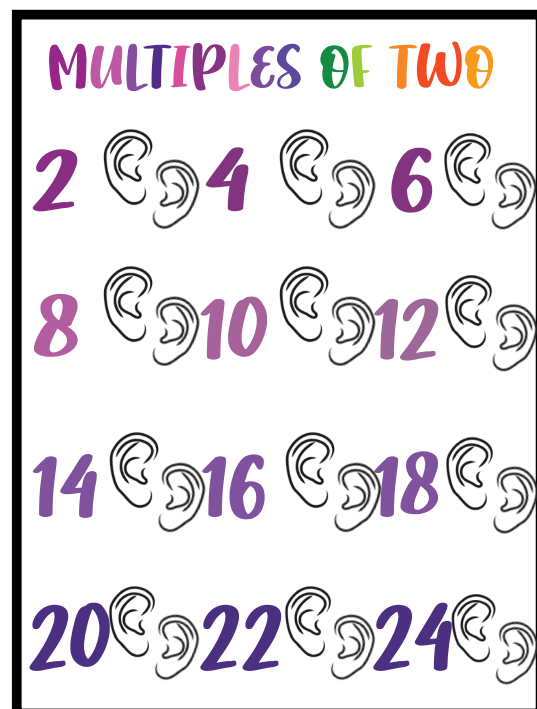
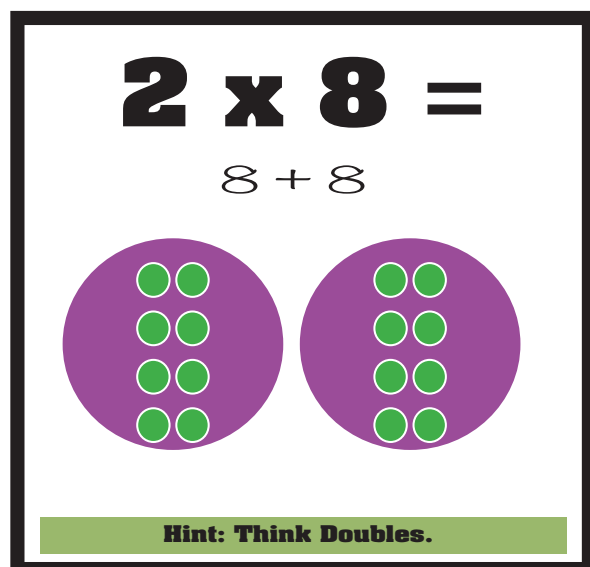
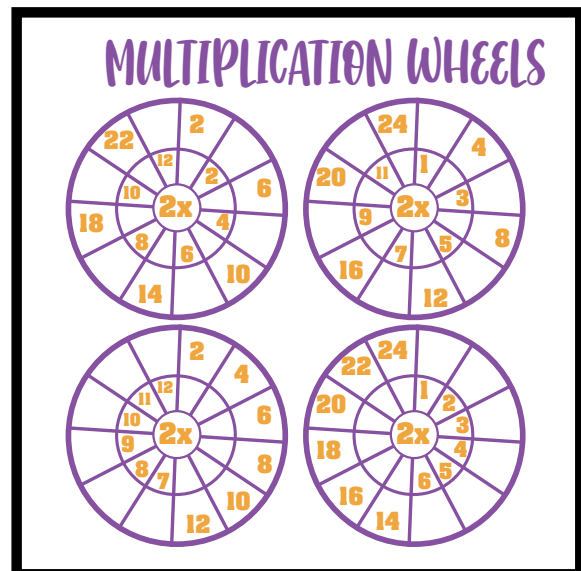
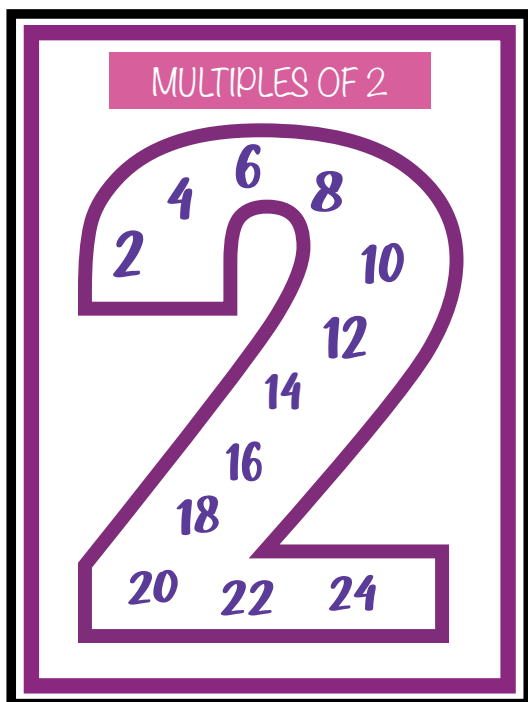


MULTIPLYING by 2

WORK BOOKLET ANSWER KEY

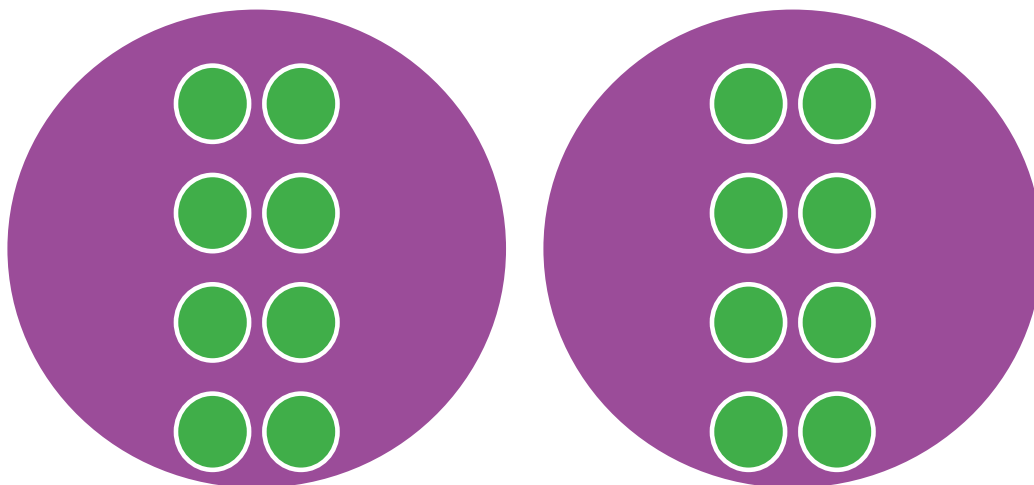


STRATEGY POSTER

When multiplying by **2**
Double the Number!

$$2 \times 8 =$$

$$8 + 8$$



Hint: Think Doubles.

MULTIPLICATION

$$2 \times 4 = 8$$



FACTOR



FACTOR



PRODUCT

MULTIPLES OF TWO

2 2 4 2 6 2

8 2 10 2 12 2

14 2 16 2 18 2

20 2 22 2 24 2

MULTIPLES OF TWO

2   4   6  

8   10   12  

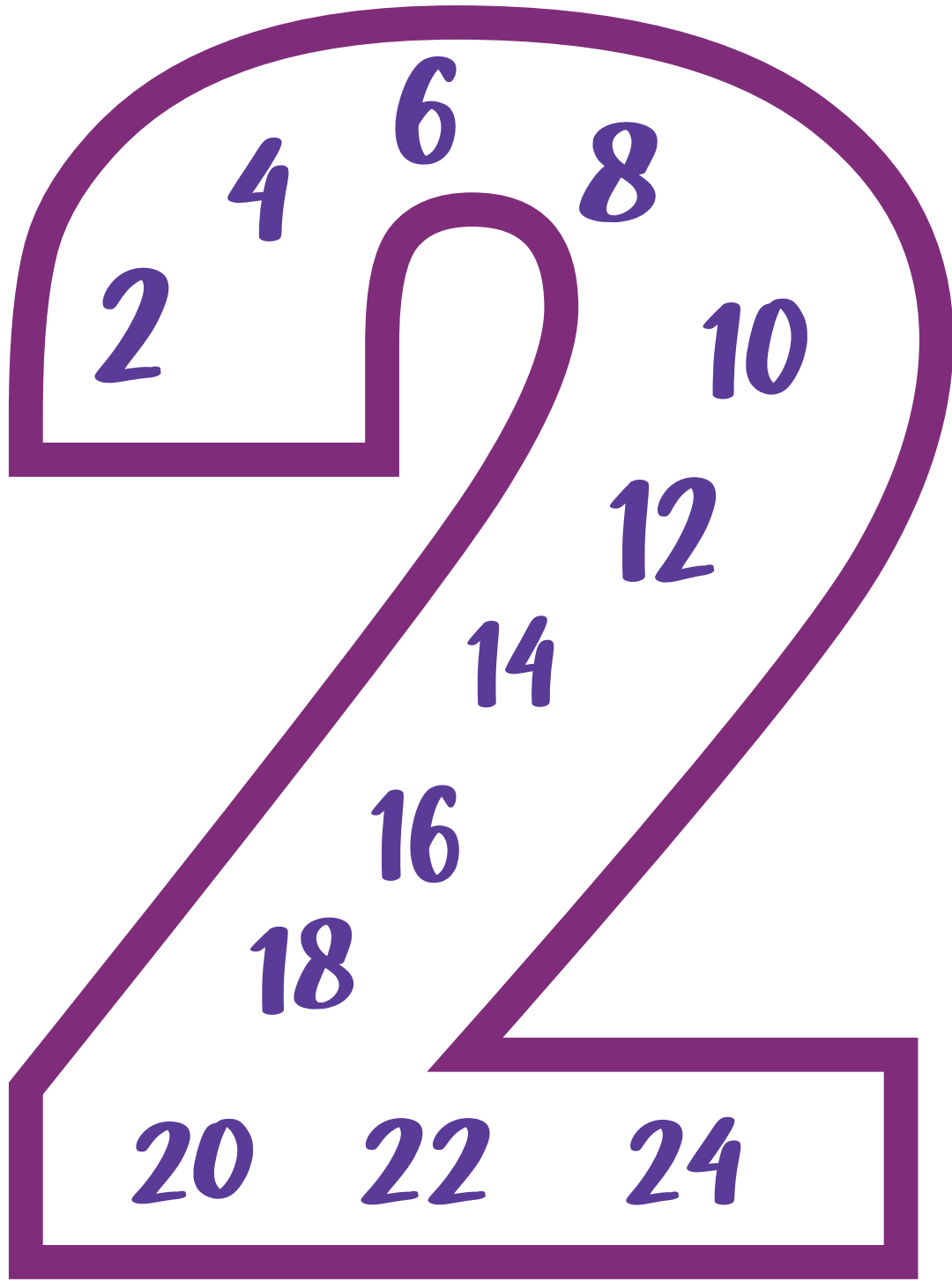
14   16   18  

20   22   24  

PICTURING THE MATH

GROUP	COUNT BY SEQUENCE	MULTIPLICATION EQUATION
If you have 1 plant with 2 cherries on each plant, how many cherries would you have? 	2	$1 \times 2 = 2$
If you have 3 plants with 2 cherries on each plant, how many cherries would you have? 	2, 4, 6	$3 \times 2 = 6$
If you have 4 plants with 2 cherries on each plant, how many cherries would you have? 	2, 4, 6, 8	$4 \times 2 = 8$
If you have 2 plants with 2 cherries on each plant, how many cherries would you have? 	2, 4	$2 \times 2 = 4$
If you have 5 plants with 2 cherries on each plant, how many cherries would you have? 	2, 4, 6, 8, 10	$5 \times 2 = 10$

