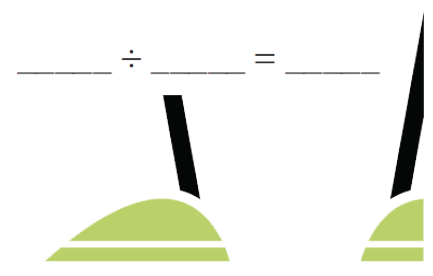
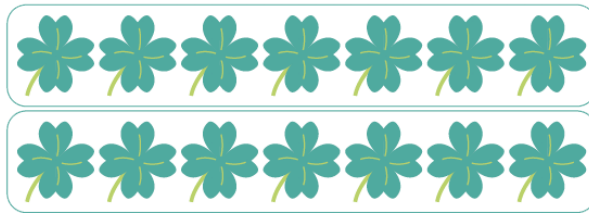
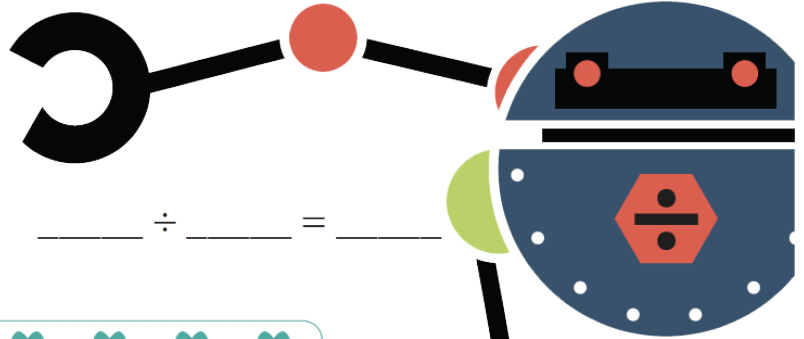
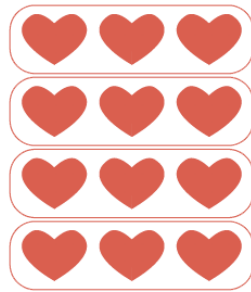
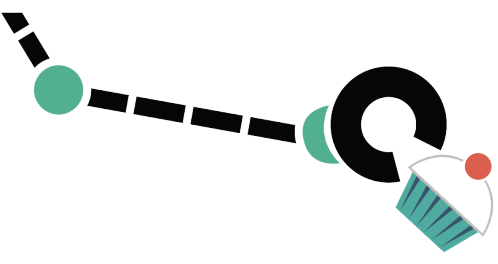


# Fundamentals of Division

3rd  
Grade



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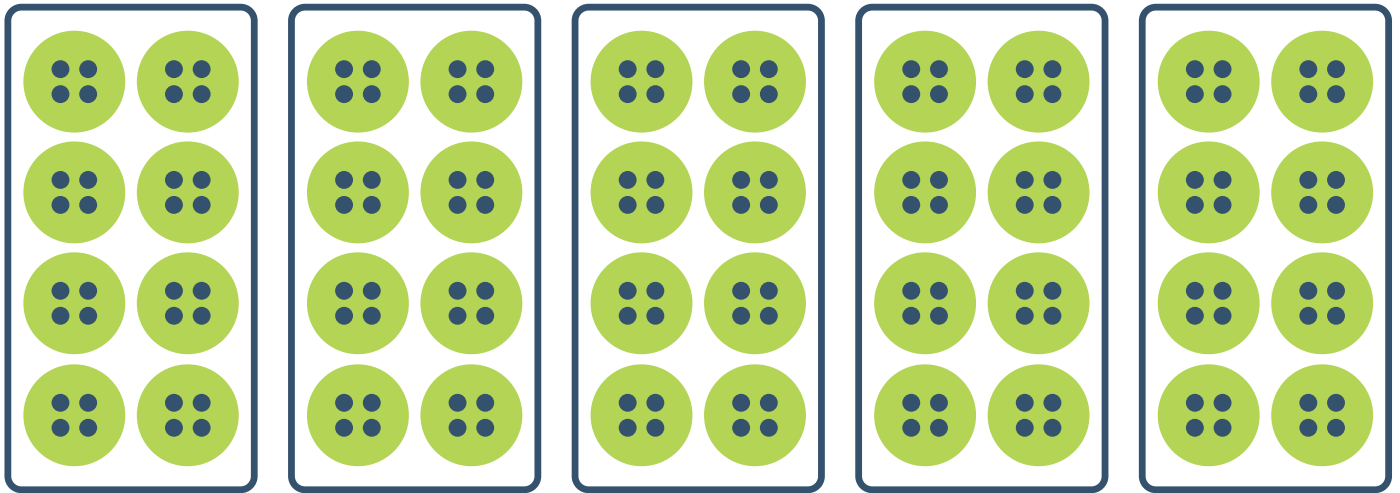
*\* Includes Answer Sheet*

# Division :

## Find the Total Number of Groups

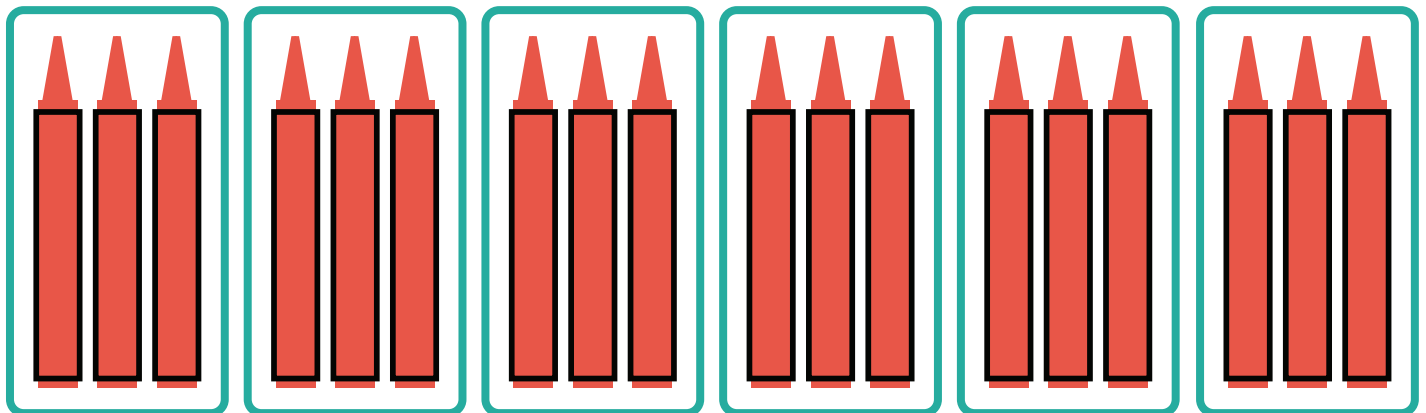
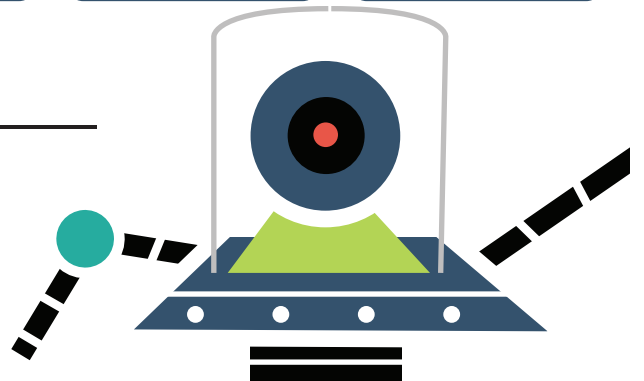
**Directions:** You can also use division to find the total number of groups.

