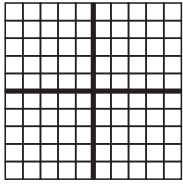


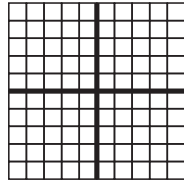
# 0s Facts $\times 0$

The product of any number and 0 is 0.



$$0 \times 3 = 0$$

Zero groups of 3 equal 0.



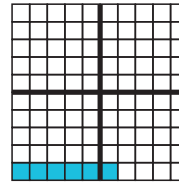
$$5 \times 0 = 0$$

Five groups of 0 equal 0.

## Zero Property of Multiplication

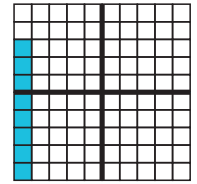
# 1s Facts $\times 1$

The product of any number multiplied by 1 is that number.



$$1 \times 6 = 6$$

One group of 6 equals 6.



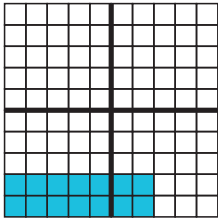
$$8 \times 1 = 8$$

Eight groups of 1 equal 8.

## Identity Property of Multiplication

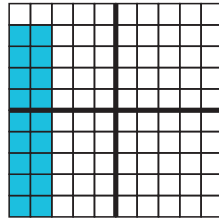
# Doubles $\times 2$

To multiply any number by 2, double it.



$$2 \times 7 = 14$$

$$7 + 7 = 14$$

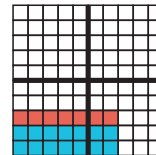


$$9 \times 2 = 18$$

$$9 + 9 = 18$$

# $\times 3$ Adding a Group $\times 6$

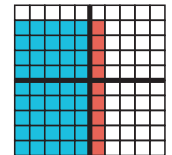
To multiply a number by 3, you can add a group to that number's double. To multiply a number by 6, you can add a group to that number's 5s fact.



$$3 \times 7 = (2 \times 7) + 7$$

$$= 14 + 7$$

$$= 21$$



$$9 \times 6 = (9 \times 5) + 9$$

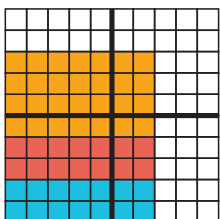
$$= 45 + 9$$

$$= 54$$

You can try adding a group with other factors than 3 and 6, too!

# Doubling $\times 4$ $\times 6$ $\times 8$

To multiply any number by 4, 6, or 8, double other known products.



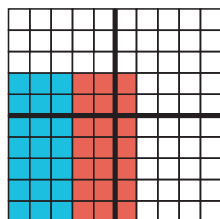
$$8 \times 7$$

$$2 \times 7 = 14$$

$$2 \times 14 = 28$$

$$2 \times 28 = 56$$

$$8 \times 7 = 56$$



$$7 \times 6$$

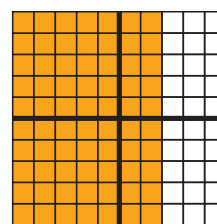
$$3 \times 7 = 21$$

$$2 \times 21 = 42$$

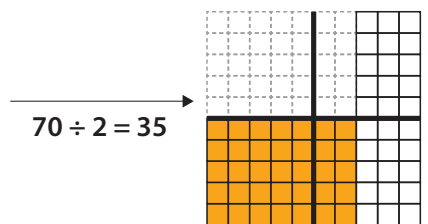
$$7 \times 6 = 42$$

# 5s Facts (Half-Tens) $\times 5$

To multiply any number by 5, multiply it by 10 and then find half the result.



$$10 \times 7 = 70$$

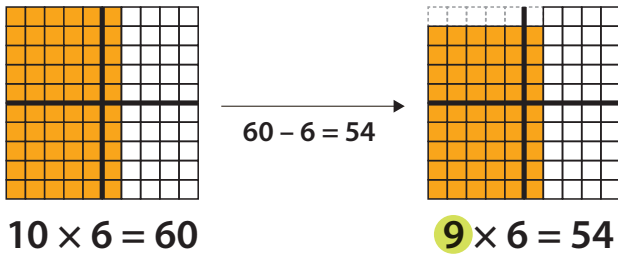


$$5 \times 7 = 35$$

$$70 \div 2 = 35$$

# Subtracting a Group $\times 9$

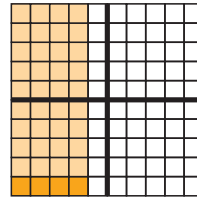
To multiply any number by 9, you can subtract a group from that number's 10s fact.



You can try subtracting a group with other factors than 9, too!

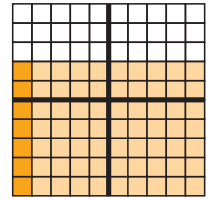
# 10s Facts $\times 10$

To multiply any number by 10, think of the number that is equal to that many tens.



$$10 \times 4 = 40$$

10 times 4 is the same as 4 tens.  
We call that number 40.

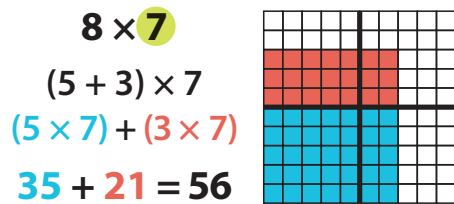


$$7 \times 10 = 70$$

7 times 10 is the same as 7 tens.  
We call that number 70.

# Break Apart $\times 7$

Break one factor into parts. Find the separate products and add them together.



## Distributive Property of Multiplication