MULTIPLES OF 2





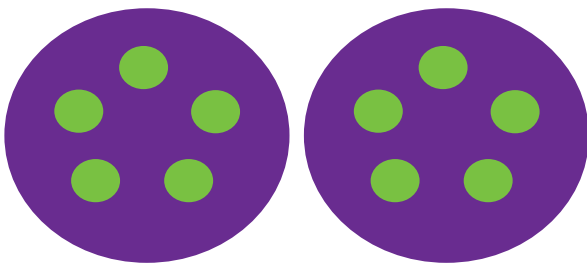
VOCABULARY

COMMUTATIVE PROPERTY

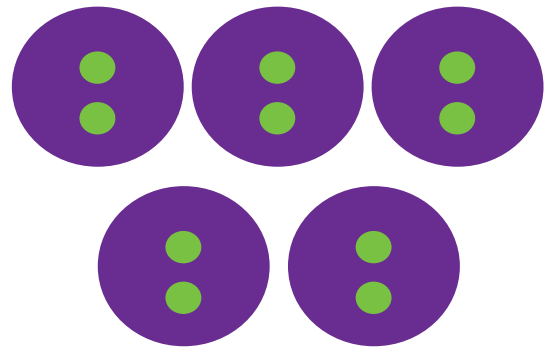
$$2 \times 5$$

=

$$5 \times 2$$

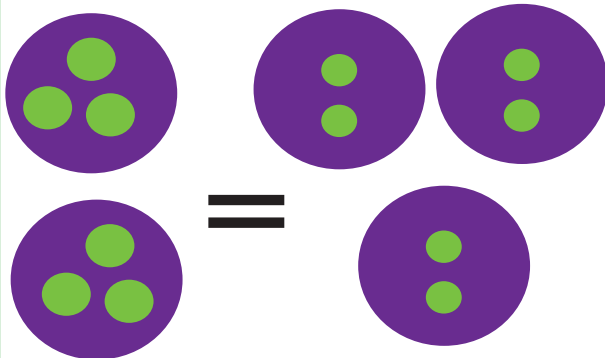


=

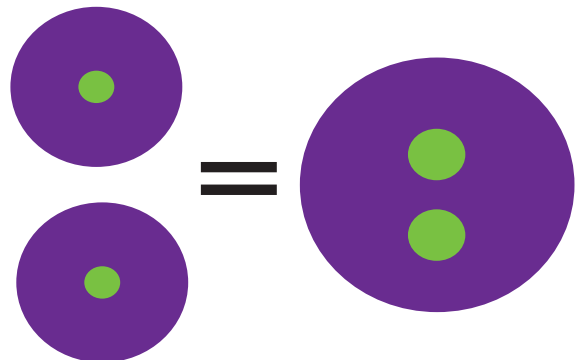


MODEL THE FACTS

$$2 \times 3 = 3 \times 2$$

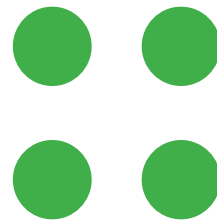
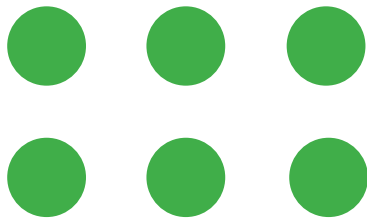


$$2 \times 1 = 1 \times 2$$



DISTRIBUTIVE PROPERTY

$$2 \times 5$$

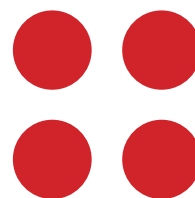
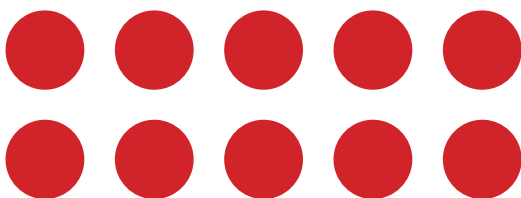
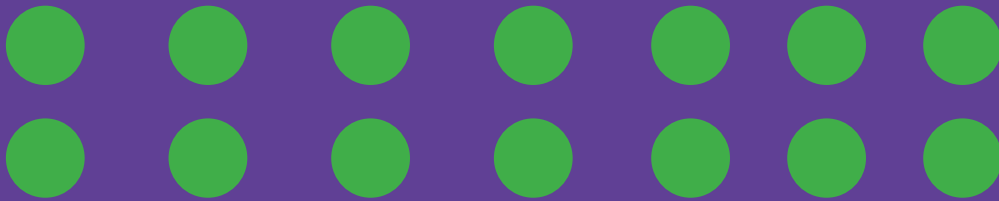


$$2 \times 3$$

$$2 \times 2$$

MODEL THE FACTS

$$2 \times 7 = (2 \times 5) + (2 \times 2)$$



There are other to ways to model this as well.

ASSOCIATIVE PROPERTY

$$2 \times 2 \times 4$$

$$2 \times 8 \text{ or } 4 \times 4$$

MORE EXAMPLES

$$2 \times 3 \times 2 = \underline{2} \times \underline{6}$$

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

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

These are examples. There are other answers.

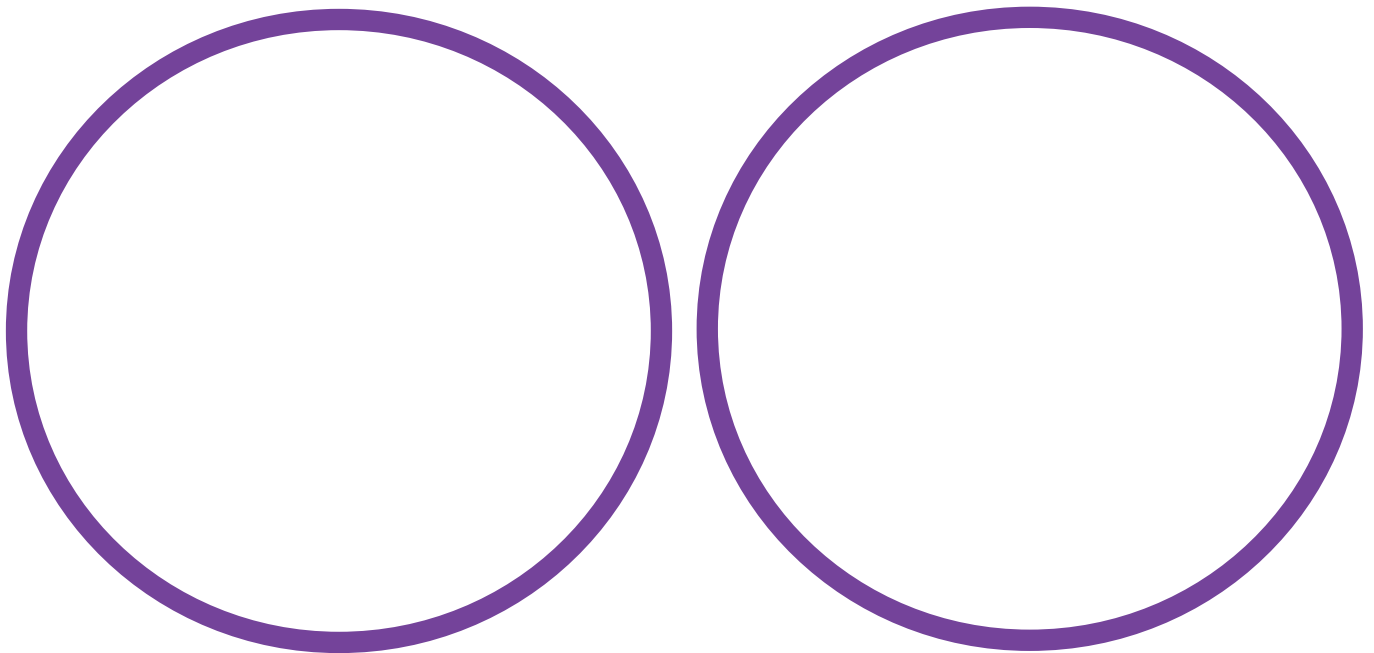
FREE CHOICE

$$\underline{\quad} \times \underline{\quad} \times \underline{\quad} = \underline{\quad} \times \underline{\quad}$$

ZERO PROPERTY

*When you multiply
by zero you get zero...*

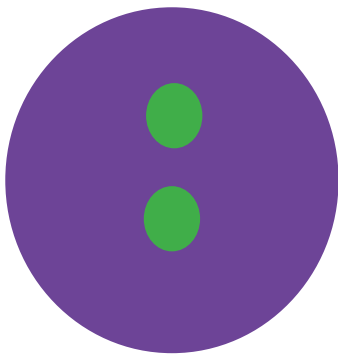
2 groups of **0** is **0**



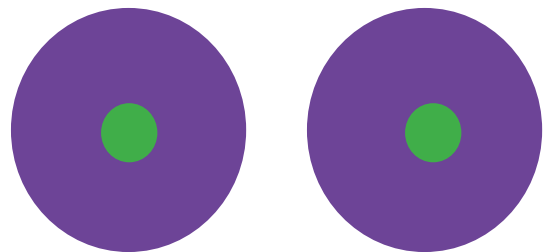
IDENTITY PROPERTY

**When you multiply by 1...
you get that number**

**1 group of
2 is 2**

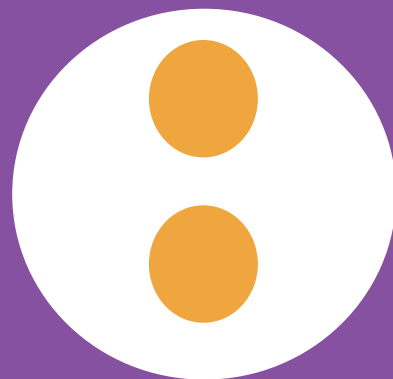


**2 groups
of 1 is 2**



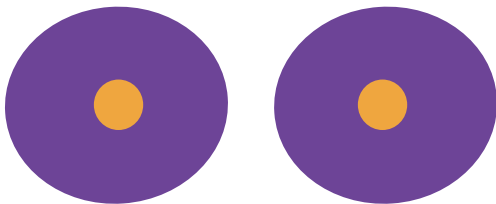
Modeling Multiplication:

DRAW EQUAL GROUPS

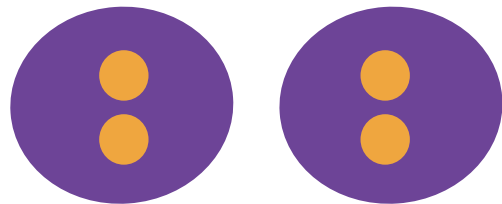


$$2 \times 2$$

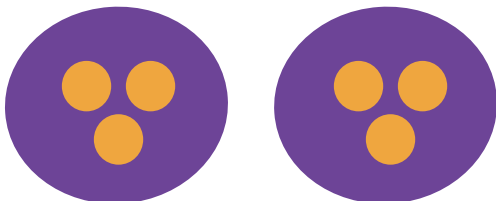
$$2 \times 1$$



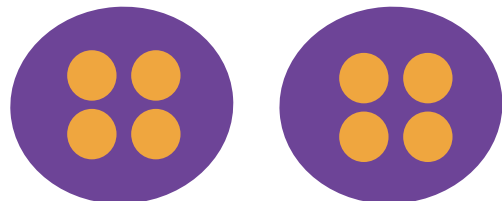
$$2 \times 2$$



$$2 \times 3$$



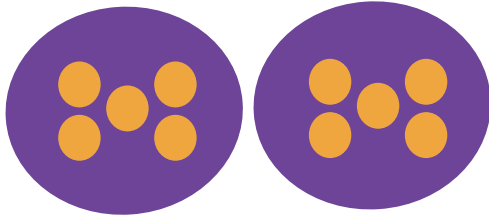
$$2 \times 4$$



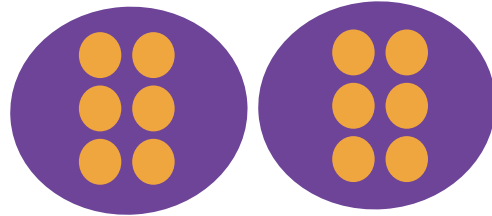
Modeling Multiplication:

DRAW EQUAL GROUPS

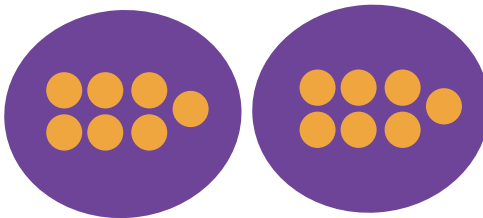
2×5



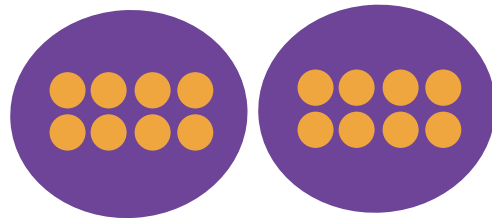
2×6



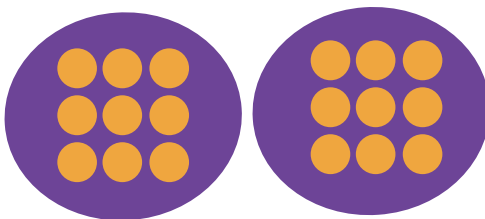
2×7



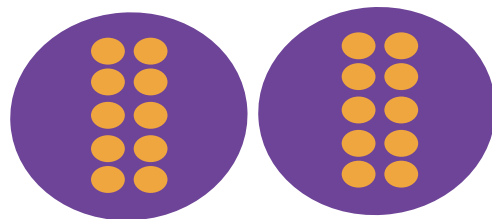
2×8



2×9



2×10



FREE CHOICE

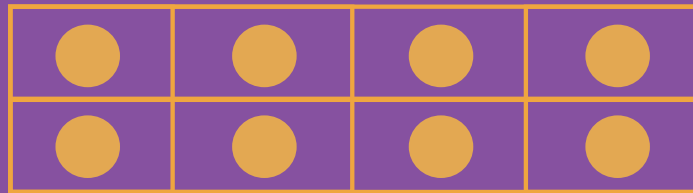
FREE CHOICE

Modeling Multiplication:

DRAW AN ARRAY

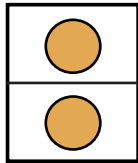
2 groups of 4

$$2 \times 4 = ?$$

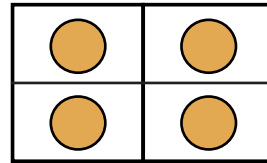


DRAW AN ARRAY

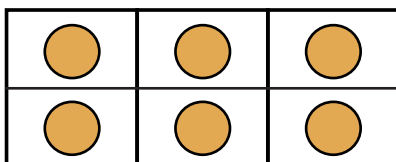
$$2 \times 1$$



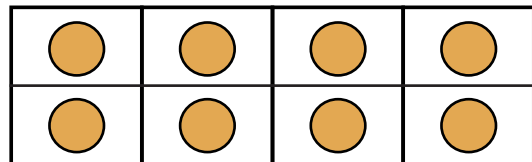
$$2 \times 2$$



$$2 \times 3$$



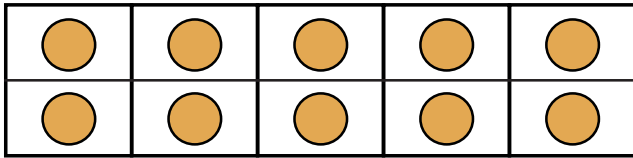
$$2 \times 4$$



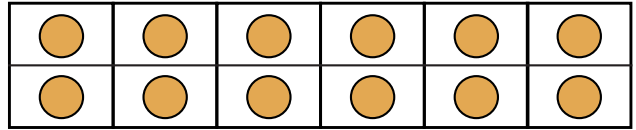
Modeling Multiplication:

DRAW AN ARRAY

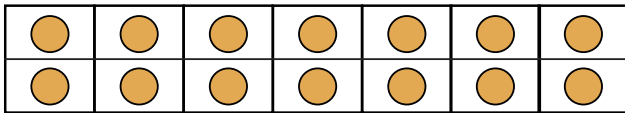
2×5



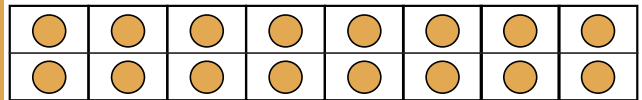
2×6



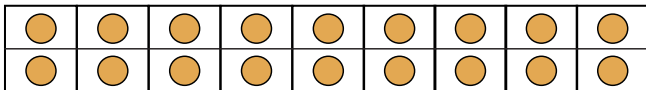
2×7



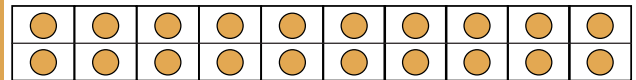
2×8



2×9



2×10



FREE CHOICE

FREE CHOICE

Multiplication strategies:

REPEATED ADDITION

2 groups of 2

$$2 + 2 = 4$$



$$2 \times 2 = 4$$

MODEL THE REPEATED ADDITION
SENTENCE

$$2 \times 1 = \\ 1 + 1$$



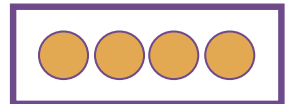
$$2 \times 2 = \\ 2 + 2$$



$$2 \times 3 = \\ 3 + 3$$



$$2 \times 4 = \\ 4 + 4$$

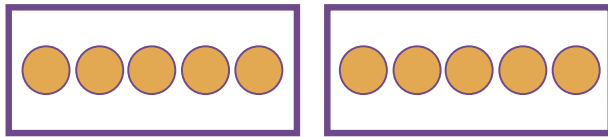


Multiplication strategies:

REPEATED ADDITION

$$2 \times 5 =$$

$$5 + 5$$



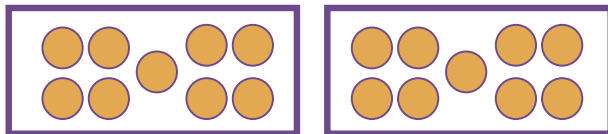
$$2 \times 7 =$$

$$7 + 7$$



$$2 \times 9 =$$

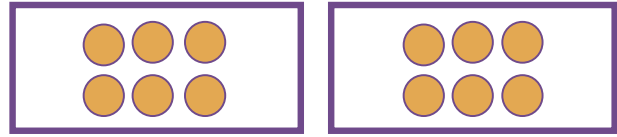
$$9 + 9$$



FREE CHOICE

$$2 \times 6 =$$

$$6 + 6$$



$$2 \times 8 =$$

$$8 + 8$$



$$2 \times 10 =$$

$$10 + 10$$

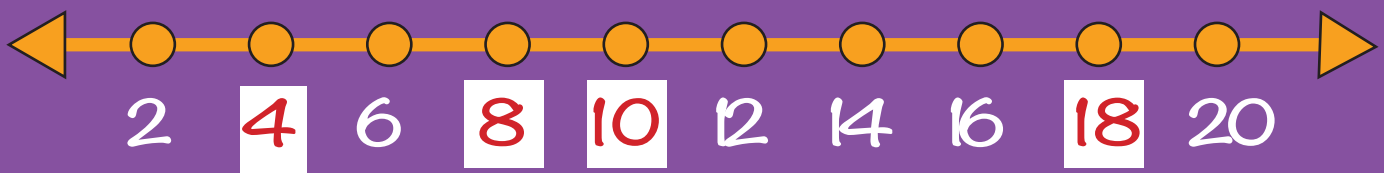
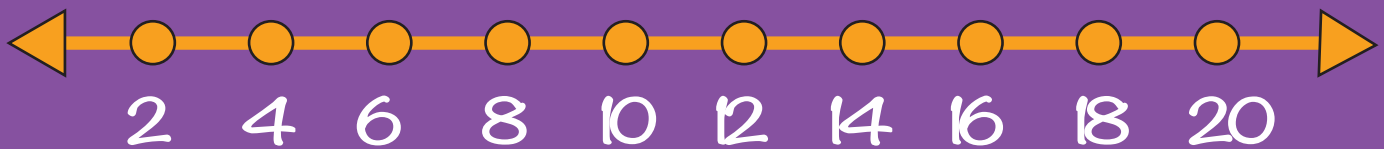


FREE CHOICE

Modeling Multiplication:

SKIP COUNTING

DRAW ON A NUMBER LINE



FILL IN THE MISSING NUMBERS



Modeling Multiplication:

SKIP COUNTING

FILL IN THE MISSING NUMBERS

2	4	6	8	10	12	14	16	18	20
---	---	---	---	----	----	----	----	----	----

FILL IN THE MISSING NUMBERS

2	4	6	8	10	12	14	16	18	20
---	---	---	---	----	----	----	----	----	----

FILL IN THE MISSING NUMBERS

2	4	6	8	10	12	14	16	18	20
---	---	---	---	----	----	----	----	----	----

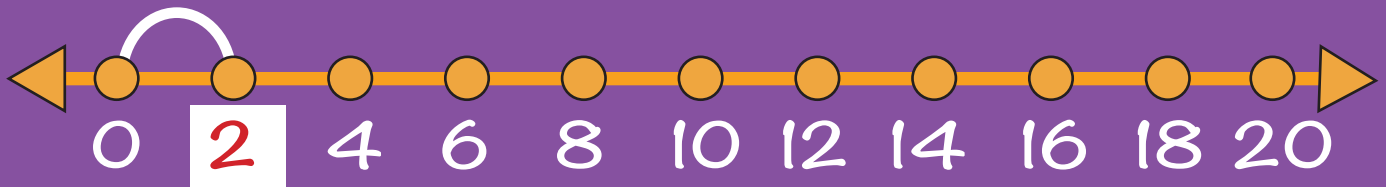
FILL IN THE MISSING NUMBERS

2	4	6	8	10	12	14	16	18	20
---	---	---	---	----	----	----	----	----	----

Multiplication strategies:

SKIP COUNTING

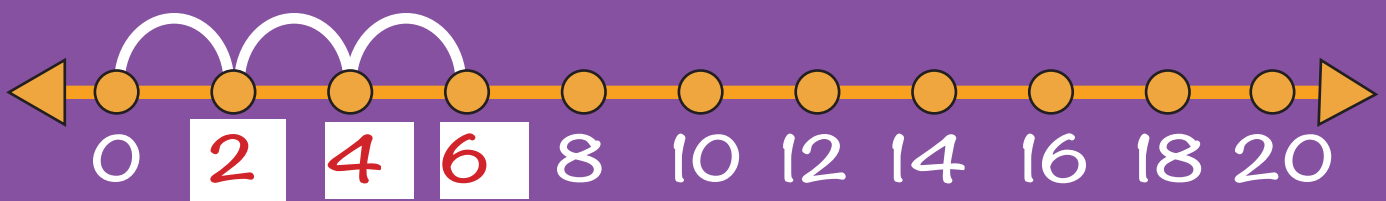
FILL IN THE MISSING NUMBERS. MODEL 2×1 ON THE NUMBER LINE.



FILL IN THE MISSING NUMBERS. MODEL 2×2 ON THE NUMBER LINE.



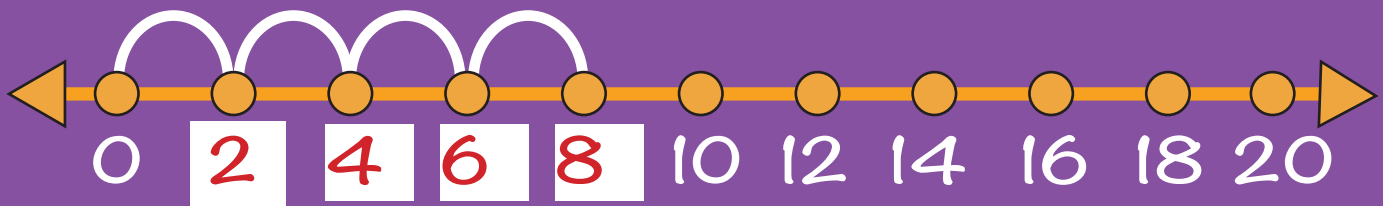
FILL IN THE MISSING NUMBERS. MODEL 2×3 ON THE NUMBER LINE.



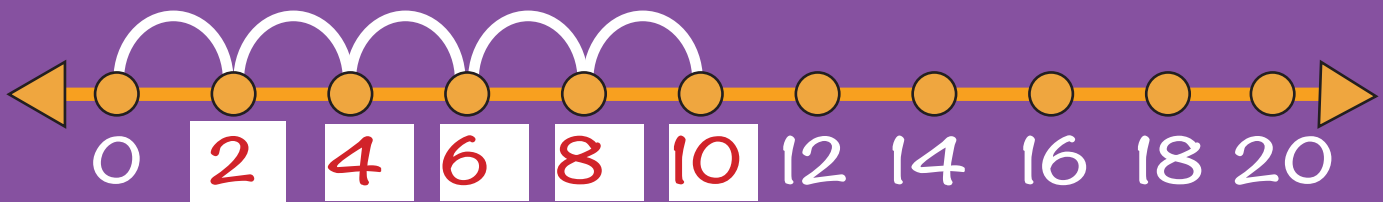
Multiplication strategies:

SKIP COUNTING

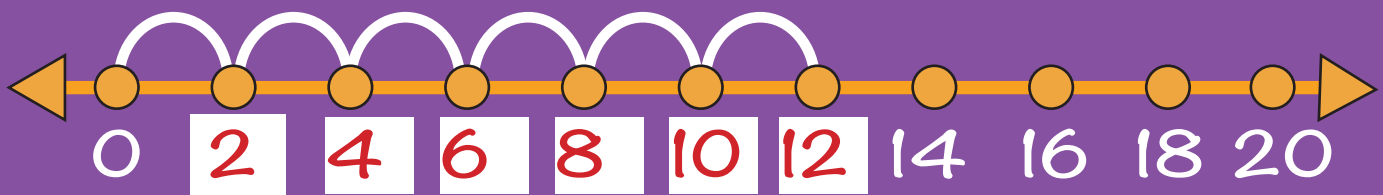
FILL IN THE MISSING NUMBERS. MODEL 2×4 ON THE NUMBER LINE.



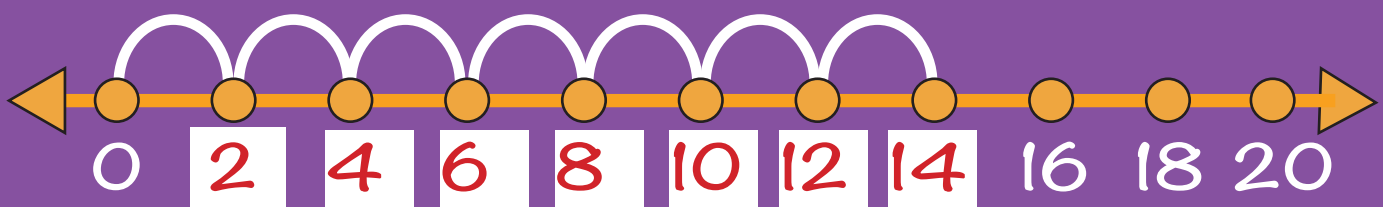
FILL IN THE MISSING NUMBERS. MODEL 2×5 ON THE NUMBER LINE.