1. Divide 40 buttons into groups of 8.  
How many groups of button are there?



$$40 \div 8 = \underline{\quad}$$

2. Divide the 18 crayons into groups of 3.  
How many groups of crayons are there?



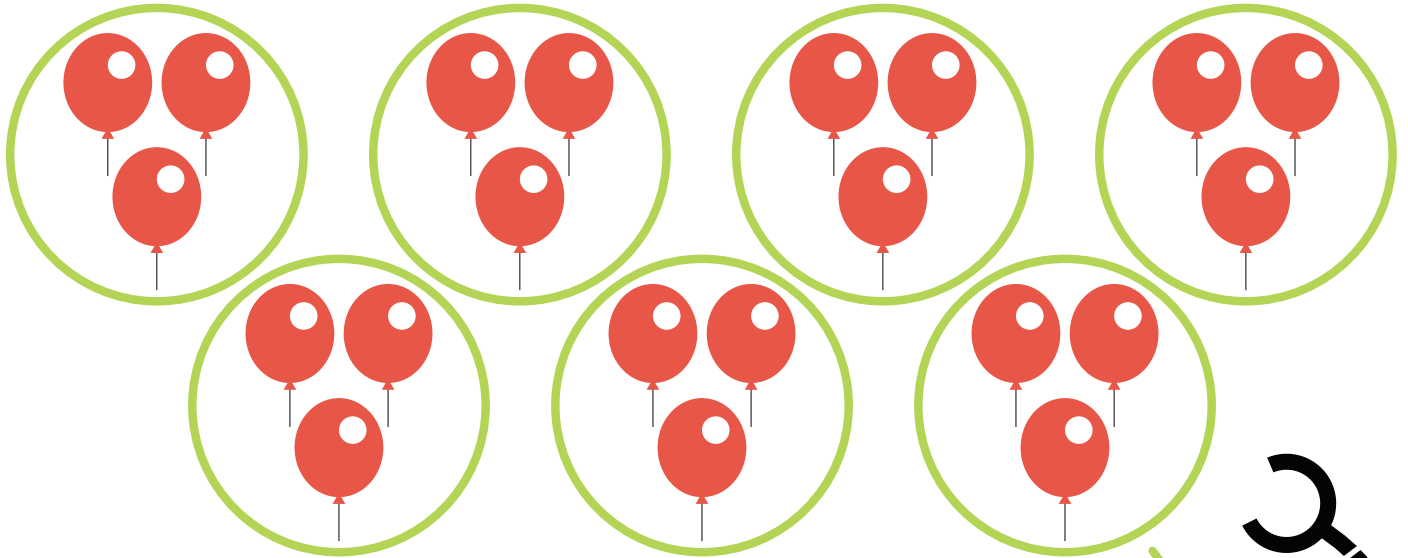
$$18 \div 3 = \underline{\quad}$$

# Division :

## Find the Total Number of Objects

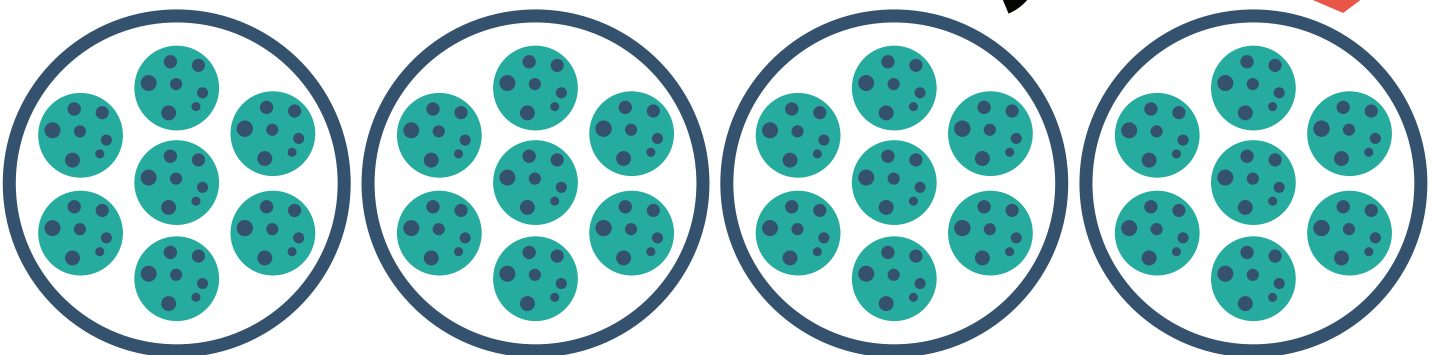
**Directions:** You can use division to find the number of objects in each group.

