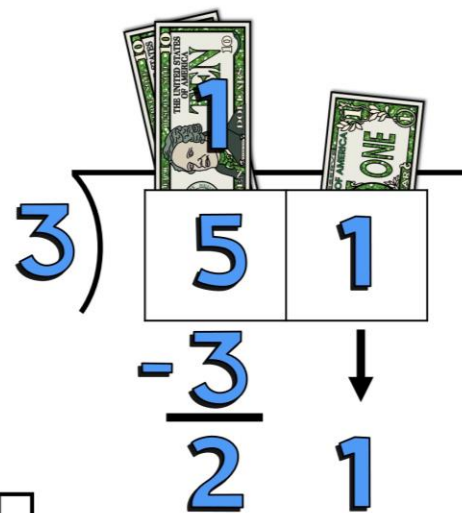


LONG DIVISION

PowerPoints

2 ÷ 1 and 3 ÷ 1 digits



A long division problem is shown on a laptop screen. The divisor is 3, and the dividend is 51. The quotient is 17. The problem is written as:

$$\begin{array}{r} 3 \overline{) 51} \\ \underline{-3} \\ 2 \\ \underline{-2} \\ 0 \end{array}$$

There are two \$10 bills and one \$1 bill on the desk, representing the dividend 51.

- D ☒
- m ☒
- s ☒
- C ☒
- B ☒

bring down



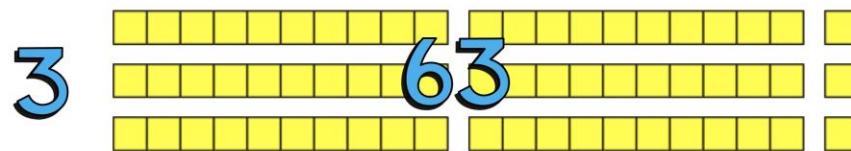
4th
GRADE

CCSS-Aligned: 4.NBT.B.6

TEKS-Aligned: 4.4E & 4.4F

Write 4 new **EQUATIONS** by trading the expressions on each side of the equals sign.

21



$$3 \times 21 = 63$$

$$63 = 3 \times 21$$

$$21 \times 3 = 63$$

$$63 \div 3 = 21$$

$$63 \div 21 = 3$$

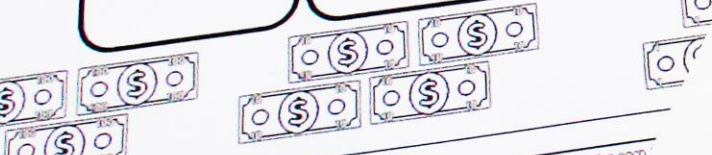
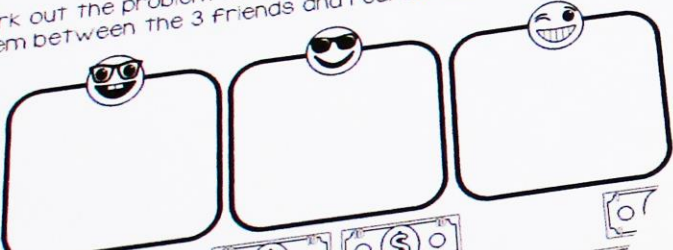
Student Recording Pages Included!

Long DIVISION

The long division algorithm is one way to divide numbers. It is easiest to understand if we think about how to use it in a problem.

THREE FRIENDS EARNED \$342 DOING YARDWORK. IF THEY SPLIT THE MONEY EVENLY, HOW MUCH WILL EACH PERSON GET?

What work out the problem using the pictures below. Cross out bills as you share them between the 3 friends and redraw the bills in each friends' box.



- we will work out the same problem using long division.
- 1: How many hundred dollar bills you give each person? (DIVIDE: $3 \div 3$)
 - 2: How many hundred dollar bills given out? (MULTIPLY $3 \times$ the number from step 1)
 - 3: How many hundred dollar bills are give out? (SUBTRACT $3 -$ the number from step 2)
 - 4: COMPARE this amount to the number of friends. If the number is equal or greater than the number of friends, one should have been given more

Move onto the ten dollar bills and DOWN the number in the tens place.

3 & 1 LONG DIVISION

CCSS: 4.NBT.B.6 TEKS: 4.4F

Name: _____

1

2

742

Division Steps

D

M

S

C

B

2

5

935

Division Steps

D

M

S

C

B

3

4

712

Division Steps

D

M

S

C

B

4

3

894

Division Steps

D

M

S

C

B

Included PowerPoints:

- Long Division
- Area Model
- Arrays
- Equations

First, we need to break the **DIVIDEND** apart into **EXPANDED FORM**.

$$342 \div 3$$

300



+40



+2



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Long DIVISION

The long division algorithm is one way to divide numbers. It is the best way to understand if we think about how to use it in a problem.

