

# MULTIPLICATION

## FACT FLUENCY

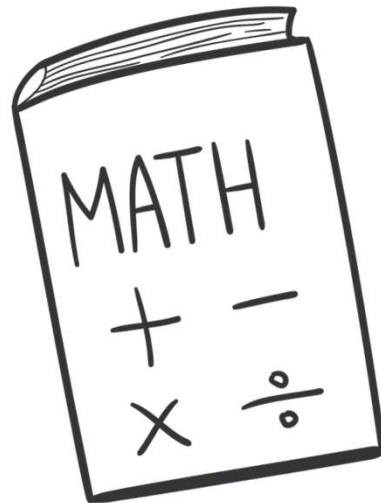
EXPLORE THE 8s TIMES TABLE

# LESSON 7

# TODAY'S OBJECTIVE

Today we will explore the  
8s times table.

# TAKE OUT YOUR **MATH JOURNALS**



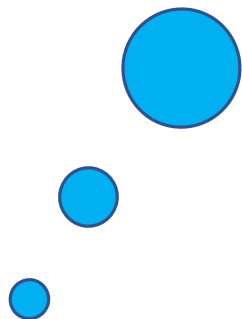


WATCH ME FIRST



**Did you know the 4s facts can help you solve the 8s facts?**

**Let's Explore!**

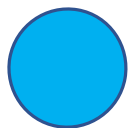




Why would this work?

**4 is half of 8**

**8 is double 4**



## Let's start by talking about related facts.

In this table, I'm going to pair the 4s fact with the related 8s fact by replacing the 8 with 4.

Which 4s fact is related to  $8 \times 2$ ?

4  $\times$  2 is related to 8  $\times$  2

Multiplying by 4s	Multiplying by 8s
4 x 1	8 x 1
4 x 2	8 x 2
4 x 3	8 x 3
4 x 4	8 x 4
4 x 5	8 x 5
4 x 6	8 x 6
4 x 7	8 x 7
4 x 8	8 x 8
4 x 9	8 x 9
4 x 10	8 x 10
4 x 11	8 x 11
4 x 12	8 x 12

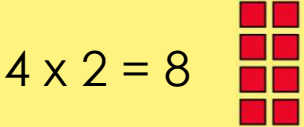
 WATCH ME FIRST

Now that I know the related facts. I'll use the 4s facts to help solve the 8s facts. I want to find the product of **8 x 2**.

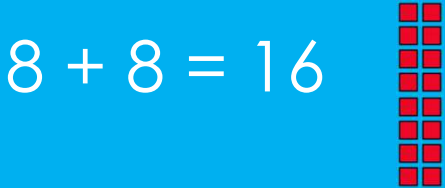
I'll start by identifying the related 4s fact.  
4 x 2 is related to 8 x 2



The product of 4 x 2 is 8.



Now, I'll double 8 to find the product of 8 x 2.



**8 x 2 = 16.** I found the product of 8 x 2 by doubling the product of 4 x 2.





I just used a 4s fact to find the product of  $8 \times 2$ .

### PRODUCTS

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	?	?
x4		
x5		
x6		
x7		
x8		
x9		
x10		
x11		
x12		

I wonder if the same thing works with other 8s times table facts.

I'll check it out by finding the product of  $8 \times 3$ , using the same strategy.





WATCH ME FIRST

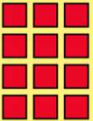
### PRODUCTS

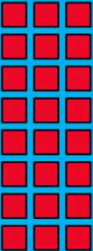
	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	<del>12</del>	<del>24</del>
x4		
x5		
x6		
x7		
x8		
x9		
x10		
x11		
x12		

I found the product of  $8 \times 3$  using  $4 \times 3$ .  
The product is 24.

I want to solve  $8 \times 3$ , so I'll start by identifying the related 4s fact.

The related 4s fact is  $4 \times 3$ .