1. Divide 21 total balloons into 7 equal groups.  
How many balloons are there in each group?

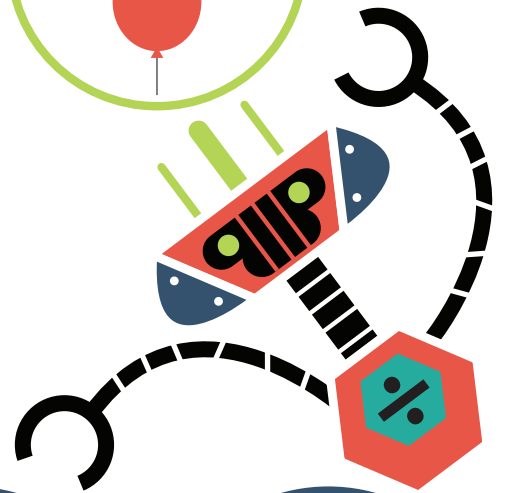


$$21 \div 7 = \underline{3}$$

2. Divide 28 total cookies into 4 equal groups.  
How many balloons are there in each group?



$$28 \div 4 = \underline{7}$$



# Division :

## Equal Groups: Division

In this drawing there are 5 equal groups of stars with 4 stars in each group. There are a total of 20 stars.



This division sentence shows how the 20 stars are divided into equal groups.

$$\begin{array}{ccc} \text{DIVIDEND} & \text{QUOTIENT} & \\ 20 \div 5 = 4 & & \\ \text{DIVISOR} & & \end{array}$$

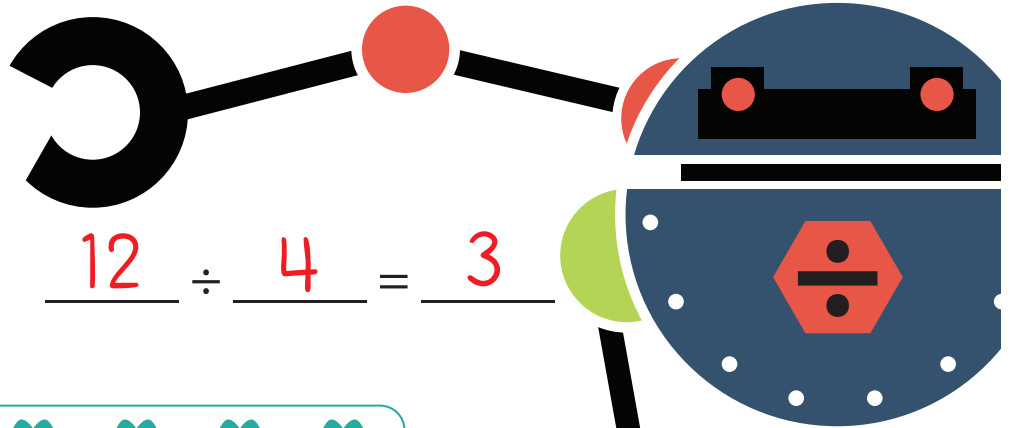
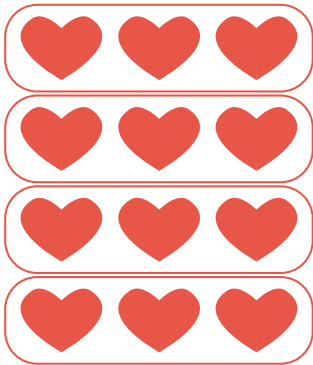
**Dividend:** total number of objects

**Divisor:** Number of equal groups

**Quotient:** Number of objects in each group

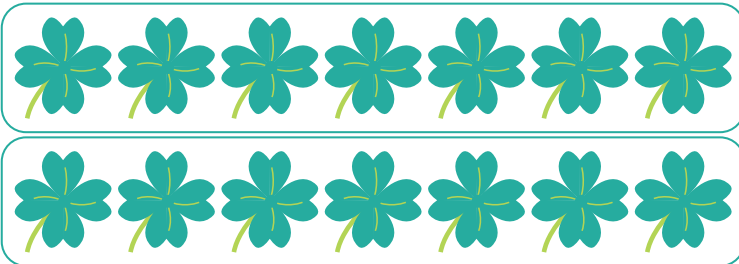
**Directions:** Now you try! Write a division sentence to represent each drawing.

1.



$$12 \div 4 = 3$$

2.



$$14 \div 2 = 7$$

3.



$$16 \div 4 = 4$$

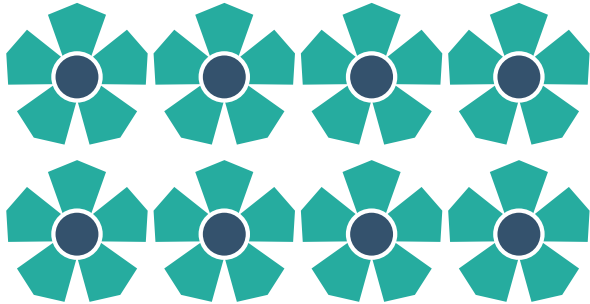
# Division :

## Equal Groups: Division 2



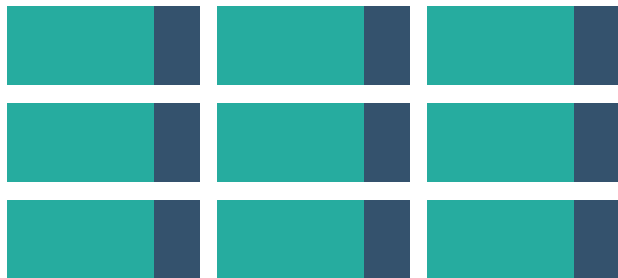
**Directions:** Make equal groups. Then write a division sentence for each picture and solve.

There are 8 flowers. Make groups of 4.



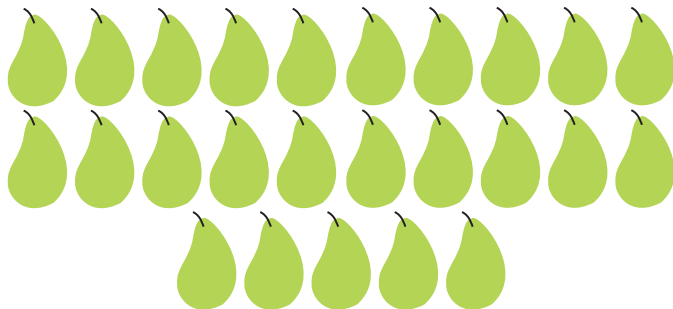
$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

There are 9 bricks. Make groups of 3.



$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

There are 25 pears. Make groups of 5.



