

MULTIPLICATION FACT FAMILY – EIGHTS

1 times 8 is 8	8 times 1 is 8
2 times 8 is 16	8 times 2 is 16
3 times 8 is 24	8 times 3 is 24
4 times 8 is 32	8 times 4 is 32
5 times 8 is 40	8 times 5 is 40
6 times 8 is 48	8 times 6 is 48
7 times 8 is 56	8 times 7 is 56
8 times 8 is 64	
9 times 8 is 72	8 times 9 is 72
10 times 8 is 80	8 times 10 is 80

Today you will be exploring the multiplication fact family for EIGHTS. Multiplying by EIGHT is the same as skip-counting by EIGHT. Look at the Multiplication Chart that we put together using the skip-counting facts.

Go to the top row in the Multiplication Chart. Point with your right hand to the box with the numeral 2. This stands for the number of TIMES you add the number. Point with your left hand to the box in the column on the left that has the numeral 8. This stands for how many are in the GROUP. Move your right hand down and move your left hand to the right until your fingers meet. What numeral is in that box?

Yes, 16. Look at the second line in the fact table above. It also says **2 times 8 is 16.**


Look at the eighth row of the Multiplication Chart. The first shaded box has the numeral 8, which stands for how many are in the group. Run your finger across the row, stopping at each box. Can you see how the numeral in each box is the same as the answer for each line of facts in the table above? Can you see how multiplying by EIGHT is the same as skip-counting by EIGHT? Can you see how multiplying by EIGHT is the same as adding EIGHT over and over?

Now let's explore the EIGHTS fact family using the counters. Remember, the name of the fact family tells us what number is being used. Every multiplication fact has two parts. The first number tells us how many times the number is being used. The second number tells how many are in each group.

In each multiplication fact family, the first column of facts on the left shows what happens when the number stands for the size of the group. The second column of facts on the right shows what happens when the number stands for the number of times.

In the EIGHTS fact family, the first column shows GROUPS OF EIGHT used one to ten times. The second column shows the numbers 1 through 10 being used EIGHT TIMES.

Let's start with the first line in the table: 1 times 8 is 8 and 8 times 1 is 8. The first fact tells us that we need one group of eight. So start by putting eight counters close together in front of you.

 Shows 1 group of EIGHT **1 times 8 is 8**

Let's show the opposite order fact. Keep the eight counters where they are. Put another counter in front of you, but put it a bit away from the counters you already have. Then move one more counter next to it, but leave a small space between them. Keep adding counters until you have eight groups of one.


(counters for first fact)


(counters for the second fact) Shows EIGHT groups of one **8 times 1 is 8**

Both facts show the same answer (8 counters). Do you remember why that is? Do you remember why the boxes on the Multiplication Chart that show these facts are already colored in?

Now let's do the next fact: 2 times 8 is 16. That fact tells us that we need two groups of eight. So how many counters do you need to move over first?

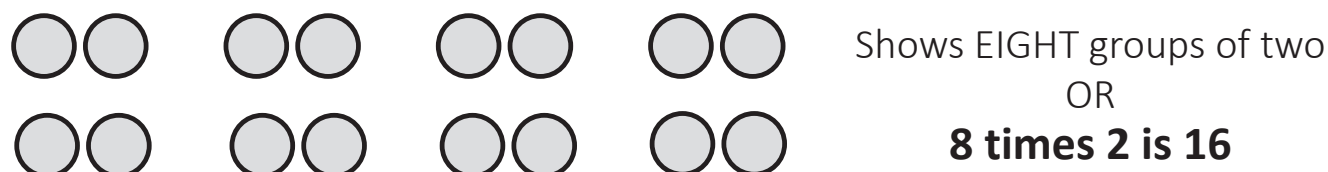
Yes, eight. Then move another set of eight counters over, but put them a bit away from the first group so you can tell them apart. How many counters do you have in all?



Can you show the opposite order fact with the counters? 8 times 2 is 16. This time you need eight groups of two, so how many counters do you start with?

Yes, 2. How many groups of 2 do you need? Yes, 8.

How many counters do you have in all?



Yes, 16. Can you see how both facts have the same answer?

See if you can find both of these facts on the Multiplication Chart. Use a pencil to color in the box that shows the answer to the first fact (2 times 8 is 16). Then find the opposite order fact. The answer will be in a different box. What numeral is there?

Yes, 16. Both facts have the same answer. Can you see that it doesn't matter whether you multiply 2 times 8 or 8 times 2, you get the same answer? Do you remember why the box showing this fact is already colored in?

Now that you are exploring the EIGHTS fact family, circle the facts in the Fact Family table that you already know from learning the facts for ONE, TWO, THREE, FOUR, FIVE, SIX, and SEVEN. Can you see that you don't have as many new facts to learn?

It's time for you to explore the rest of the multiplication facts for EIGHT in the table. Be sure to use the counters.

Every time you show a fact:

- **say it out loud;**
- **point to it in the fact family list at the top of this lesson;**
- **find it on the Multiplication Chart and shade in the box with that answer.**

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In the last lesson you used counters to show the multiplication facts for the number EIGHT. Let's see if you can use those facts to answer questions that come up in real life. Use the counters to show the numbers in the stories. Remember, when using numbers to count objects in real life, you have to say the units so we know what you are counting.

Here's the story: *Chad bought 2 melons at 8 cents each. How many cents did they cost?*

Since each melon costs 8 cents, move eight counters over for the first melon. How many melons did Chad buy?

Yes, 2. So move another group of eight counters over. How many counters do you have?



cents needed for one melon



cents needed for one melon

Yes, 16. Two groups of eight is sixteen. **2 times 8 is 16**

Here's the correct answer: The melons cost 16 cents.



Practice

Now use the counters to show what happens in these stories. Make sure you say the multiplication fact out loud and then give the units you are counting in the answer. Then point to the multiplication fact in the table at the top of the lesson.

- (1) Each one of three boys caught 8 fish. How many fish did they catch all together?
- (2) Nancy has 4 hens, and each hen has 8 chicks. How many chicks are there in all?
- (3) If each of five houses has 8 windows, how many windows are there in all the houses?
- (4) Since there are 8 pints in one gallon, how many pints are there in 6 gallons?
- (5) Clara bought 8 spools of thread at 7 cents each. How much did Clara pay in all?
- (6) Since there are 8 quarts in 1 peck, how many quarts are there in 8 pecks?