$4 \times 3$  equals 12 

Now I'll double 12 to find the product of  $8 \times 3$ .  
 $12 + 12 = 24$   
So...  $8 \times 3 = 24$  



# Let's Review!

**We can solve the 8s fact by using the related 4s fact:**

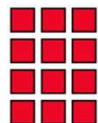
- 1<sup>st</sup> - Identify the related 4s fact (replace the 8 with a 4) and solve.
- 2<sup>nd</sup> - Double the product of the related 4s fact.
- 3<sup>rd</sup> - Solve the related 8s fact problem.

**EXAMPLE:** Find the product of  $8 \times 3$ .

## STEP 1

4  $\times$  3 is related to 8  $\times$  3

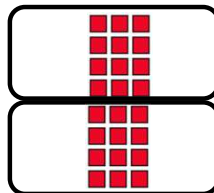
$$4 \times 3 = 12$$



## STEP 2

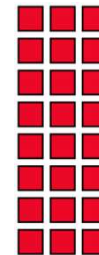
Double 12

$$12 + 12 = 24$$



## STEP 3

The product of  $8 \times 3 = 24$





LET'S WORK TOGETHER

 **Problem #1**  
LET'S WORK TOGETHER

Find the product of  $8 \times 4$ . Which 4s fact is  $8 \times 4$  related to? Record in your journal.

**PRODUCTS**

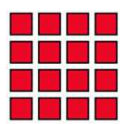
	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	<b>16</b>	
x5		
x6		
x7		
x8		
x9		
x10		
x11		
x12		

Remember our first step is to find the related 4s fact and solve.  
4 x 4 is related to 8 x 4. And  $4 \times 4 = 16$ .

**STEP 1**

4 x 4 is related to 8 x 4

$4 \times 4 = 16$



 **Problem #1**  
LET'S WORK TOGETHER

What can we do next?

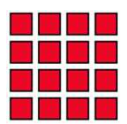
**PRODUCTS**

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	<b>16</b>	
x5		
x6		
x7		
x8		
x9		
x10		
x11		
x12		

We can double the product of the related 4s fact.

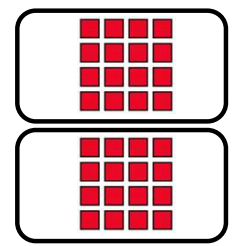
**STEP 1**

4 x 4 is related to 8 x 4  
4 x 4 = 16



**STEP 2**

Double 16.  
16 + 16 = 32



What's the product of  $8 \times 4$ ?  
Explain your answer.

**PRODUCTS**

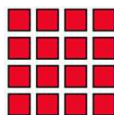
	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	<b>16</b>	<b>32</b>
x5		
x6		
x7		
x8		
x9		
x10		
x11		
x12		

The product of 8 x 4 is 32.  
This is double the product of 4 x 4.

**STEP 1**

4 x 4 is related to 8 x 4

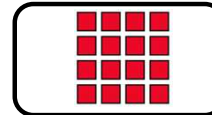
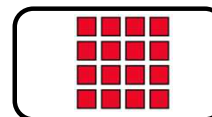
$4 \times 4 = 16$



**STEP 2**

Double 16.

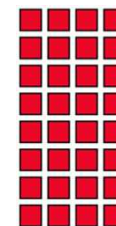
$16 + 16 = 32$



**STEP 3**

The product of

$8 \times 4 = 32$



**LET'S DO ONE MORE TOGETHER...**





 **Problem #2**  
LET'S WORK TOGETHER

Find the product of  $8 \times 5$ .  
What do we do first? Record in your journals.

**PRODUCTS**

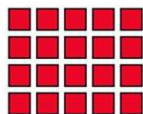
	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	<b>20</b>	
x6		
x7		
x8		
x9		
x10		
x11		
x12		

Find the related 4s fact and solve.  
4 x 5 is related to 8 x 5. And  $4 \times 5 = 20$ .

**STEP 1**

4 x 5 is related to 8 x 5

$4 \times 5 = 20$



What do we do next?

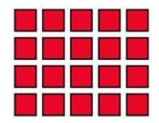
**PRODUCTS**

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	<b>20</b>	
x6		
x7		
x8		
x9		
x10		
x11		
x12		

Double the product of the related 4s fact.