FILL IN THE MISSING NUMBERS. MODEL 2×6 ON THE NUMBER LINE.



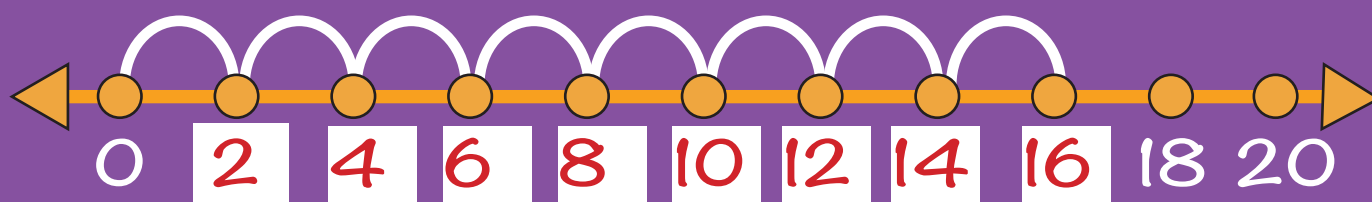
FILL IN THE MISSING NUMBERS. MODEL 2×7 ON THE NUMBER LINE.



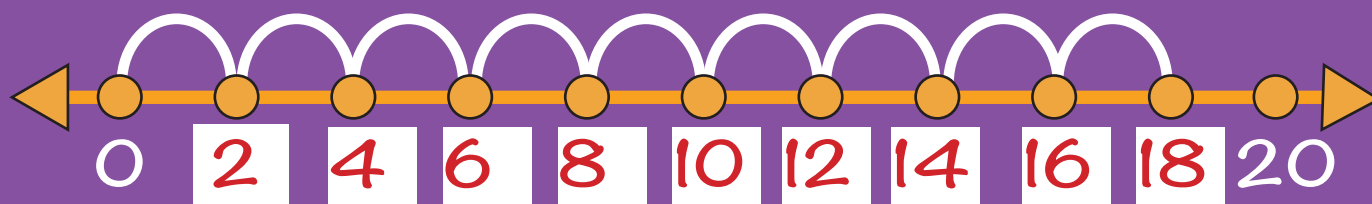
Multiplication strategies:

SKIP COUNTING

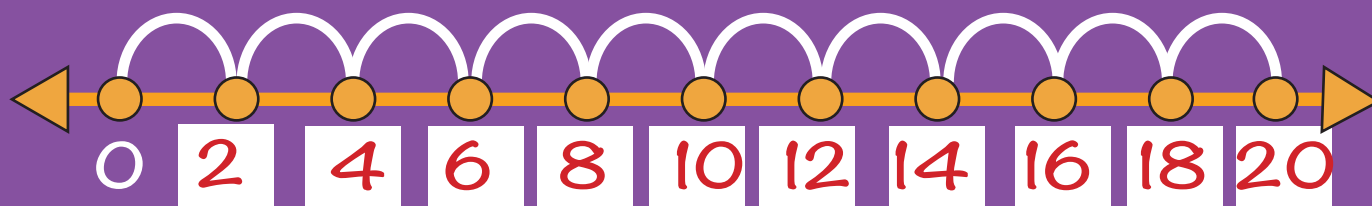
FILL IN THE MISSING NUMBERS. MODEL 2×8 ON THE NUMBER LINE.



FILL IN THE MISSING NUMBERS. MODEL 2×9 ON THE NUMBER LINE.

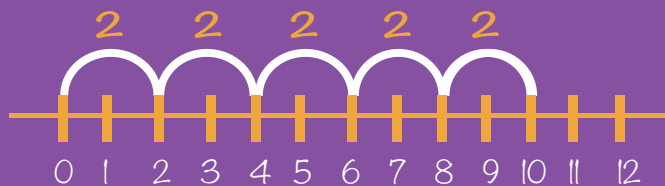


FILL IN THE MISSING NUMBERS. MODEL 2×10 ON THE NUMBER LINE.



Multiplication Strategies:

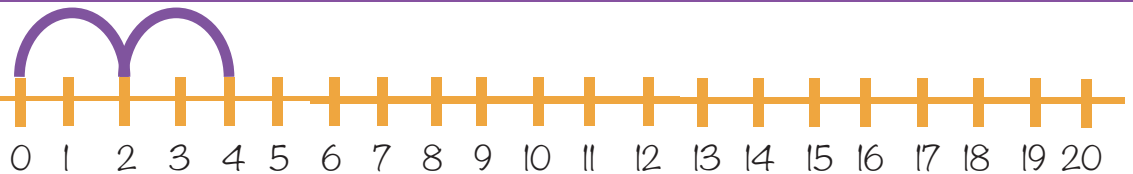
SKIP COUNTING ON THE NUMBER LINE



$$2 \times 5$$

SOLVE THE PROBLEM ON THE NUMBER LINE

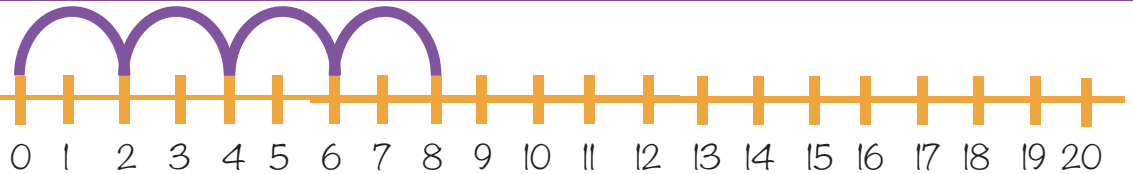
$$2 \times 2$$



$$2 \times 3$$



$$2 \times 4$$

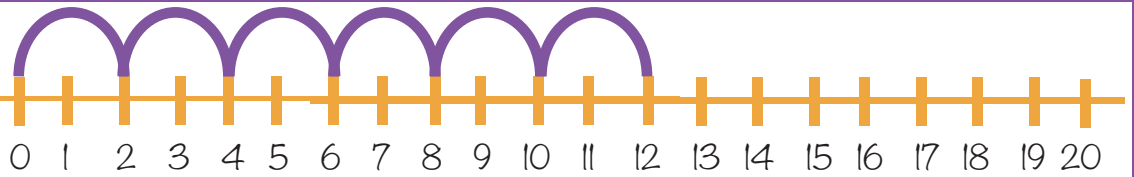


$$2 \times 5$$

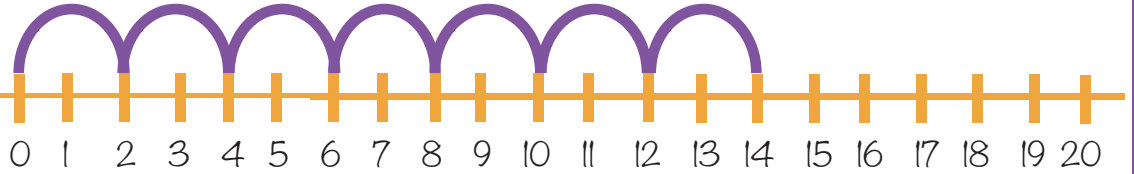


SOLVE THE PROBLEM ON THE NUMBER LINE

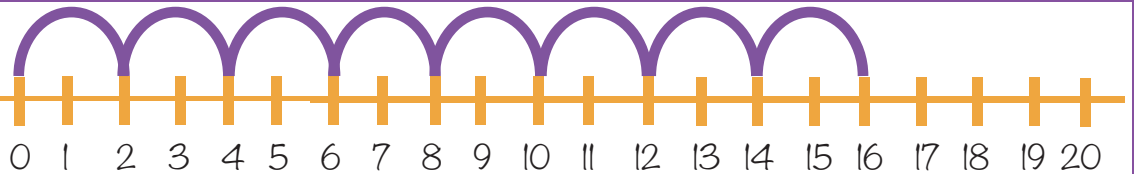
2×6



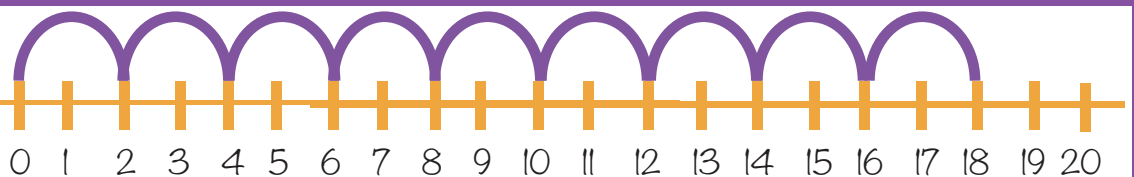
2×7



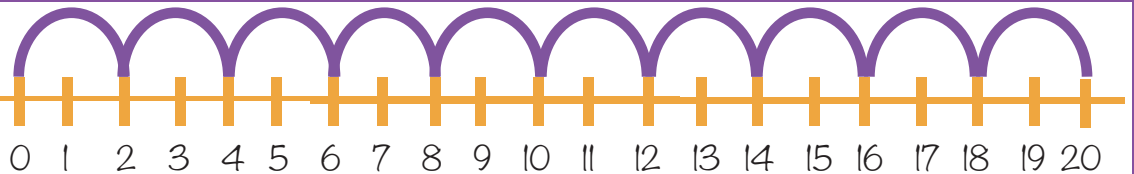
2×8



2×9



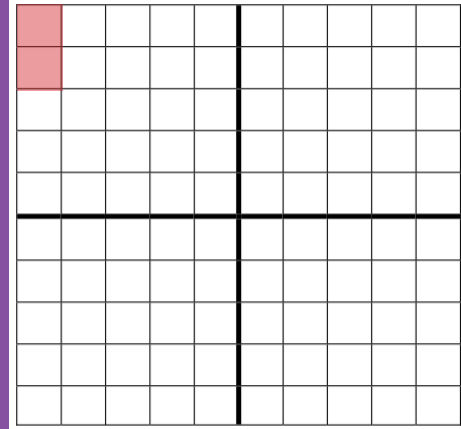
2×10



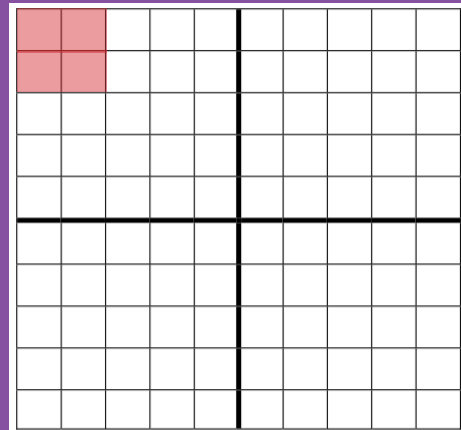
Array Flashcards

MODEL THE PROBLEMS ON THE GRIDS.

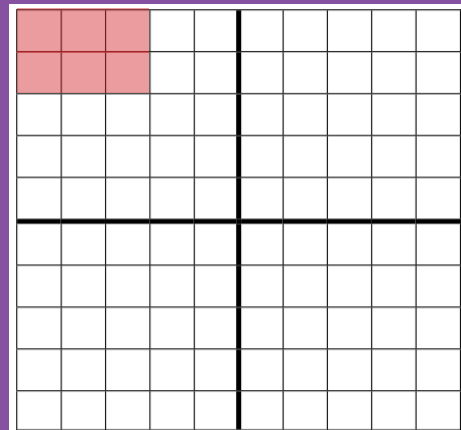
$$2 \times 1 = \underline{2}$$



$$2 \times 2 = \underline{4}$$



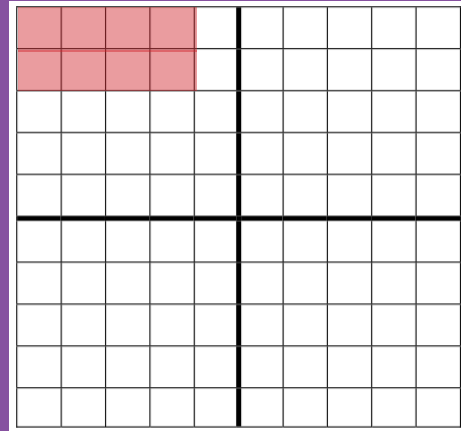
$$2 \times 3 = \underline{6}$$



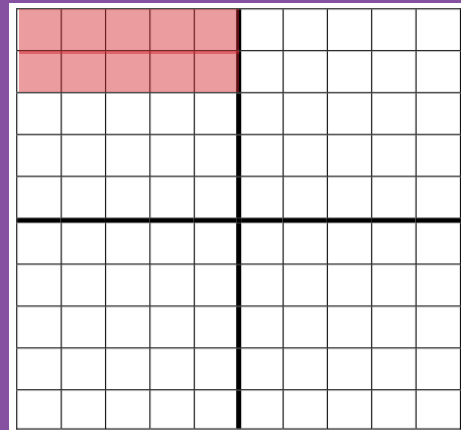
Array Flashcards

MODEL THE PROBLEMS ON THE GRIDS.