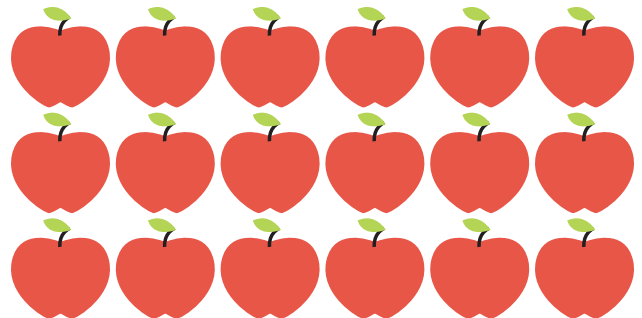
$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

There are 15 bears. Make groups of 3.



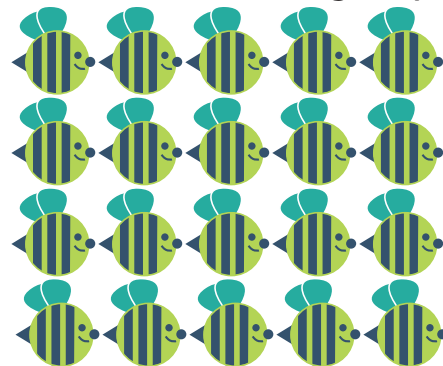
$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

There are 18 apples. Make groups of 2.



$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

There are 20 bees. Make groups of 4.



$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

# Division :

## Factor Fun

When you read a **division** question, ask yourself a **multiplication** question!

$$20 \div 5 = ?$$

Ask yourself

$$5 \times ? = 20$$

Five multiplied by what, equals 20?

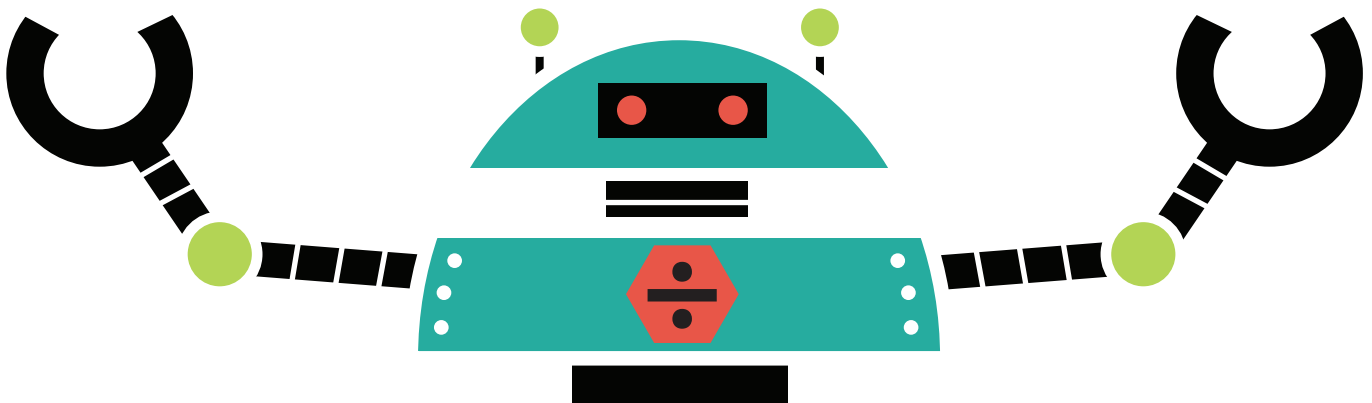
$$30 \div 6 = \underline{\quad} \text{ because } 6 \times \underline{\quad} = 30$$

$$60 \div 10 = \underline{\quad} \text{ because } 10 \times \underline{\quad} = 60$$

$$63 \div 9 = \underline{\quad} \text{ because } 9 \times \underline{\quad} = 63$$

$$49 \div 7 = \underline{\quad} \text{ because } 7 \times \underline{\quad} = 49$$

$$48 \div 12 = \underline{\quad} \text{ because } 12 \times \underline{\quad} = 48$$

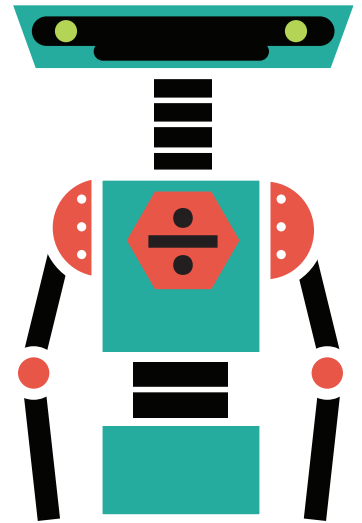


# Division :

## Repeated Subtraction

Review the diagram!

$$\begin{array}{ccc} \text{DIVIDEND} & & \text{QUOTIENT} \\ 15 \div 5 = & 3 \\ & \text{DIVISOR} & \end{array}$$



### How to perform repeated subtraction:

- Subtract the divisor from the dividend until you reach zero.
- Count up how many times you subtracted.
- The number of times you subtracted equals the quotient!

**Directions:** Match the repeated subtraction on the left with the correct division sentence on the right.

$21 \div 7$

$16 \div 8$

$16 \div 4$

$18 \div 6$

$20 \div 4$

$$\begin{array}{r} 20 \\ -4 \\ \hline 16 \\ -4 \\ \hline 12 \\ -4 \\ \hline 8 \\ -4 \\ \hline 4 \\ -4 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 18 \\ -6 \\ \hline 12 \\ -6 \\ \hline 6 \\ -6 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 21 \\ -7 \\ \hline 14 \\ -7 \\ \hline 7 \\ -7 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 16 \\ -4 \\ \hline 12 \\ -4 \\ \hline 8 \\ -4 \\ \hline 4 \\ -4 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 16 \\ -8 \\ \hline 8 \\ -8 \\ \hline 0 \end{array}$$

It's your Turn!

Use repeated subtraction to solve  $20 \div 5$ .

Show your work in the space provided.

Write the quotient on the answer line:

$20 \div 5 = \underline{\quad}$



# Division :

## Repeated Subtraction 2



Directions: Represent each division problem with repeated subtraction.

$$12 \div 6 = \underline{\quad}$$

$$15 \div 5 = \underline{\quad}$$

$$24 \div 8 = \underline{\quad}$$

$$18 \div 3 = \underline{\quad}$$

$$30 \div 5 = \underline{\quad}$$

$$27 \div 3 = \underline{\quad}$$

What division fact does the repeated subtraction number sentence represent?