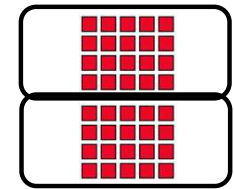
**STEP 1**

4 x 5 is related to 8 x 5  
4 x 5 = 20



**STEP 2**

Double 20  
20 + 20 = 40



 **Problem #2**  
LET'S WORK TOGETHER

What's the product of  $8 \times 5$ ?  
Explain your answer.

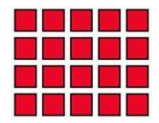
**PRODUCTS**

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	<b>20</b>	<b>40</b>
x6		
x7		
x8		
x9		
x10		
x11		
x12		

The product of 8 x 5 is 40.  
This is double the product of 4 x 5.

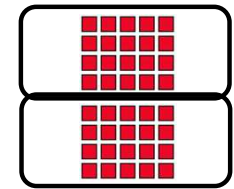
**STEP 1**

4 x 5 is related to 8 x 5  
 $4 \times 5 = 20$



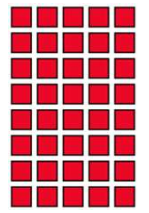
**STEP 2**

Double 20  
 $20 + 20 = 40$



**STEP 3**

The product of  
 $8 \times 5 = 40$



**It's important to remember that we can use different strategies to solve the same problem.**



 **Problem #2**  
LET'S WORK TOGETHER

**PRODUCTS**

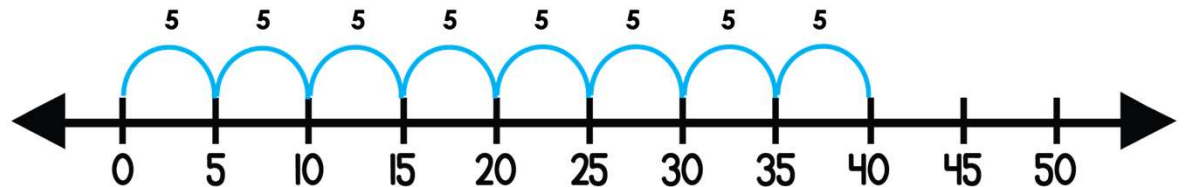
	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	<b>20</b>	<b>40</b>
x6		
x7		
x8		
x9		
x10		
x11		
x12		

Based on earlier lessons, are there other strategies we can use to solve  $8 \times 5$ ? Explain your answer.

We can use our 10s fact and find half of the product.

If  $8 \times 10 = \underline{80}$  then,  $8 \times 5 = \underline{40}$ .

We can also skip count by 5s.



 **Problem #3**  
LET'S WORK TOGETHER

	4s Facts	8s Facts
x1	4 $\longleftrightarrow$ 8	
x2	8 $\longleftrightarrow$ 16	
x3	12 $\longleftrightarrow$ 24	
x4	16 $\longleftrightarrow$ 32	
x5	20 $\longleftrightarrow$ 40	
x6		
x7		
x8		
x9		
x10		
x11		
x12		

Look at the multiplication chart to see what we've recorded so far. What patterns do you notice between the 4s and 8s facts?

The 4s facts are half of the 8s facts.  
The 8s facts are double the 4s facts.

# CHECK - IN

- What did you notice?
- Can you make a connection to anything else you already know? How?
- Do you have any questions?