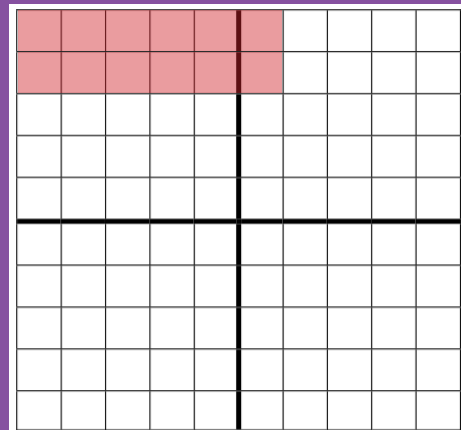
$$2 \times 4 = \underline{8}$$



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



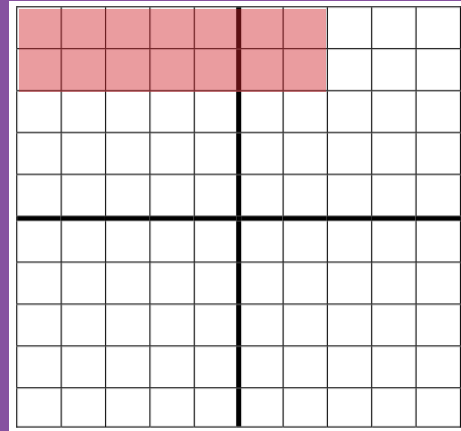
$$2 \times 6 = \underline{12}$$



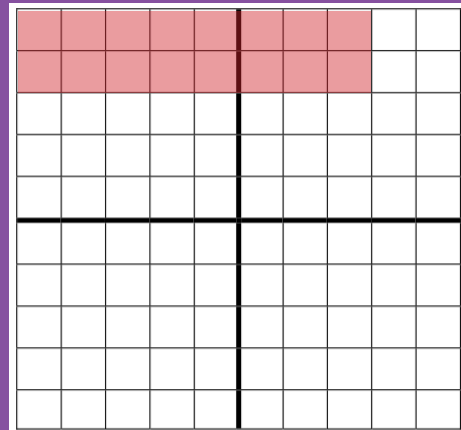
Array Flashcards

MODEL THE PROBLEMS ON THE GRIDS.

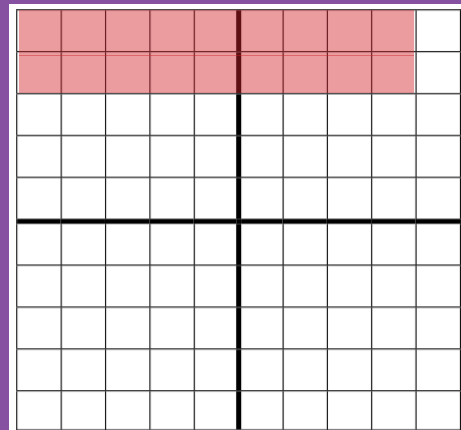
$$2 \times 7 = \underline{14}$$



$$2 \times 8 = \underline{16}$$



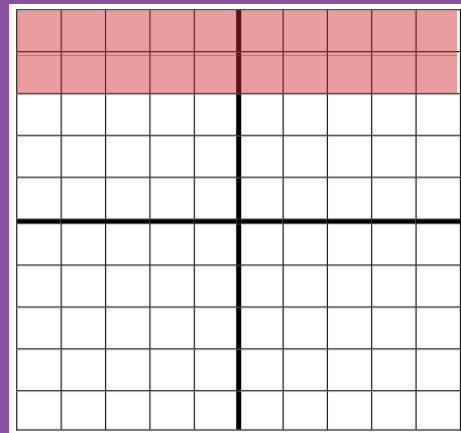
$$2 \times 9 = \underline{18}$$



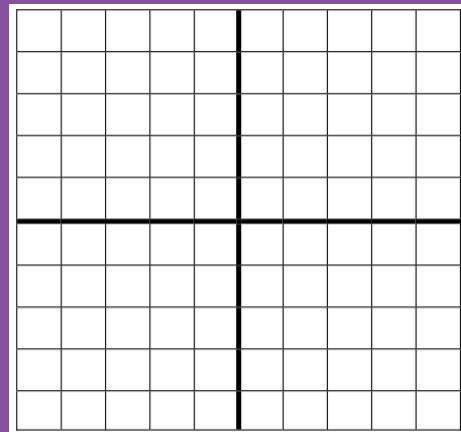
Array Flashcards

MODEL THE PROBLEMS ON THE GRIDS.

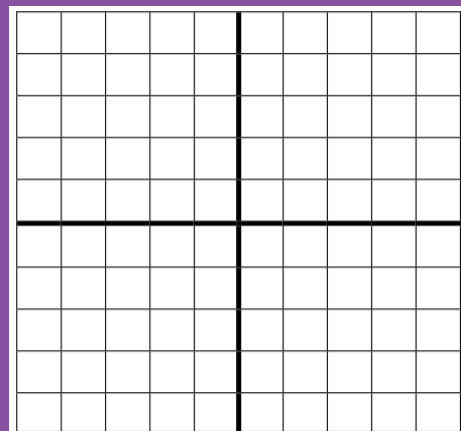
$$2 \times 10 = \underline{20}$$



FREE CHOICE



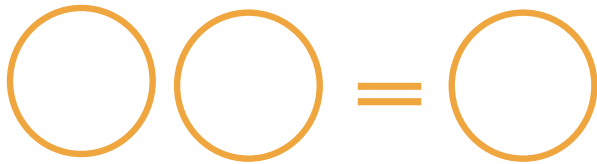
FREE CHOICE



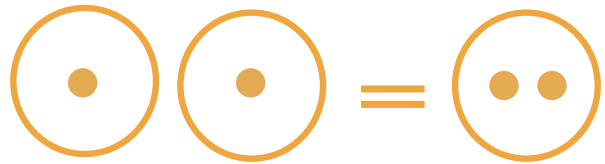
Equal Group Flashcards

MAKE YOUR OWN EQUAL GROUP FLASHCARDS. DRAW EQUAL GROUPS TO MODEL THE PROBLEM.

$$2 \times 0 = 0$$



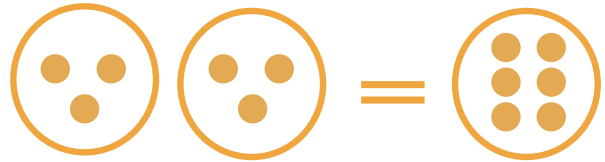
$$2 \times 1 = 2$$



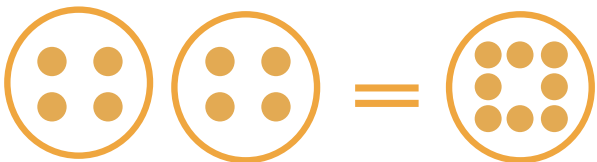
$$2 \times 2 = 4$$



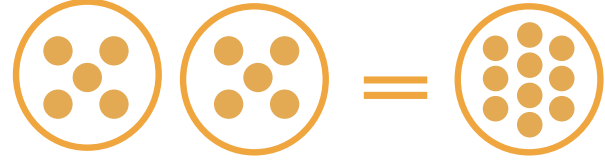
$$2 \times 3 = 6$$



$$2 \times 4 = 8$$



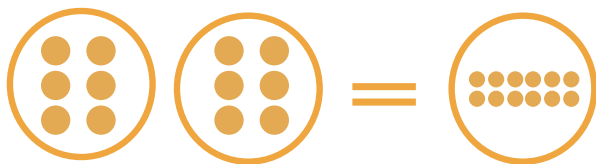
$$2 \times 5 = 10$$



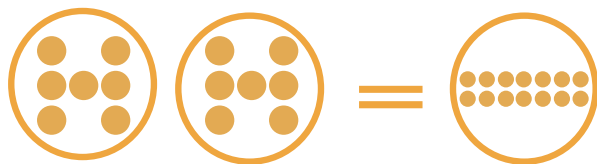
Equal Group Flashcards

MAKE YOUR OWN EQUAL GROUP FLASHCARDS. DRAW EQUAL GROUPS TO MODEL THE PROBLEM.

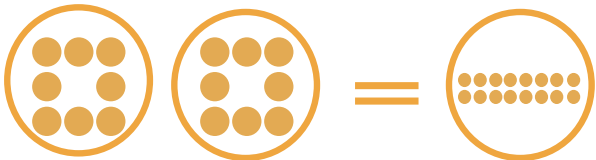
$$2 \times 6 = 12$$



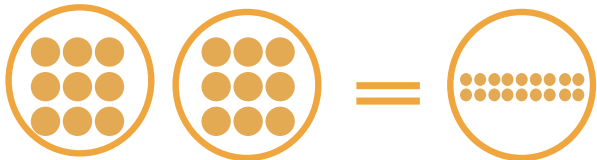
$$2 \times 7 = 14$$



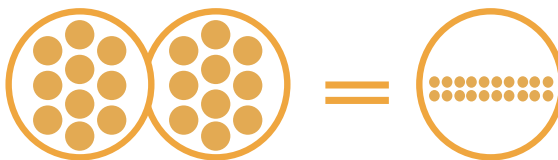
$$2 \times 8 = 16$$



$$2 \times 9 = 18$$



$$2 \times 10 = 20$$



Regular Flashcards

$$2 \times 0$$

$$2 \times 1$$

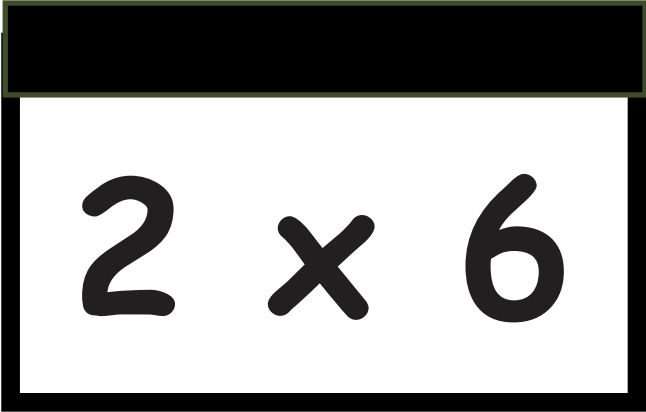
$$2 \times 2$$

$$2 \times 3$$

$$2 \times 4$$

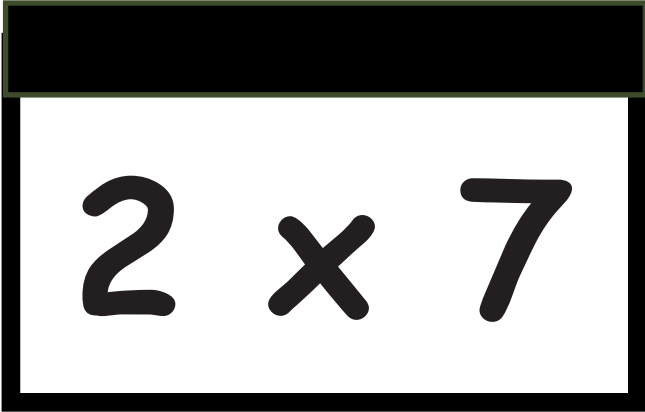
$$2 \times 5$$

Regular Flashcards



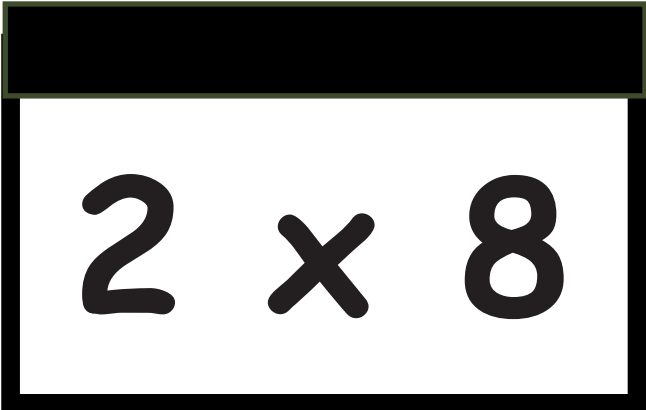
A rectangular flashcard with a black border. The top portion is a solid black rectangle. Below it, the equation 2×6 is written in a large, bold, black font.