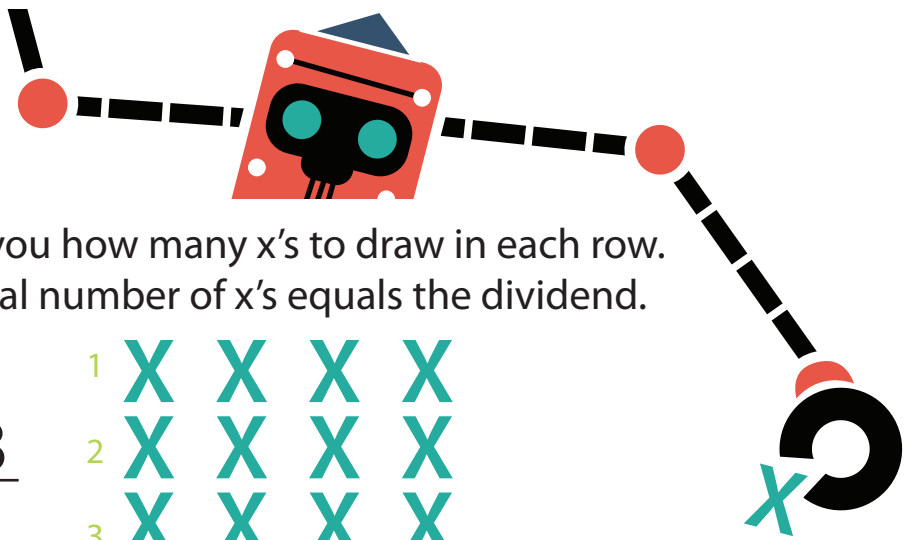
$$12 - 6 - 6$$

$$24 - 8 - 8 - 8$$

$$10 - 5 - 5$$

# Division :

## Arrays for Division



**Directions:** The divisor tells you how many x's to draw in each row. Draw rows of x's until the total number of x's equals the dividend.

Example:  $12 \div 4 = \underline{3}$



Now you try! Draw an array for each division problem and record the quotient on the answer line.

$$28 \div 7 = \underline{\quad}$$

$$16 \div 4 = \underline{\quad}$$

$$18 \div 2 = \underline{\quad}$$

$$10 \div 5 = \underline{\quad}$$

$$12 \div 3 = \underline{\quad}$$

$$20 \div 5 = \underline{\quad}$$

What division problems do the arrays represent?

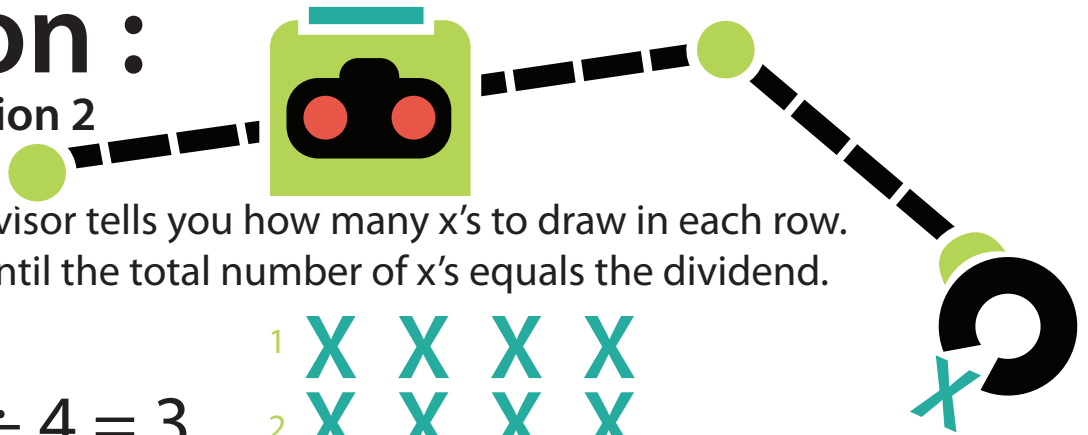
X X X X  
X X X X

X X X X X X  
X X X X X X  
X X X X X X

X X  
X X  
X X  
X X  
X X  
X X

# Division :

## Arrays for Division 2



**Directions:** The divisor tells you how many x's to draw in each row. Draw rows of x's until the total number of x's equals the dividend.

Example:  $12 \div 4 = \underline{3}$



Now you try! Draw an array for each division problem and record the quotient on the answer line.

$30 \div 6 = \underline{\quad}$

$16 \div 2 = \underline{\quad}$

$20 \div 10 = \underline{\quad}$

$9 \div 3 = \underline{\quad}$

$12 \div 4 = \underline{\quad}$

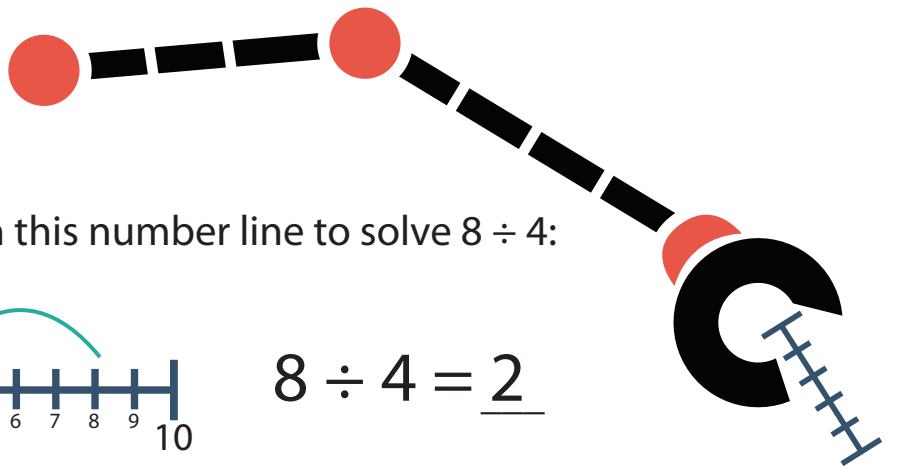
$11 \div 1 = \underline{\quad}$

What division problems do the arrays represent?



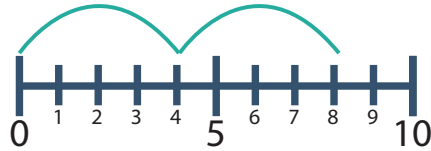
# Division :

Hop to the Quotient!