IT'S YOUR TURN



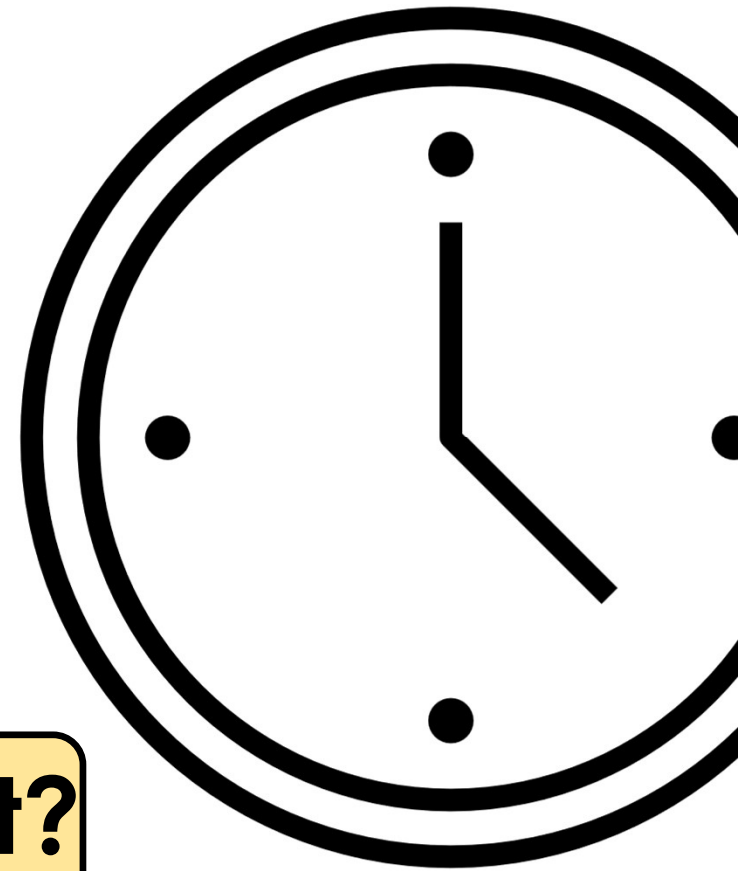


Now It's **“YOUR TURN”** to Solve



**Don't forget to show your work!**

# Time to **Discuss** and **Check** Your Answers



**How did you solve it?**



## Problem #1

YOUR TURN

**Find the product of  $8 \times 6$ . Fill in the chart.**





# Problem #1

YOUR TURN

Find the product of  $8 \times 6$ . Fill in the chart.

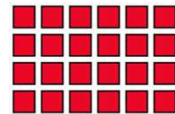
## PRODUCTS

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	20	40
x6	<b>24</b>	<b>48</b>
x7		
x8		
x9		
x10		
x11		
x12		

### STEP 1

4 x 6 is related to 8 x 6

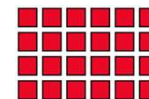
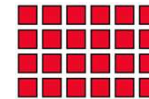
$$4 \times 6 = 24$$



### STEP 2

Double 24

$$24 + 24 = 48$$



### STEP 3

The product of

$$8 \times 6 = 48$$



## Problem #2

YOUR TURN

**Find the product of  $8 \times 7$ . Fill in the chart.**





## Problem #2

YOUR TURN

Find the product of  $8 \times 7$ . Fill in the chart.

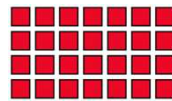
### PRODUCTS

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	20	40
x6	24	48
x7	<b>28</b>	<b>56</b>
x8		
x9		
x10		
x11		
x12		

#### STEP 1

4 x 7 is related to 8 x 7

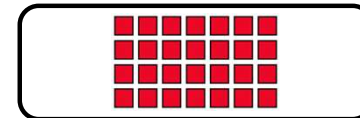
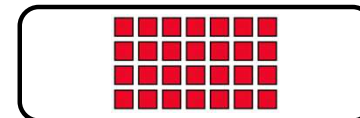
$$4 \times 7 = 28$$



#### STEP 2

Double 28

$$28 + 28 = 56$$



#### STEP 3

The product of  
 $8 \times 7 = 56$



## Problem #3

YOUR TURN

**Find the product of  $8 \times 8$ . Fill in the chart.**





# Problem #3

YOUR TURN

## Find the product of $8 \times 8$ . Fill in the chart.

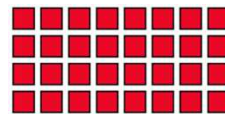
### PRODUCTS

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	20	40
x6	24	48
x7	28	56
x8	<b>32</b>	<b>64</b>
x9		
x10		
x11		
x12		

#### STEP 1

4 x 8 is related to 8 x 8

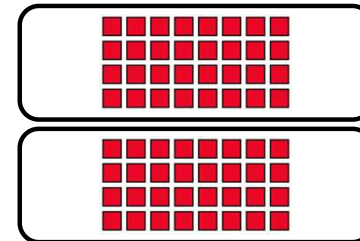
$$4 \times 8 = 32$$



#### STEP 2

Double 32

$$32 + 32 = 64$$



#### STEP 3

The product of  
 $8 \times 8 = 64$





## Problem #4

YOUR TURN

**Find the product of  $8 \times 9$ . Fill in the chart.**





# Problem #4

YOUR TURN

Find the product of  $8 \times 9$ . Fill in the chart.

