Division Facts to 49 ÷ 7

Mathematical Ideas

The inverse operation of multiplication is division.
One way to think of division is creating equal sized groups.

The commutative property does not hold true for division.
For example: 12 ÷ 4 has a different result than 4 ÷ 12.

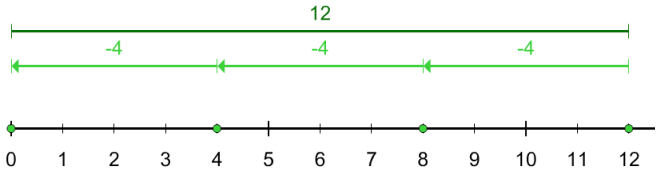
Strategies for division:

The following are examples of strategies that may be used when dividing.
For example 12 ÷ 4 = ?

- **Equal Distribution**
  12 objects can be distributed one by one among 4 groups. The result is the number of objects in each group.

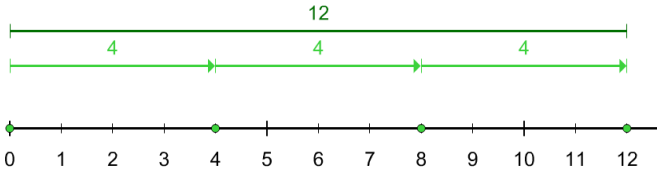
- **Repeated Subtraction**
  4 can be subtracted repeatedly until you have zero. The result is the number of repeats.

12 – 4 = 8, 8 – 4 = 4, 4 – 4 = 0
4 was subtracted 3 times
So, 12 ÷ 4 = 3



- **Repeated Addition**
  4 can be repeatedly added until you have 12. The result is the number of times 4 was added.

4 + 4 = 8, 8 + 4 = 12
4 was added 3 times
So, 12 ÷ 4 = 3



- **Multiplication Facts**
  Knowing 4 x 3 = 12 then 12 ÷ 4 = 3

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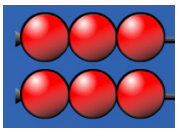
Helpful Information

Tips

- Learning tools are used to explore mathematical ideas and are a way for children to share their thinking. Encourage your child to take the time to use the tools for each activity.
- Organized concrete and visual representations allow your child to use spatial sense to deepen understanding of number and the relationships between numbers.

For example, we can see 6 beads divided into 2 groups of 3 horizontally or 3 groups of 2 vertically



Mathematical Words/Symbols

Dividend – the number being divided for example 18 is the dividend of 18 ÷ 6
Divisor - the number by which the dividend is being divided. For example, 6 is the divisor of 18 ÷6
Equation – a mathematical statement that shows that two expressions are equal
Expression – is made up of numbers and operators. For example, 12÷3 and 4 + 3 are numeric expressions.

Quotient – is the result from dividing one number by another, for example 6 is the quotient of 24 ÷ 4

÷ division symbol

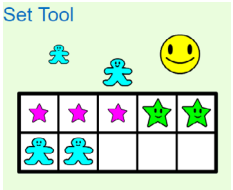
6 ÷ 2 without context can be interpreted as:

- 6 divided into 2 groups
- 6 is made up of groups of 2

Materials

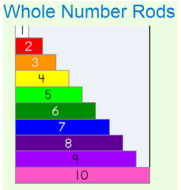
Activity 1:

- Set Tool
- Number Cards



Activity 2:

- Whole Number Rods

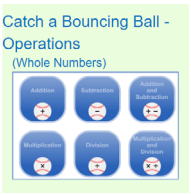


Activity 3:

- Money
- Number Cards

Activity 4:

- Catch a Bouncing Ball Game



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Making Equal Sets

Activity 1

Set Up for the Activity:

- Open the Set learning tool.
  - » Select auto mode.
- Create a record chart with headings identified in the example.
- Shuffle 2 sets of number cards 1 to 7 and place them face down in a pile.