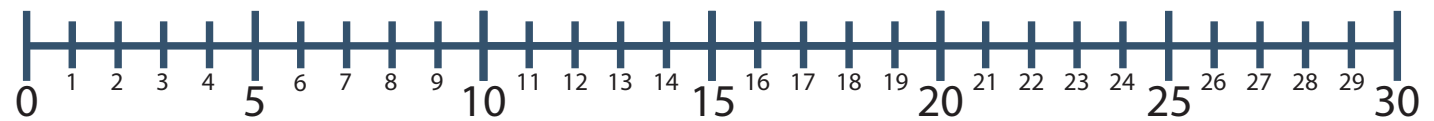
Hoppy the frog hopped down this number line to solve  $8 \div 4$ :

Example:

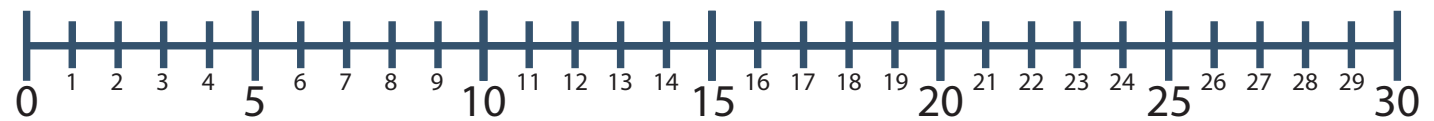


$$8 \div 4 = \underline{2}$$

**Directions:** Hop down each number line to find the quotient (answer). Write your answer on the blank space.



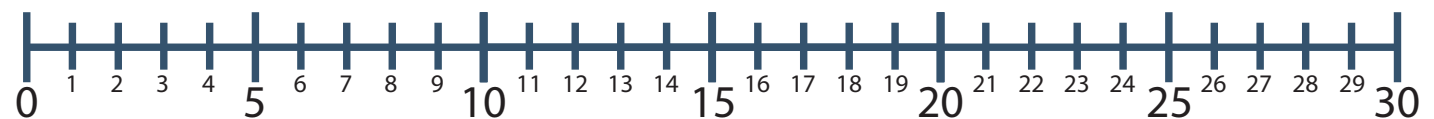
1.  $21 \div 3 = \underline{\quad}$



2.  $15 \div 3 = \underline{\quad}$



3.  $25 \div 5 = \underline{\quad}$



4.  $10 \div 2 = \underline{\quad}$

# Division :

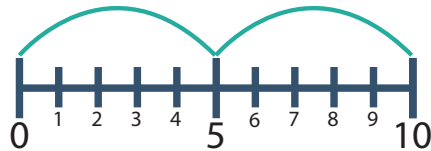
Skip-Count to the Quotient



How many times do you skip down the number line to find the quotient?

The divisor tells you how many numbers to count down the number line.

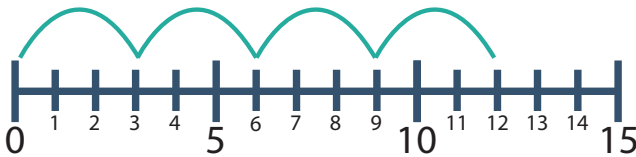
Example:



$$10 \div 5 = \underline{2}$$

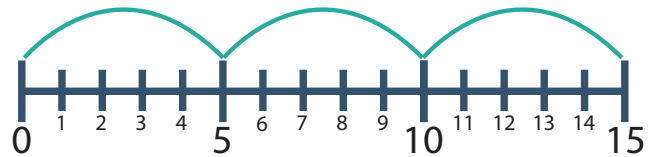
The divisor is 5, so you skip count by 5's down the number line. Since you hopped down the number line 2 times, the quotient is 2.

1.



$$12 \div 3 = \underline{\quad}$$

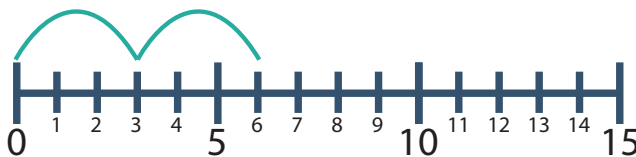
2.



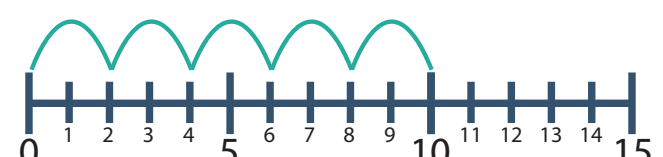
$$15 \div 5 = \underline{\quad}$$

Match each number line with the correct division sentence.

3.



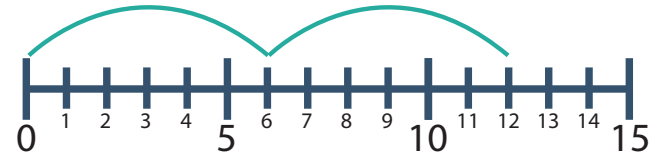
4.



5.



6.



a.  $12 \div 4 = \underline{\quad}$    b.  $6 \div 3 = \underline{\quad}$    c.  $10 \div 2 = \underline{\quad}$    d.  $12 \div 2 = \underline{\quad}$

7. Now you try! Show how you skip count on the number line below.

• First, draw how you hop down the number line.

• Then, write the quotient on the answer line.



$$18 \div 6 = \underline{\quad}$$

# Division :

## Dividing Cupcakes into Unequal Groups



Jane has 10 cupcakes that she wants to divide among her three friends.

Draw a picture to show how Jane can share the 10 cupcakes among her three friends.



Were you able to divide the 10 cupcakes into equal groups? \_\_\_\_\_

\_\_\_\_\_

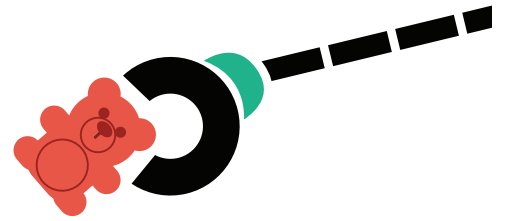
Did you come up with one or more than one way to divide the 10 cupcakes?