Example: If Mrs. EARNED \$51 DOING YARDWORK. IF THEY SPLIT THE MONEY WILL EACH PERSON GET?

Using the pictures below, cross out the tens and redraw the tens in each.

2 ÷ 1 LONG DIVISION

CCSS 4.NBT.B.6 TEKS 4.4F

Name: _____



2

3 6

7 2

6

1 2

Division Steps

D ☒ ☒

M ☒ ☒



2

5 6

5 6

Division Steps

D ☐ ☐

M ☐ ☐

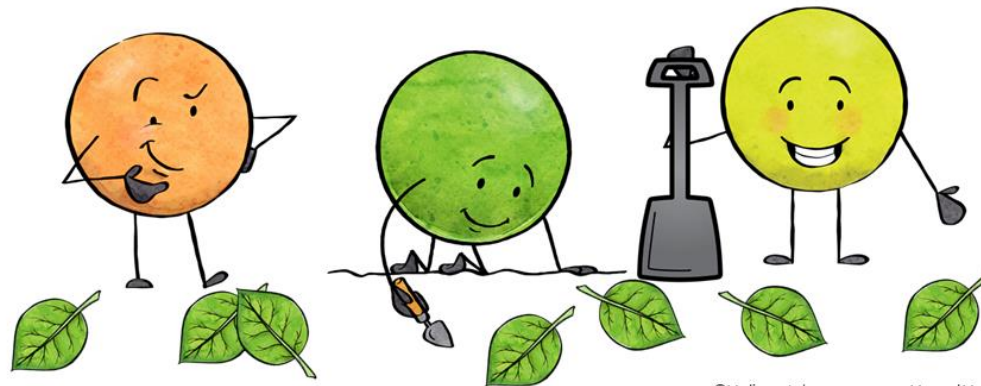
Ways to Use This Resource:

-  **Math Station** – Students can complete the activity independently
-  **Whole Class Teaching** – Use the interactive slides to teach this concept during your lesson
-  **Tutoring** – Use the slides for a focused lesson that doesn't need any prep

No Prep

4 Easy to Use PowerPoints

Three friends earned \$351 doing yardwork. If they split the money evenly, how much money will each person get?

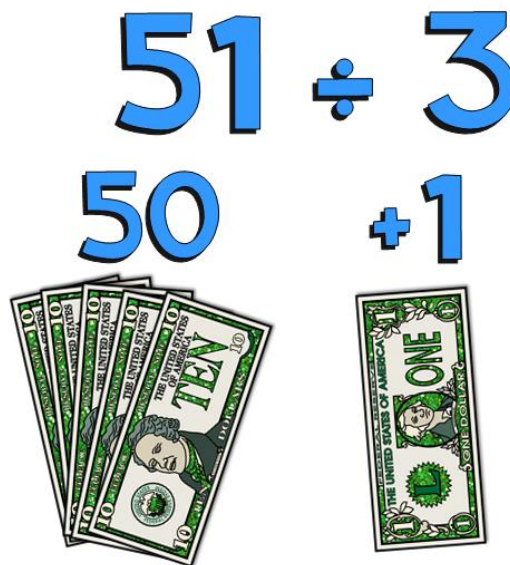


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2-digit Long Division

Students learn how to divide 2-digit numbers by 1-digit numbers with **step-by-step** animations.

First, we need to represent the **DIVIDEND** as **MONEY**.