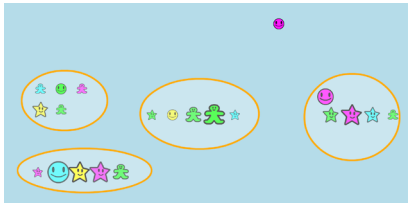
How to Do the Activity:

1. Enter a number between 10 and 50 and select New.
   - » use the auto arrange icon to line up the objects.
2. Have your child pick a card from the pile. Draw this number of rectangles, ovals or circles using the annotation tool.
3. Have your child place the objects equally among the shapes created in step 2. Note that some objects may be left over.
4. Ask your child how many objects are in each group.
5. If there are leftover objects ask your child how many more objects need to be added or subtracted in order to have equal groups with no leftovers. Verify by adding or removing objects.
6. When the groups are equal in size and there are no left over objects have your child complete the chart.
7. Repeat the activity at least three more times.

Example:

21 objects to begin with

4 | 4 groups



5 objects in each group with 1 left over

Your child may distribute the objects among the groups singly or in pairs.

1 object removed
20 objects in total with 5 objects in each group

Total Number of Objects	Number of Groups	Number of Objects in Each Group	Division Equation
20	4	5	20 ÷ 4 = 5

Let's Talk About It

How did you make sure each group had the same number of objects?
Why are some objects left over?
How would the total number of objects change if we added/removed a group?

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Relating Multiplication and Division Using Rods

Activity 2

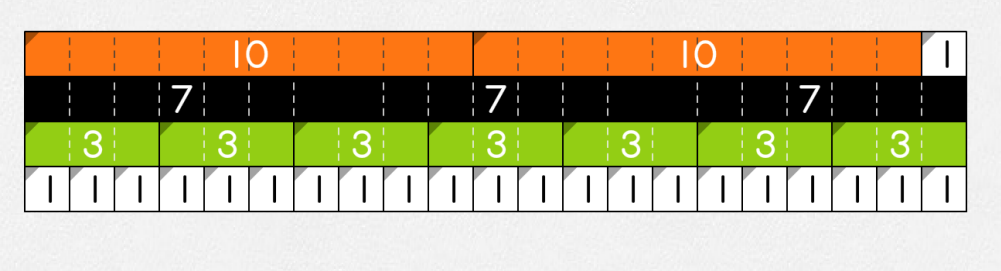
Set Up for the Activity:

- Open the Whole Number Rods learning tool
- Create a recording chart with headings identified in the example.

How to Do the Activity:

1. Have your child choose a number between 20 and 50.
2. Have your child represent this number using as many 10-rods as possible.
3. Have your child create a train of the same length using rods of one colour.
4. Have your child record the length of the train, the number of equal-sized rods, and the length of the equal-sized rods on the recording chart.
5. Ask your child to write on the chart:
   - » the multiplication equation that can be used to determine the length of the train,
   - » the division equation that can be used to determine the length of the equal-sized rods,
   - » the division equation that can be used to determine the number of equal-sized rods.
6. Have your child determine if there are other possible representations of equal-sized trains of rods for this number. If so, repeat steps 4 and 5.
7. Repeat activity at least five times.

Example: Number chosen: 21



Your child may guess a rod will be equal-sized and use repeat addition to check.

Length of train	Number of equal-sized rods	Length of the equal-sized rods	Multiplication equation	Division equations
21	3	7	3 x 7= 21	21÷3 = 7 21 ÷ 7 = 3
21	7	3	7 x 3 = 21	21÷3 = 7 21 ÷ 7 = 3
21	21	1	21 x 1 = 21	21 ÷ 1 = 21 21 ÷ 21 = 1

Let's Talk About It

How do you know you found all the rods that could make this number?
Why are there two division equations when we only have one multiplication equation?

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Dividing Your Money

Activity 3

Set Up for the Activity:

- Open the Money learning tool.
  - » Use the settings icon to customize and show loonies, toonies, five dollar bills, ten dollar bills and twenty dollar bills.
- Shuffle 4 sets of cards 4 to 7 and place them face down in a pile.
- Create a recording chart with headings as indicated in the example.