$$2 \times 6$$



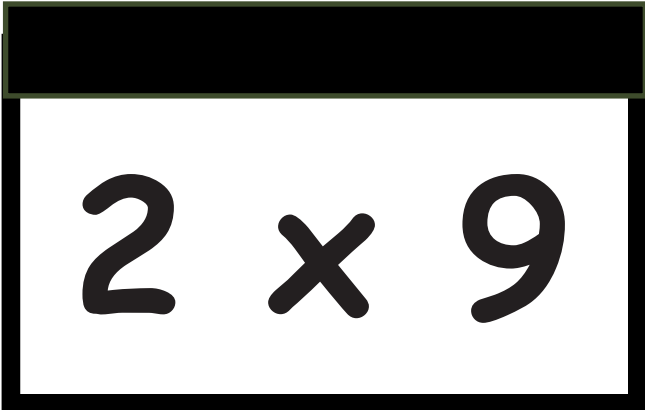
A rectangular flashcard with a black border. The top portion is a solid black rectangle. Below it, the equation 2×7 is written in a large, bold, black font.

$$2 \times 7$$



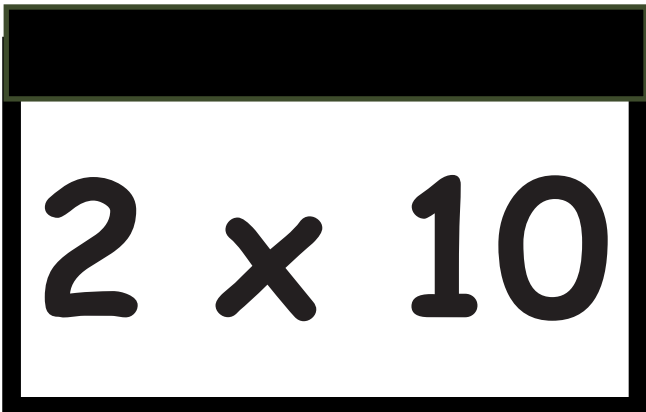
A rectangular flashcard with a black border. The top portion is a solid black rectangle. Below it, the equation 2×8 is written in a large, bold, black font.

$$2 \times 8$$



A rectangular flashcard with a black border. The top portion is a solid black rectangle. Below it, the equation 2×9 is written in a large, bold, black font.

$$2 \times 9$$

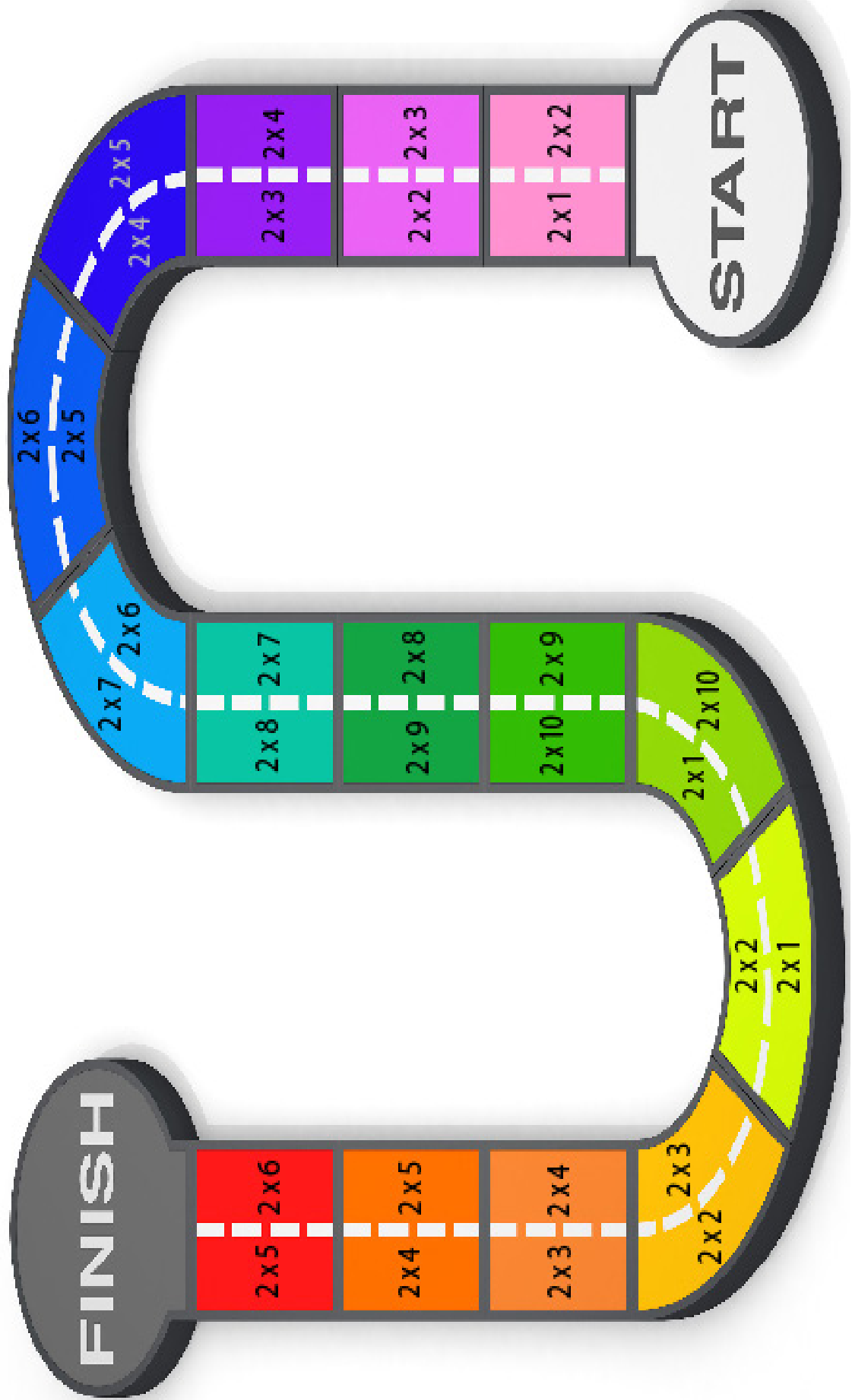


A rectangular flashcard with a black border. The top portion is a solid black rectangle. Below it, the equation 2×10 is written in a large, bold, black font.

$$2 \times 10$$

MULTIPLICATION RACE

Directions: Play with a partner. Each player chooses a marker and a side. Decide who starts. Roll the die. Take turns moving. Player 1 says the product. Player 2 checks the answer using the bookmark. If it is correct, stay on the spot. If it is incorrect, move back one. Whoever reaches first wins.



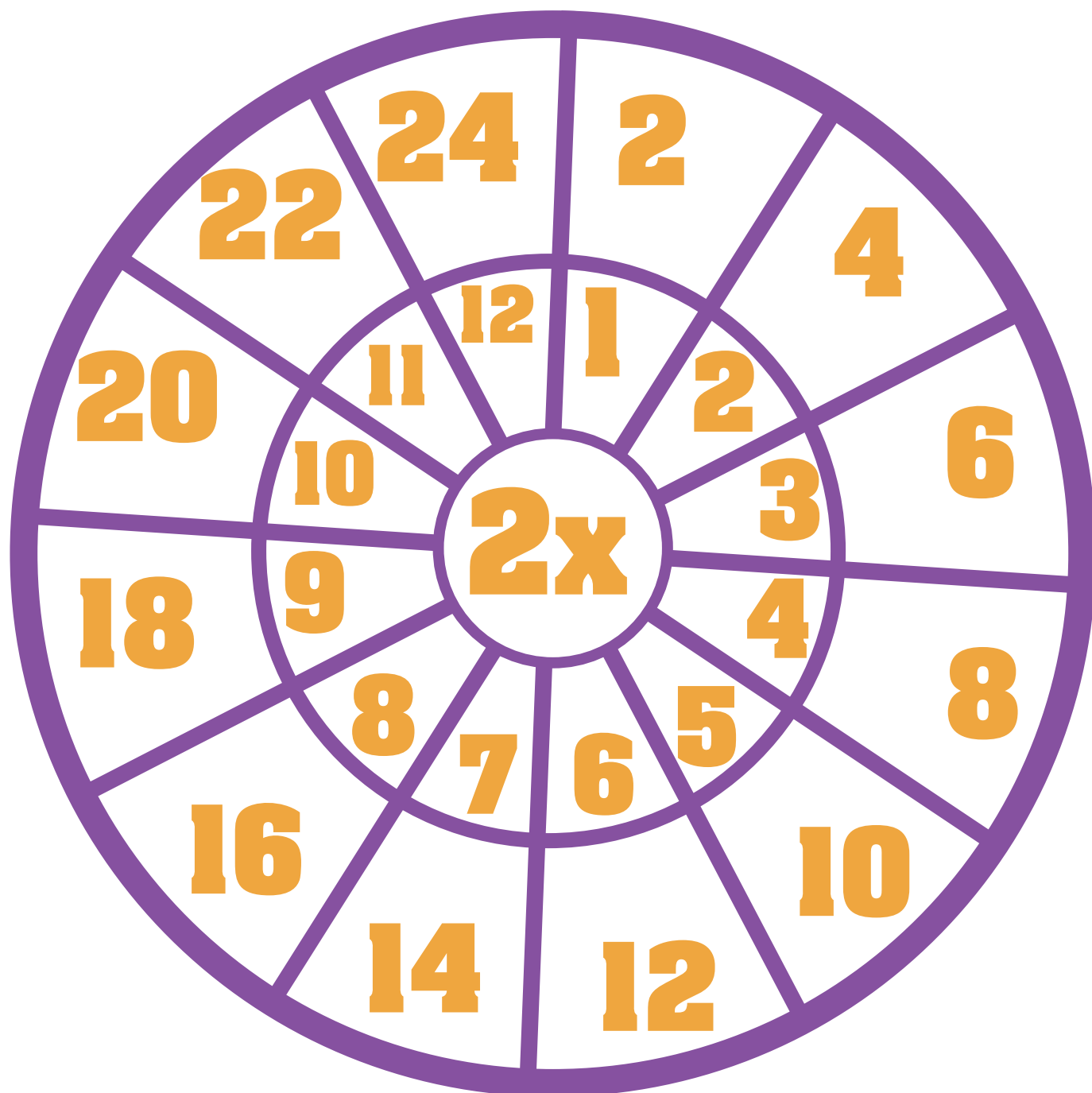


Instructions: Roll the dice and move. Solve the problem on the space where you land. Whoever reaches the end first wins.