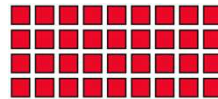
## PRODUCTS

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	20	40
x6	24	48
x7	28	56
x8	32	64
x9	<b>36</b>	<b>72</b>
x10		
x11		
x12		

### STEP 1

4 x 9 is related to 8 x 9

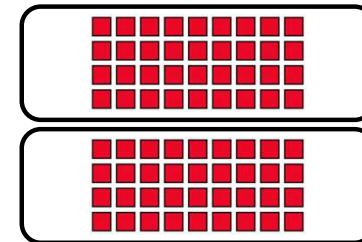
$$4 \times 9 = 36$$



### STEP 2

Double 36

$$36 + 36 = 72$$



### STEP 3

The product of  
 $8 \times 9 = 72$



## Problem #5

YOUR TURN

**Find the product of  $8 \times 10$ . Fill in the chart.**





# Problem #5

YOUR TURN

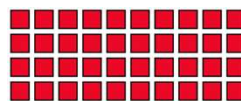
Find the product of  $8 \times 10$ . Fill in the chart.

## PRODUCTS

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	20	40
x6	24	48
x7	28	56
x8	32	64
x9	36	72
x10	<b>40</b>	<b>80</b>
x11		
x12		

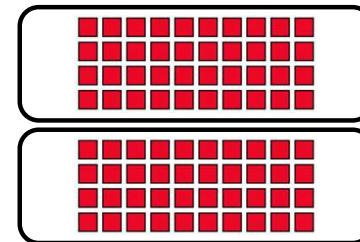
### STEP 1

4 x 10 is related to 8 x 10  
 $4 \times 10 = 40$



### STEP 2

Double 40  
 $40 + 40 = 80$



### STEP 3

The product of  
 $8 \times 10 = 80$



## Problem #6

YOUR TURN

**Find the product of  $8 \times 11$ . Fill in the chart.**





# Problem #6

YOUR TURN

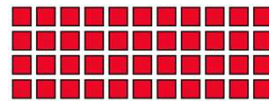
Find the product of  $8 \times 11$ . Fill in the chart.

## PRODUCTS

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	20	40
x6	24	48
x7	28	56
x8	32	64
x9	36	72
x10	40	80
x11	<b>44</b>	<b>88</b>
x12		

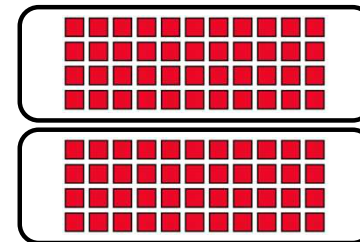
### STEP 1

4 x 11 is related to 8 x 11  
 $4 \times 11 = 44$



### STEP 2

Double 44  
 $44 + 44 = 88$



### STEP 3

The product of  
 $8 \times 11 = 88$



## Problem #7

YOUR TURN

**Find the product of  $8 \times 12$ . Fill in the chart.**





# Problem #7

YOUR TURN

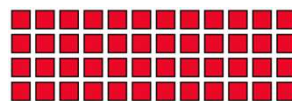
Find the product of  $8 \times 12$ . Fill in the chart.