How to Do the Activity:

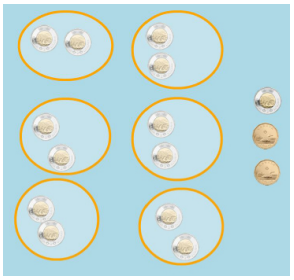
1. Have your child choose a number between 25 and 50.
2. Have your child represent this number in dollars using the Money learning tool.
3. Have your child pick a card from the pile.
4. Have your child put the money into the number of equal-sized groups indicated by the number on the card.
5. If the money cannot all be placed into equal-sized groups represented in dollars, ask your child what is the greatest number of equal-sized groups and what remainder of the money cannot be placed.
6. Have your child record the number of equal-sized groups, the amount of dollars in each group, and the remainder on the Division Chart.
7. Repeat activity at least five more times.

Example:

Chosen number: 28

Your child may trade money in order to easily divide it among the groups

6 Groups



6 groups of 4 and 4 dollars left over

Total Amount of Dollars	Number of Groups	Number of Dollars in Each Group	Remainder
28	6	4	4

Let's Talk About It

Why is some money left over?
What would the total number be in order to have no remainder for this many groups?
Can we adjust the number of groups in order to have no remainder? If so, what would it be?

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Catch a Bouncing Ball – Division

Activity 4

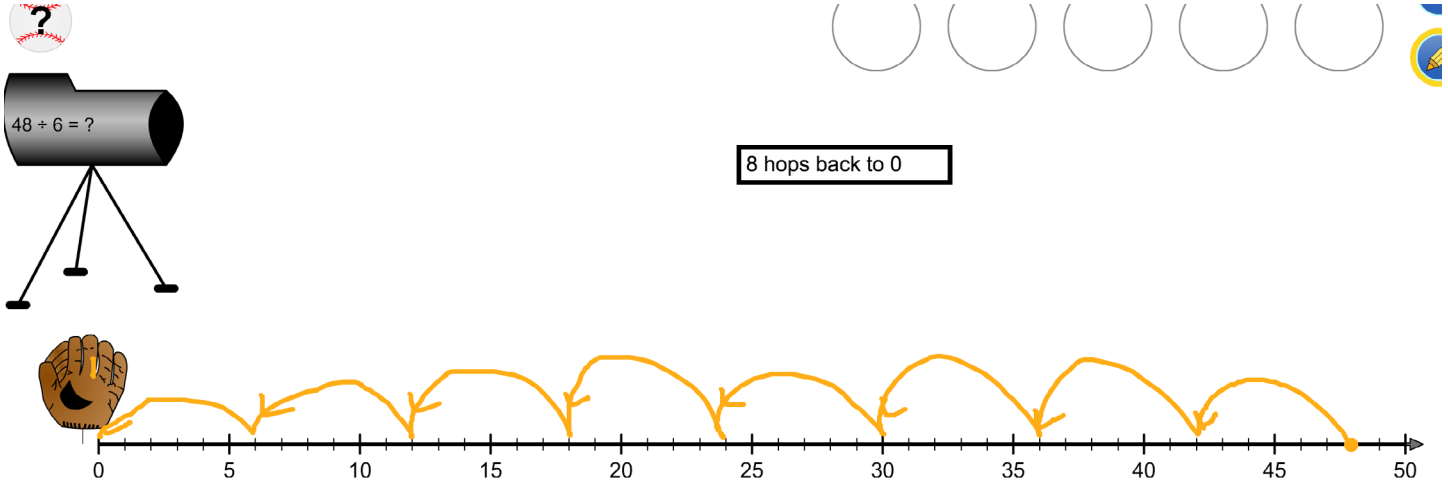
Set Up for the Game:

- Open the Catch a Bouncing Ball – Whole Number Operations game
  - » Select division and then select dividends to 50

How to Play the Game:

1. A division expression will appear on the baseball.
2. Move the baseball glove to the location on the number line that represents the quotient of the expression.
3. If the location is correct, a new expression will appear. If the location is incorrect, try again.
4. Game is played until ten balls have been caught.
5. Review any mismatches at the end of the game.

Example:



Your child may subtract 6 eight times.

Let's Talk About It

How did you find the answer?
What is another way you could find the answer?