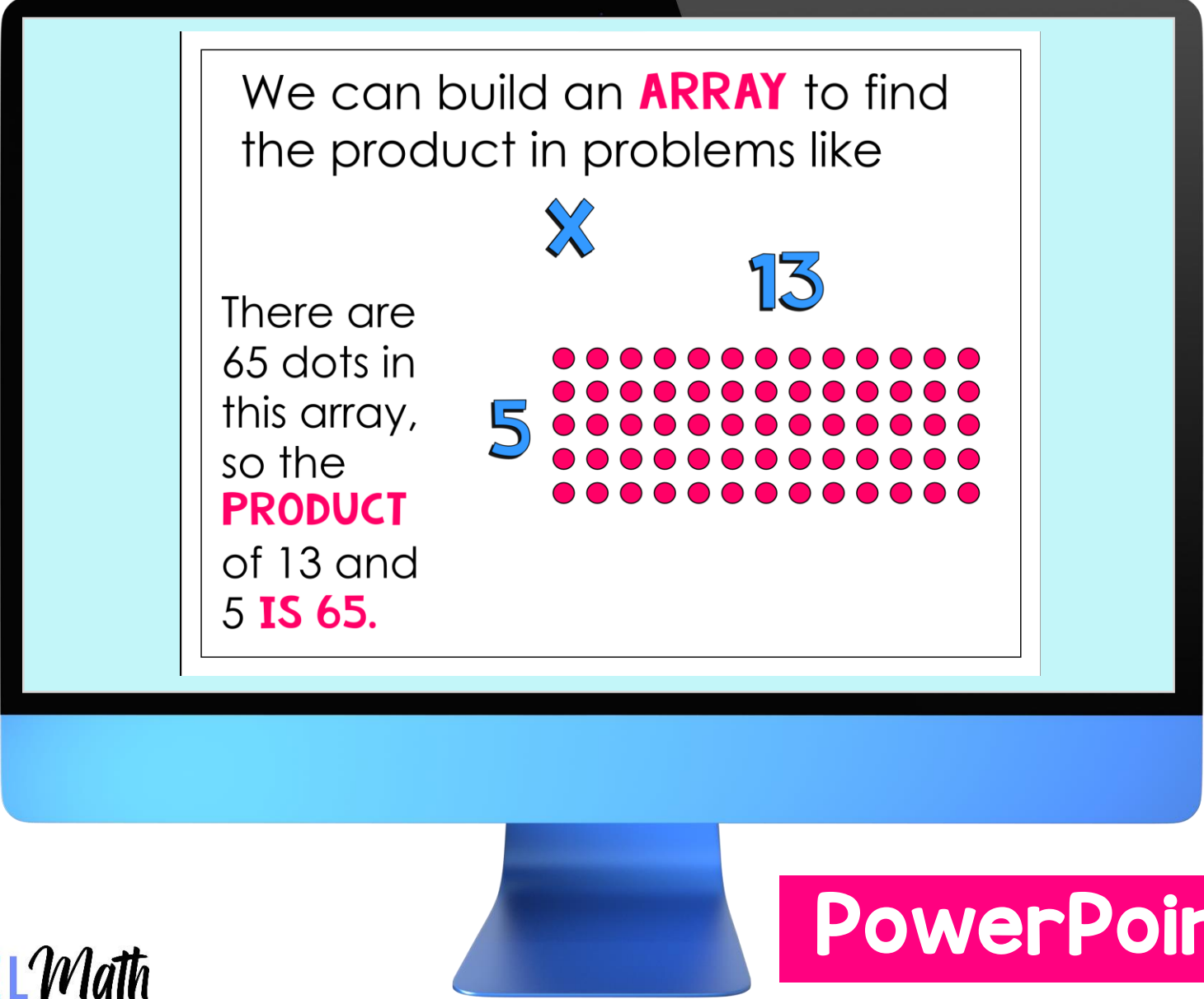


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PowerPoint 1

Represent 2 Division

Students learn about **dot arrays**, **base-10 block arrays**, **related fact equations** and **how to check division**.



We can build an **ARRAY** to find the product in problems like

$$\begin{array}{r} \times \\ 5 \end{array} \begin{array}{r} 13 \end{array}$$

There are 65 dots in this array, so the **PRODUCT** of 13 and 5 **IS 65**.

PowerPoint 2

3-digit Long Division

Students learn 3 different ways to use **place value understanding** to solve division problems.

First, we need to break the **DIVIDEND** apart into **EXPANDED FORM**.

$$342 \div 3$$

300

+40

+2



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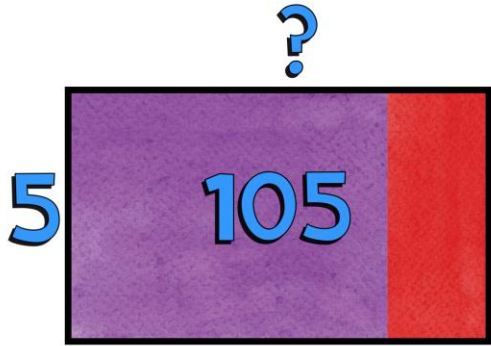
Division with Area Model

Students learn how to use the **Area Model to divide**.

We can also use the **AREA MODEL** to find the quotient in problems like

$5 \div ?$

5 is a side length of the rectangle. **105** is the **AREA**. We need to find the missing side length.



The diagram shows a rectangle divided into two vertical sections. The left section is purple and contains the number 105. The right section is red. To the left of the rectangle, the number 5 is written vertically, indicating the height. Above the rectangle, a question mark is written, indicating the unknown width.

About the Author

This resource was created by Melissa Johnson, who has 16 years of k-10 teaching experience and a masters degree in Mathematics Education. Her resources build conceptual understanding, make connections between math topics and engage students in the mathematics they are learning.