\_\_\_\_\_

\_\_\_\_\_

# Division :

## Dividing Gummy Bears into Equal Groups

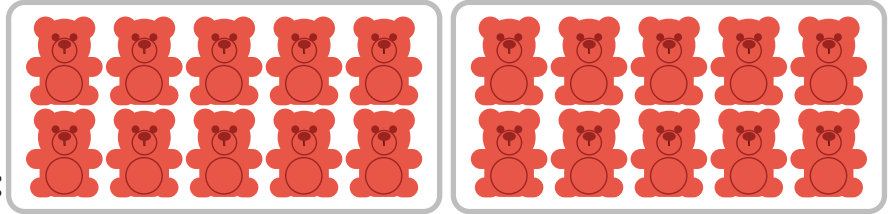


There are 20 gummy bears in Kimmie's candy jar.

**Step 1:** For each problem below draw a picture to show how 20 gummy bears are divided among the Kimmie's friends. You can use an "x" or other symbol to represent gummy bears in your drawing.

**Step 2:** Write a division sentence and solve.

Drawing:



**Example:** 2 best friends eat the 20 gummy bears.

**Division sentence:**  $20 \div 2 = 10$

Kimmie's 4 friends eat the 20 gummy bears.

\_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_

Kimmie's 10 friends eat the 20 gummy bears.

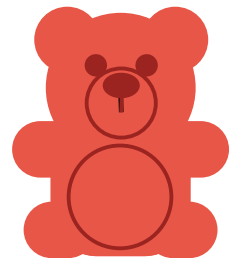
\_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_

Kimmie's 5 friends eat the 20 gummy bears.

\_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_

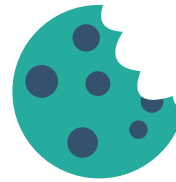
Who ended up eating the most gummy bears?

1. Kimmie's 4 friends.
2. Kimmie's 5 friends.
3. Kimmie's 10 friends.



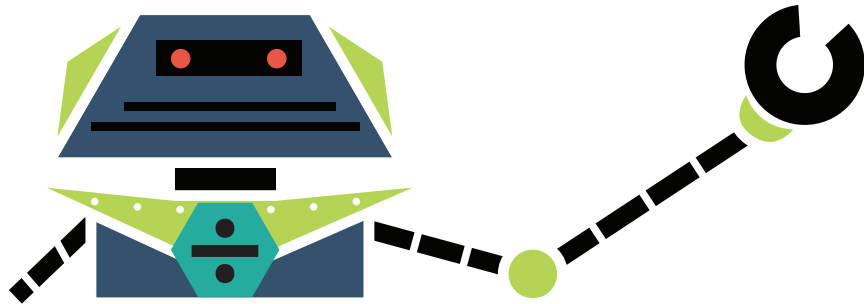
# Division :

## Division Word Problems



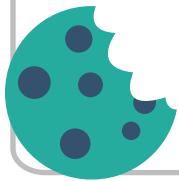
Use one of the following strategies when solving the following word problems:

- Draw an array
- Draw Equal Groups
- Repeated Subtraction
- Multiplication Sentence



Write the strategy you used on the line provided and show your work.

James Has 15 cookies. He wants to divide them and give an equal number to his 3 friends. How many cookies should he give each friend?



$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

\_\_\_\_\_ cookies

Samantha has 28 books. She wants to divide them and make 4 equal stacks to lend to her friends. How many books should she put in each stack?



$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

\_\_\_\_\_ books

Mary is throwing a party. She has 20 soap hearts and wants to divide them equally into 5 party favor bags. How many soap hearts should she put in each bag?



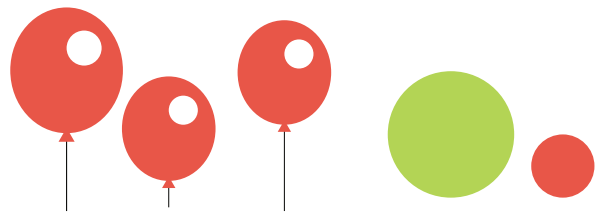
$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

\_\_\_\_\_ soap hearts



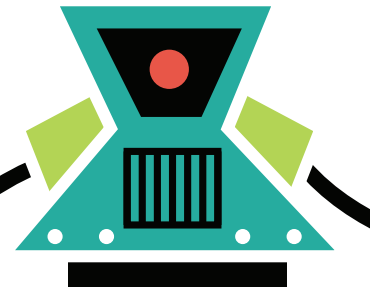
# Division :

## Division Word Problems 2



Use one of the following strategies when solving the following word problems:

- Draw an array
- Draw Equal Groups
- Repeated Subtraction
- Multiplication Sentence



Write the strategy you used on the line provided and show your work.

Kenny has 14 juice boxes. He wants to divide them and give an equal number to his 7 friends. How many juice boxes should he give each friend?



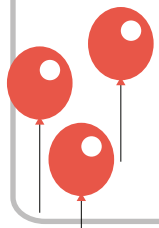
\_\_\_\_\_ ÷ \_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ juice boxes

Chris has 8 bouncy balls. He wants to divide them and give an equal number to his 8 friends. How many bouncy balls should he give each friend?



\_\_\_\_\_ ÷ \_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ bouncy balls

Ada is bringing balloons to the class party. She has 30 balloons and wants to divide them equally among the 10 students in her class. How many balloons should each student get?



\_\_\_\_\_ ÷ \_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ balloons

# Division :

## Make a Match

**Directions:** Draw a line from the word or phrase on the left side of the page to the phrase that best describes that word or phrase on the right side of the page.

Dividend

Quotient

Draw an Array

Skip Count

Repeated  
Subtraction

Divisor

Count by the divisor until you get the dividend and then count up your rows.

Count backwards by the value of the divisor.

Subtract the divisor until you reach 0.

The number of groups that the dividend is being separated into.

The larger number that is being divided into smaller groups.

The answer to a division problem.

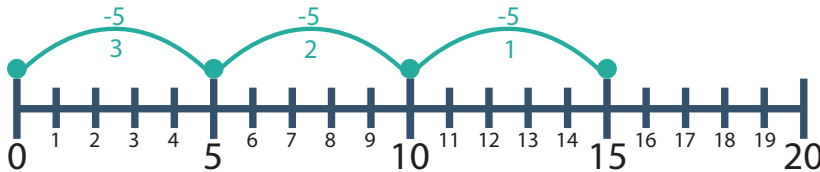
# Division :

## Your Guide to Key Terms & Strategies

$$\begin{array}{l} \text{DIVIDEND} \qquad \qquad \text{QUOTIENT} \\ 15 \div 5 = 3 \\ \text{DIVISOR} \end{array}$$

**Directions:** Use this mini-poster as your guide to solving the division problems in this workbook!

### Skip-Count on a number line



Skip-count (backwards) by the value of the **divisor**.