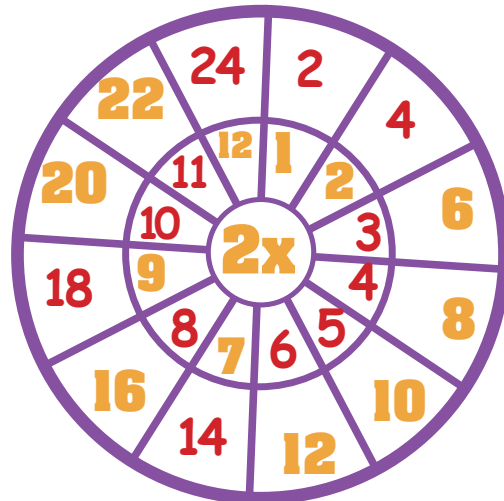
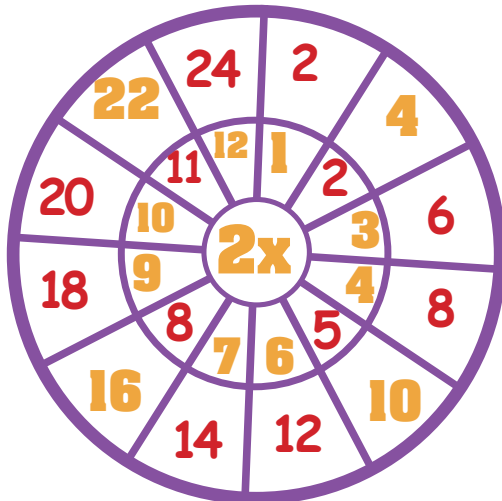
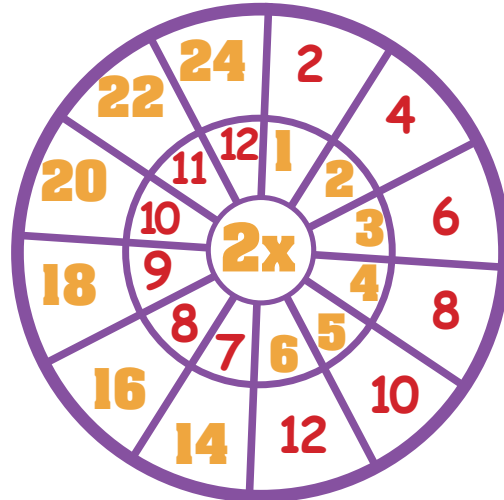
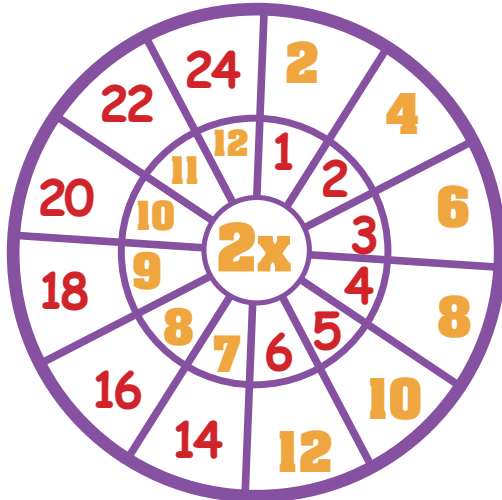
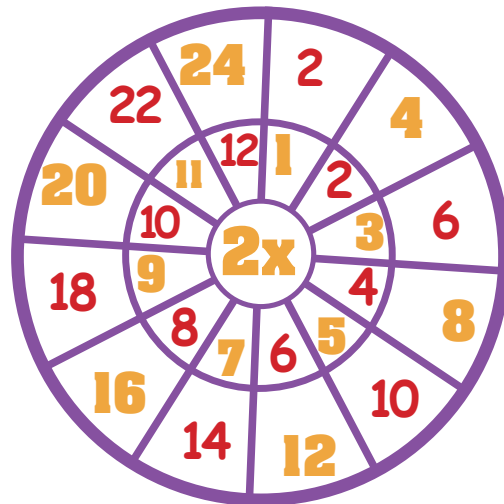
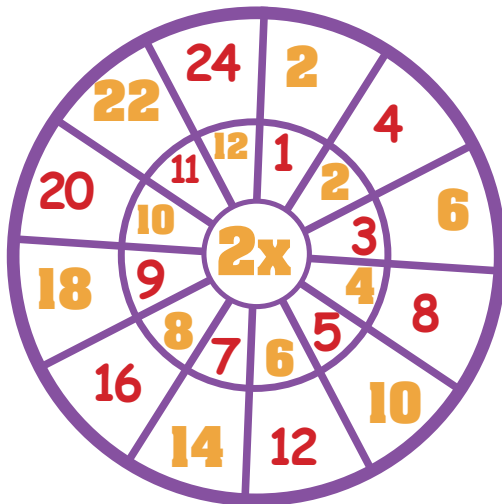
Help the animals get to the bunch of balloons



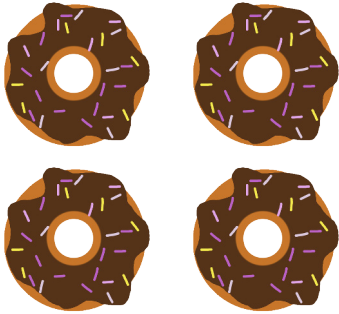
MULTIPLICATION WHEELS



MULTIPLICATION WHEELS



PICTURE FACT FAMILY



$$\begin{array}{r} 2 \\ \hline 2 \end{array} \times \begin{array}{r} 2 \\ \hline 2 \end{array} = \begin{array}{r} 4 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 4 \\ \hline 4 \end{array} \div \begin{array}{r} 2 \\ \hline 2 \end{array} = \begin{array}{r} 2 \\ \hline 2 \end{array}$$



$$\begin{array}{r} 2 \\ \hline 3 \end{array} \times \begin{array}{r} 3 \\ \hline 2 \end{array} = \begin{array}{r} 6 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ \hline 6 \end{array} \div \begin{array}{r} 2 \\ \hline 3 \end{array} = \begin{array}{r} 3 \\ \hline 2 \end{array}$$



$$\begin{array}{r} 2 \\ \hline 4 \end{array} \times \begin{array}{r} 4 \\ \hline 2 \end{array} = \begin{array}{r} 8 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ \hline 8 \end{array} \div \begin{array}{r} 2 \\ \hline 4 \end{array} = \begin{array}{r} 4 \\ \hline 2 \end{array}$$



$$\begin{array}{r} 2 \\ \hline 5 \end{array} \times \begin{array}{r} 5 \\ \hline 2 \end{array} = \begin{array}{r} 10 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ \hline 10 \end{array} \div \begin{array}{r} 2 \\ \hline 5 \end{array} = \begin{array}{r} 5 \\ \hline 2 \end{array}$$

PICTURE FACT FAMILY



$$\begin{array}{r} 2 \\ \times 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 6 \\ \times 2 \\ \hline 12 \end{array} \quad \begin{array}{r} 12 \\ \div 2 \\ \hline 6 \end{array} \quad \begin{array}{r} 12 \\ \div 6 \\ \hline 2 \end{array}$$



$$\begin{array}{r} 2 \\ \times 7 \\ \hline 14 \end{array} \quad \begin{array}{r} 7 \\ \times 2 \\ \hline 14 \end{array} \quad \begin{array}{r} 14 \\ \div 2 \\ \hline 7 \end{array} \quad \begin{array}{r} 14 \\ \div 7 \\ \hline 2 \end{array}$$



$$\begin{array}{r} 2 \\ \times 8 \\ \hline 16 \end{array} \quad \begin{array}{r} 8 \\ \times 2 \\ \hline 16 \end{array} \quad \begin{array}{r} 16 \\ \div 2 \\ \hline 8 \end{array} \quad \begin{array}{r} 16 \\ \div 8 \\ \hline 2 \end{array}$$



$$\begin{array}{r} 2 \\ \times 9 \\ \hline 18 \end{array} \quad \begin{array}{r} 9 \\ \times 2 \\ \hline 18 \end{array} \quad \begin{array}{r} 18 \\ \div 2 \\ \hline 9 \end{array} \quad \begin{array}{r} 18 \\ \div 9 \\ \hline 2 \end{array}$$

PICTURE FACT FAMILY

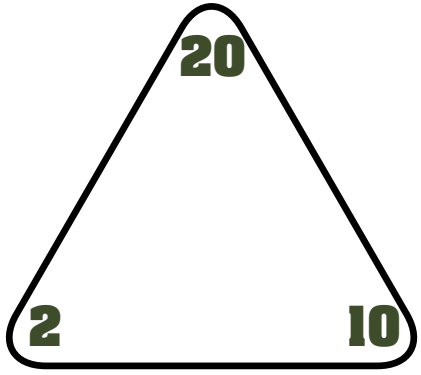


$$\begin{array}{r} 2 \\ \hline 10 \\ \hline 20 \\ \hline 20 \end{array} \begin{array}{c} \times \\ \times \\ \div \\ \div \end{array} \begin{array}{r} 10 \\ 2 \\ 2 \\ 10 \end{array} = \begin{array}{r} 20 \\ 20 \\ 10 \\ 2 \end{array}$$

MAKE YOUR OWN

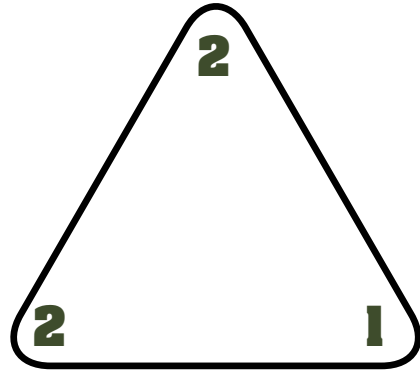
$$\begin{array}{r} ______ \\ ______ \\ ______ \\ ______ \end{array} \begin{array}{c} \times \\ \times \\ \div \\ \div \end{array} \begin{array}{r} ______ \\ ______ \\ ______ \\ ______ \end{array} = \begin{array}{r} ______ \\ ______ \\ ______ \\ ______ \end{array}$$

TRIANGLE FACT FAMILY



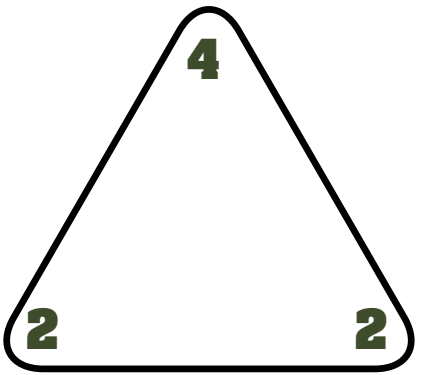
20

2 10

$$\begin{array}{r} 2 \times 10 = 20 \\ 10 \times 2 = 20 \\ 20 \div 10 = 2 \\ 20 \div 2 = 10 \end{array}$$


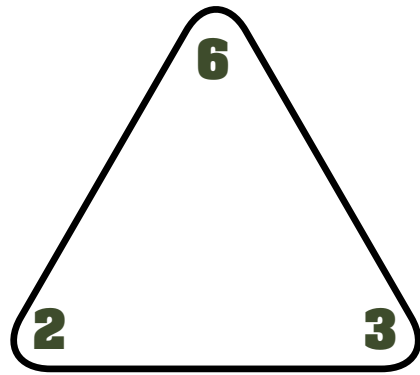
2

2 1

$$\begin{array}{r} 2 \times 1 = 2 \\ 1 \times 2 = 2 \\ 2 \div 1 = 2 \\ 2 \div 2 = 1 \end{array}$$


4

2 2

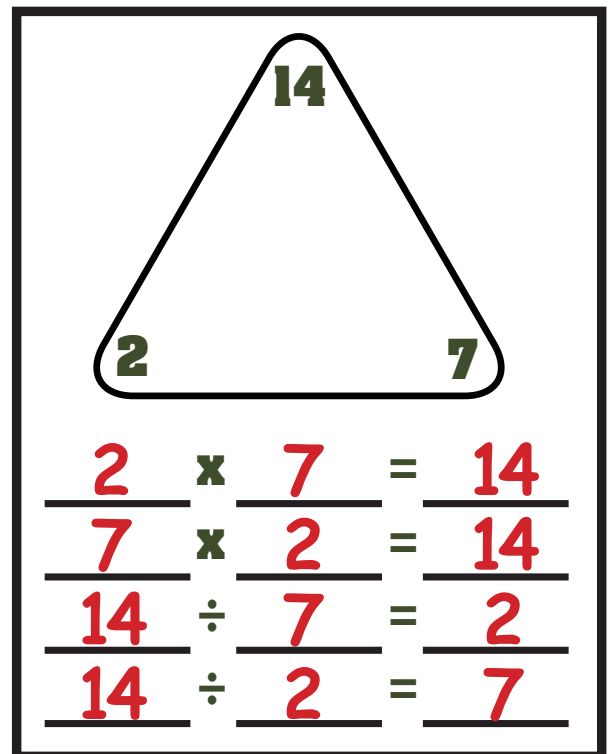
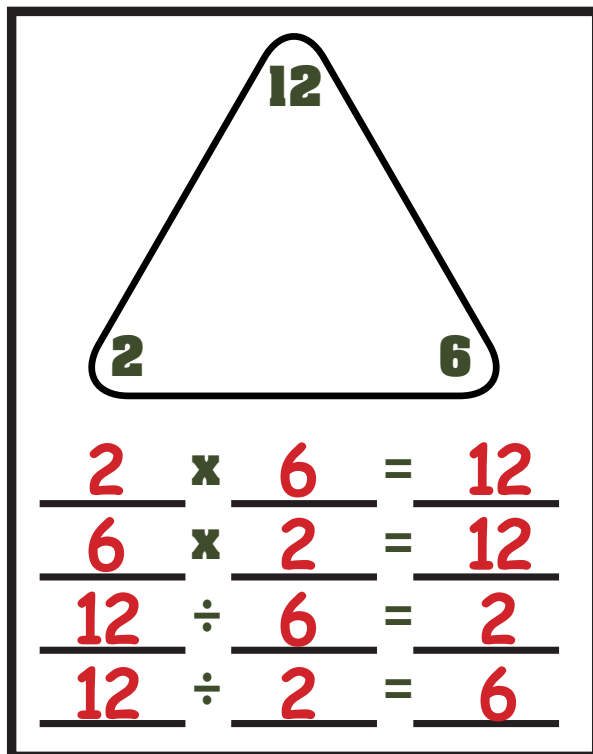
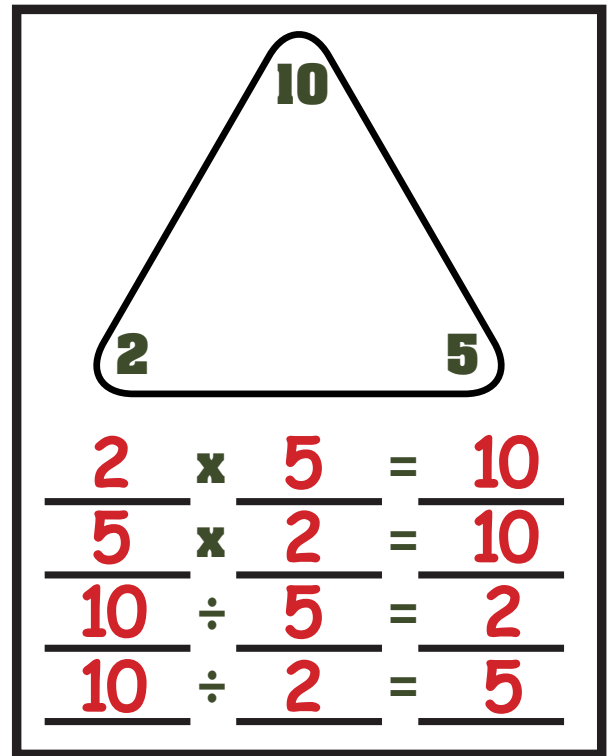
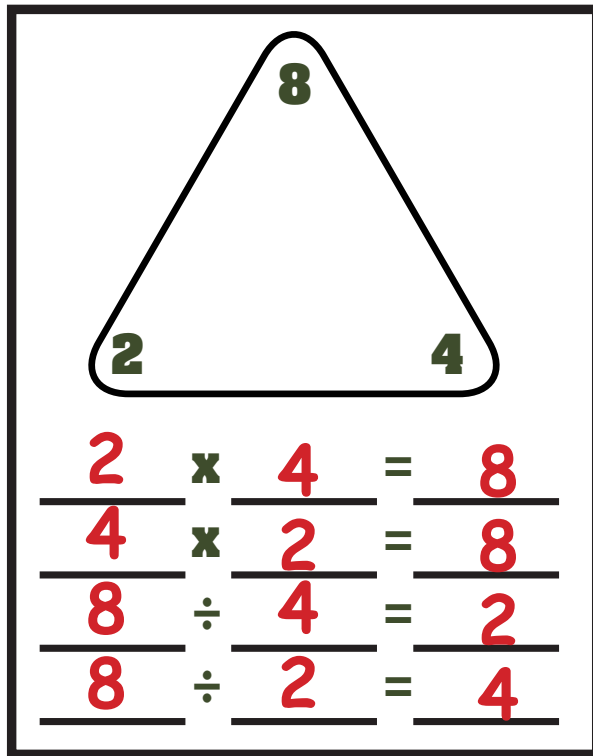
$$\begin{array}{r} 2 \times 2 = 4 \\ 2 \times 2 = 4 \\ 4 \div 2 = 2 \\ 4 \div 2 = 2 \end{array}$$