## PRODUCTS

	4s Facts	8s Facts
x1	4	8
x2	8	16
x3	12	24
x4	16	32
x5	20	40
x6	24	48
x7	28	56
x8	32	64
x9	36	72
x10	40	80
x11	44	88
x12	<b>48</b>	<b>96</b>

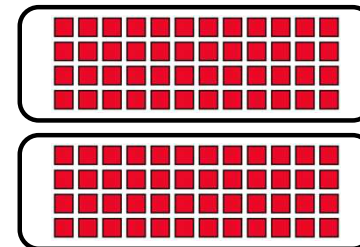
### STEP 1

4 x 12 is related to 8 x 12  
 $4 \times 12 = 48$



### STEP 2

Double 48  
 $48 + 48 = 96$

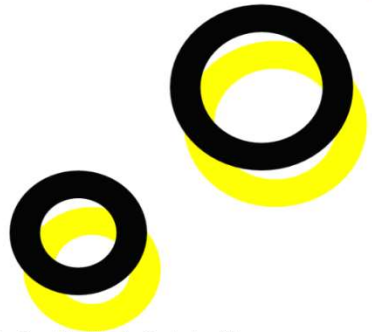
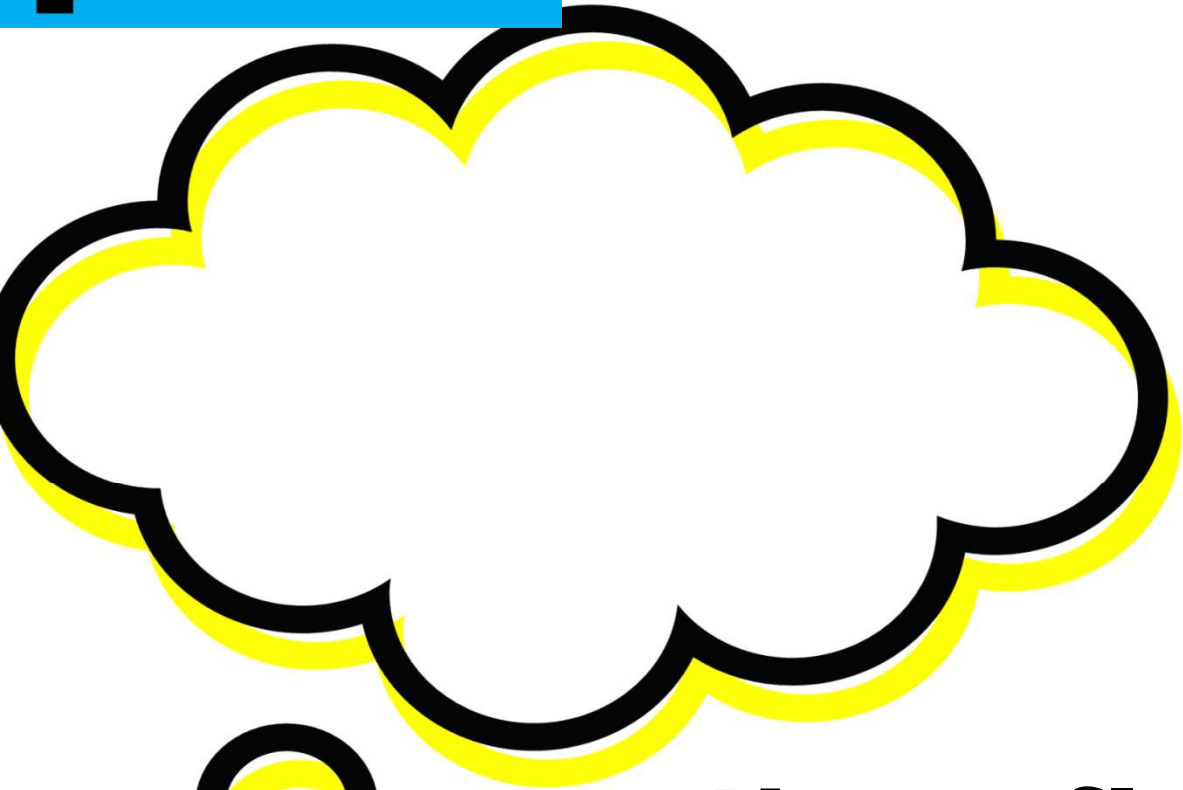


### STEP 3

The product of  
 $8 \times 12 = 96$



 **Let's Reflect**



**It's reflection time!**