ___

4 14 ÷ 2 = ___

5 28 ÷ 7 = ___

6 99 ÷ 9 = ___

2	1	2	10	1	3	0	12	3	1	3	3	12	0	2	9	2	10	0	1
0	9	3	10	9	12	9	12	3	10	12	0	3	1	10	9	3	1	3	1
3	12	9	1	8	7	12	3	0	12	3	9	12	12	5	8	12	3	12	3
12	3	10	5	7	5	4	9	10	3	1	10	3	8	4	7	5	9	2	9
9	12	12	4	11	8	6	11	1	9	0	2	7	6	8	11	4	3	9	3
12	3	6	5	7	11	8	7	5	3	2	8	11	5	4	8	7	8	10	3
10	7	11	7	4	8	6	11	8	7	5	11	6	5	4	4	7	4	11	1
3	11	7	6	11	6	11	5	4	8	7	8	11	5	7	11	8	7	5	2
12	4	5	11	5	4	8	11	6	5	11	6	5	4	6	7	11	6	6	12
2	7	11	8	11	8	11	5	4	11	8	4	11	8	11	8	5	5	4	3
1	10	8	4	5	11	4	11	8	4	6	6	8	11	6	4	6	7	10	2
3	12	0	6	6	8	6	6	4	5	11	8	11	6	5	7	7	12	3	0
0	3	12	3	4	11	5	4	6	7	4	11	8	4	11	6	0	2	12	3
10	12	3	1	0	5	4	6	6	5	5	8	7	4	8	12	12	3	10	12
1	1	10	12	0	3	6	7	4	4	7	7	6	4	3	9	1	3	12	1
2	12	3	3	12	2	12	11	6	4	8	11	5	3	12	0	2	0	9	3
3	3	9	12	9	10	3	10	5	11	7	4	12	2	1	12	3	9	9	1
3	12	10	3	12	3	9	12	2	8	5	9	12	10	12	3	9	10	3	9
0	9	2	12	10	0	3	1	10	3	1	9	3	9	3	12	3	12	10	10
3	10	3	0	9	2	0	3	1	2	3	3	12	0	12	3	9	9	0	9

DIVISION AS AN UNKNOWN FACTOR

test

Directions: Complete the fact families.

1

4 **X** 8 = ☐

8 **X** ☐ = 32

32 ÷ 8 = ☐

☐ ÷ 4 = 8

2

3 **X** 12 = ☐

12 **X** ☐ = 36

36 ÷ 12 = ☐

36 ÷ ☐ = 12

Directions: For each multiplication equation below, write a related division fact.

3 $6 \times 4 = 24$

4 $9 \times 7 = 63$

5 $5 \times 11 = 55$

6 $2 \times 10 = 20$

7 If you know that $312 ÷ 26 = 12$, explain how you also know that $26 \times 12 = 312$.

Directions: For each division equation, write a related multiplication fact that will help you solve it. Write the missing quotient.

8 16 ÷ 4 = ___

9 49 ÷ 7 = ___

10 60 ÷ 5 = ___

11 40 ÷ 8 = ___

12 18 ÷ 6 = ___

13 54 ÷ 9 = ___

14 Kimberly is packing for a trip. She has five suitcases, and they weigh a total of 45 pounds. If each suitcase weighs the same amount, how many pounds does each suitcase weigh?
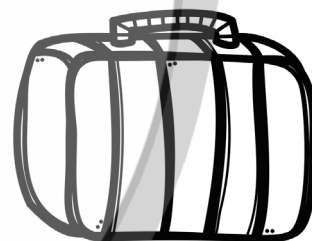
Division Equation	

Related Multiplication Fact	

Answer	

15 On Saturday, there was a soccer tournament. There were 110 soccer players at the tournament, and each team had 11 players. How many teams participated in the tournament?

Division Equation	

Related Multiplication Fact	

Answer	

16 Mikhail and Caroline are trying to solve the division equation 21 ÷ 7. Mikhail thinks the related multiplication fact is 3 x 7 = 21. Caroline thinks you need to use the multiplication fact 7 x 3 = 21. Who is correct? Explain.

17 Use the numbers below to create a division equation and a related multiplication fact. You will use each number once in each equation.

8	56	7

_____ ÷ _____ = _____   _____ x _____ = _____

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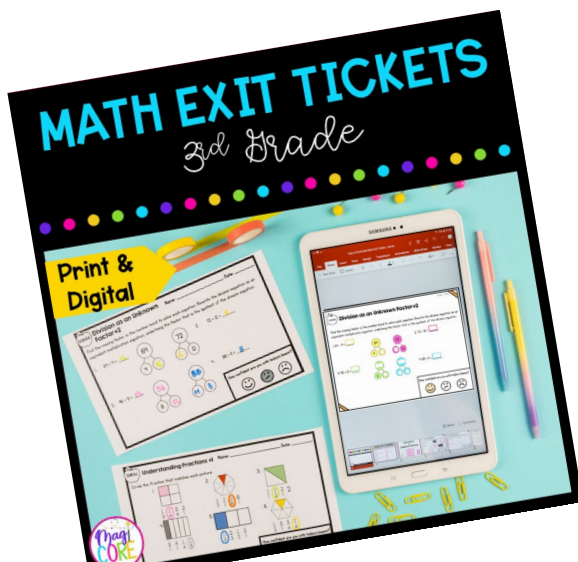
Membership Opportunity!

If you love these resources and want access to more, check out my membership opportunity with the MagiCore Club.

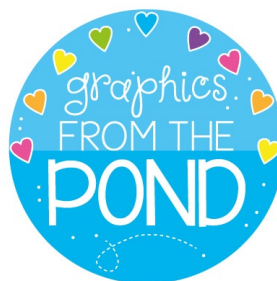Join my MagiCore Club waitlist!

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