3 hops of 5 lands on 0, so  $15 \div 5 = 3$ .

### Repeated Subtraction

$$15 - 5 = 10 \rightarrow 10 - 5 = 5 \rightarrow 5 - 5 = 0$$

- Write the value of the **dividend** (in this example, write the number 15).
- Then, subtract the value of the **divisor** (in this example, subtract 5).
- Continue to subtract the value of the **divisor** until the difference equals 0.
- The number of times you subtracted the **divisor** in the repeated subtraction problem equals the answer to the division problem (**quotient**).

### Fact Family

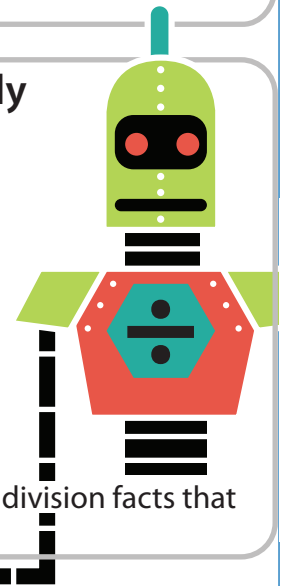
$$15 \div 5 = 3$$

$$15 \div 3 = 5$$

$$3 \times 5 = 15$$

$$5 \times 3 = 15$$

- A group of multiplication and division facts that share the same three numbers.



### Array

- The value of the **divisor** tells you how many x's to draw in each row of the array.
- In this example, the value of the **divisor** is 5 and the **dividend** is 15, so you draw 5 x's in each row until the total number of x's in the array equals 15.
- The total number of rows in the array equals the answer to the division problem (quotient). In this example, since you have three rows of x's, the **quotient** is 3.



### Equal Groups



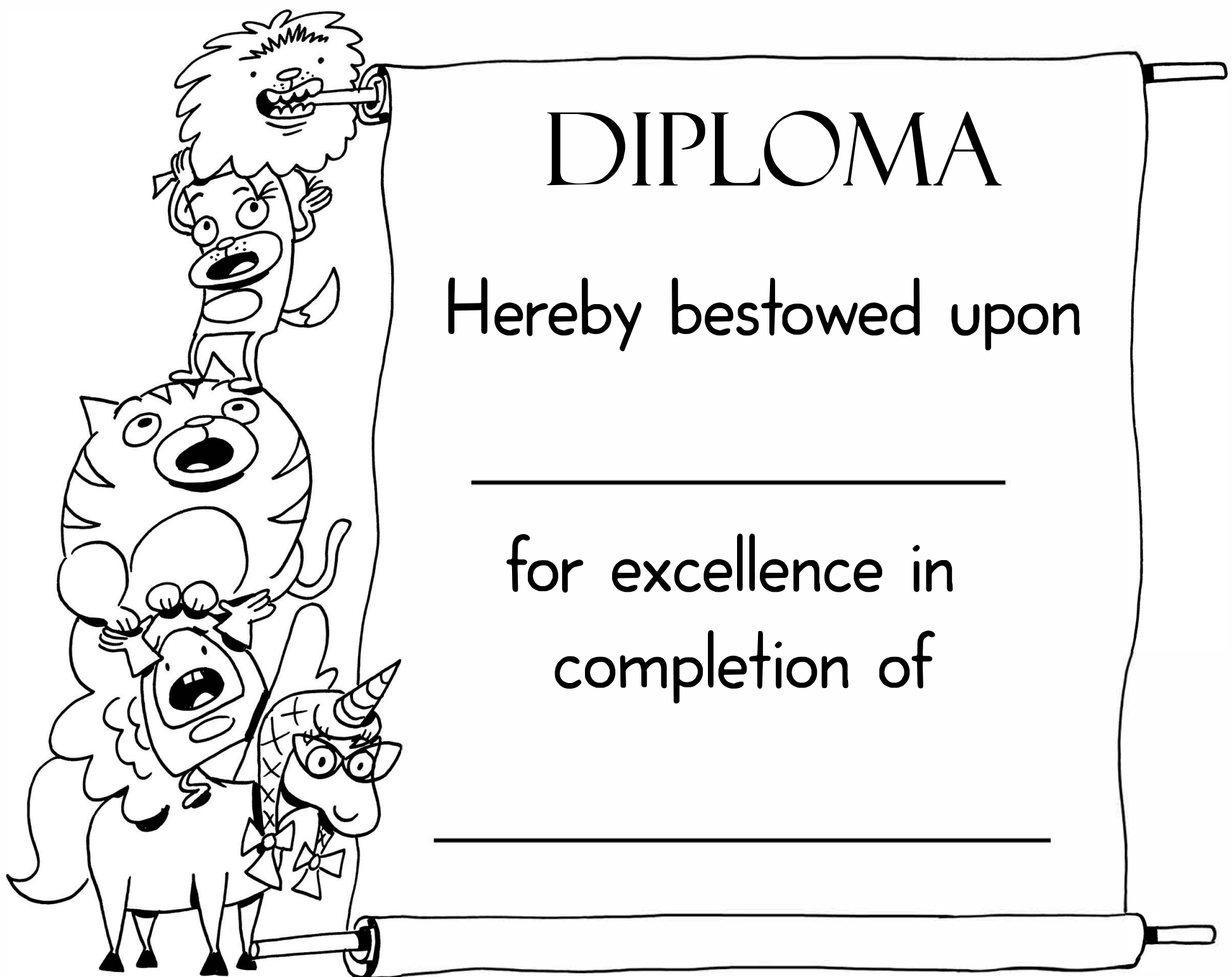
- The value of the **divisor** equals the number of circles you should draw.
- Once you draw your circles, draw one dot in each circle. Keep drawing one dot in each circle until the total number of dots is equal to the value of the **dividend**.
- The number of dots in each circle is the answer to the division problem, the **quotient**.

**Division:** splitting something into equal groups

**Dividend:** the larger number that is being split into smaller groups

**Divisor:** the number of groups that the dividend is being separated into

**Quotient:** the answer to a division problem



# DIPLOMA

Hereby bestowed upon

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for excellence in  
completion of

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