6

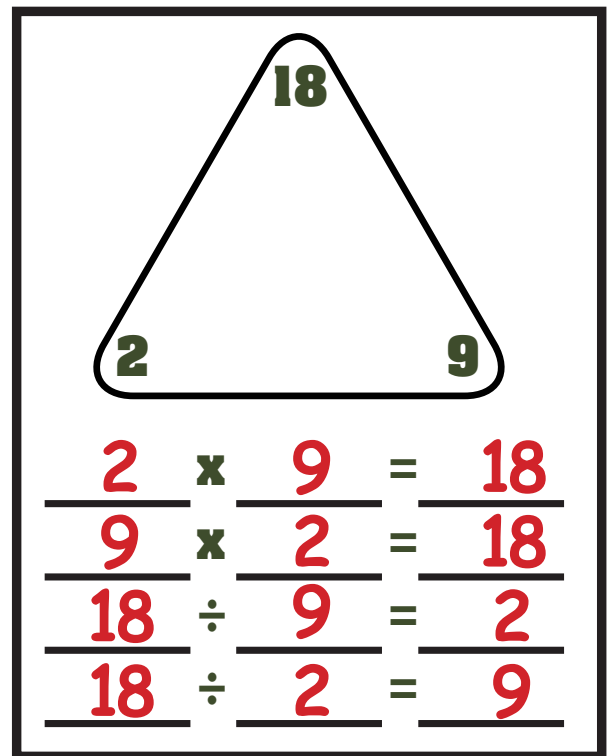
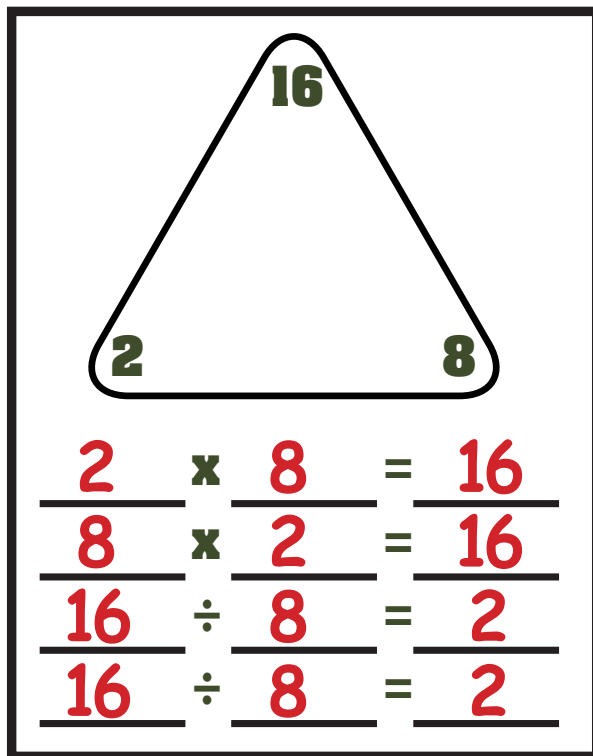
2 3

$$\begin{array}{r} 2 \times 3 = 6 \\ 3 \times 2 = 6 \\ 6 \div 3 = 2 \\ 6 \div 2 = 3 \end{array}$$

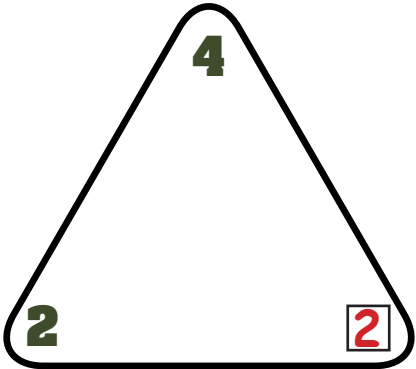
TRIANGLE FACT FAMILY



TRIANGLE FACT FAMILY



TRIANGLE FACT FAMILY

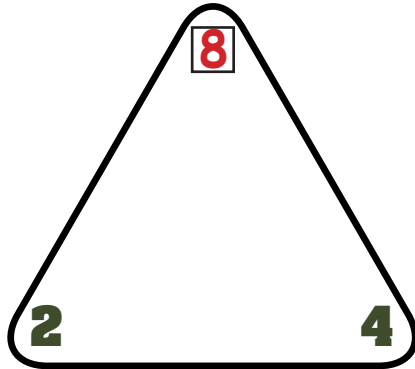


2 x 2 = 4

2 x 2 = 4

4 ÷ 2 = 2

4 ÷ 2 = 2

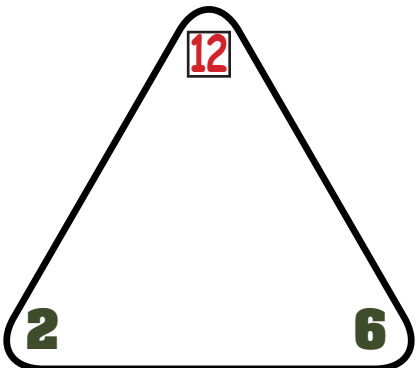


2 x 4 = 8

4 x 2 = 8

8 ÷ 4 = 2

8 ÷ 2 = 4

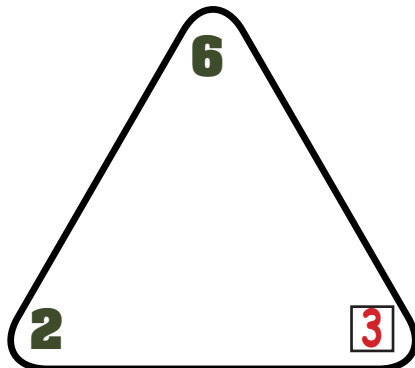


2 x 6 = 12

6 x 2 = 12

12 ÷ 6 = 2

12 ÷ 2 = 6



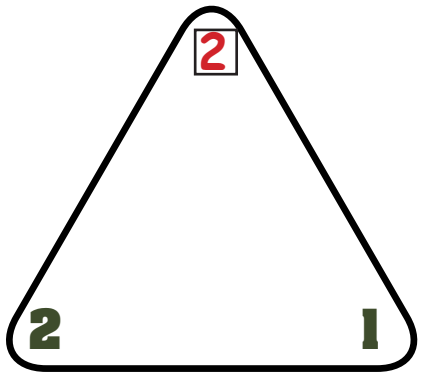
2 x 3 = 6

3 x 2 = 6

6 ÷ 3 = 2

6 ÷ 2 = 3

TRIANGLE FACT FAMILY

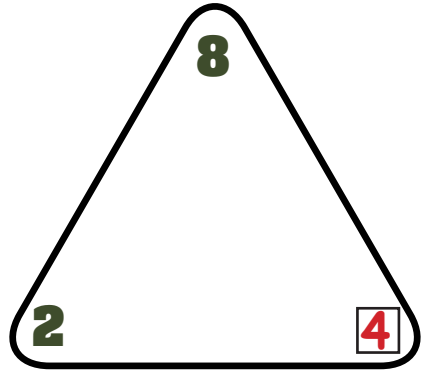


2 x 1 = 2

1 x 2 = 2

2 ÷ 1 = 2

2 ÷ 2 = 1

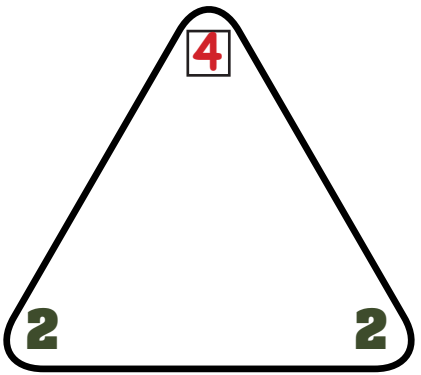


2 x 4 = 8

4 x 2 = 8

8 ÷ 4 = 2

8 ÷ 2 = 4



2 x 2 = 4

2 x 2 = 4

4 ÷ 2 = 2

4 ÷ 2 = 2

WORD PROBLEM

MODEL YOUR THINKING AND SOLVE THE PROBLEM

THE BAKERY HAD 5 ROWS OF DONUTS. THERE WERE 2 DONUTS IN EACH ROW. HOW MANY DONUTS DID THEY HAVE ALTOGETHER?

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

THE BAKERY HAD 2 BOXES WITH 8 DONUTS IN EACH BOX. HOW MANY DONUTS DID THEY HAVE?

$$\underline{2} \times \underline{8} = \underline{16}$$

THERE WERE 2 BAGS OF DONUTS IN THE BAKERY. EACH BAG HAD 4 DONUTS INSIDE. HOW MANY DONUTS WERE THERE ALTOGETHER?

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

THE BAKERY HAD 9 BOXES OF DONUTS WITH 2 DONUTS IN EACH BOX. HOW MANY DONUTS DID THEY HAVE ALTOGETHER?

$$\underline{9} \times \underline{2} = \underline{18}$$

QUIZ

WRITE A 2'S FACT IN EACH BOX. THEN FOLLOW THE INSTRUCTIONS IN EACH BOX TO MATCH THE FACT.

**I CAN SKIP COUNT
BY 2'S!**

**I CAN REPRESENT 2'S
WITH EQUAL GROUPS!**

**I CAN REPRESENT 2'S
WITH ARRAYS!**

**I CAN REPRESENT 2'S
ON THE NUMBER LINE.**

**I CAN USE REPEATED
ADDITION FOR MY 2'S.**

**MY STRATEGY FOR
THINKING ABOUT 2'S IS...**

CERTIFICATE



HAS SUCCESSFULLY PRACTICED THE
2 TIMES TABLES!

GREAT JOB!

TEACHER: _____ DATE: _____

○
2

Multiplication

$$2 \times 1 = 2$$

$$2 \times 2 = 4$$

$$2 \times 3 = 6$$

$$2 \times 4 = 8$$

$$2 \times 5 = 10$$

$$2 \times 6 = 12$$

$$2 \times 7 = 14$$

$$2 \times 8 = 16$$

$$2 \times 9 = 18$$

$$2 \times 10 = 20$$

$$2 \times 11 = 22$$

$$2 \times 12 = 24$$

Hint: Think doubles

○
2

MULTIPLICATION

$$2 \times 1 = 2$$

$$2 \times 2 = 4$$

$$2 \times 3 = 6$$

$$2 \times 4 = 8$$

$$2 \times 5 = 10$$

$$2 \times 6 = 12$$

$$2 \times 7 = 14$$

$$2 \times 8 = 16$$

$$2 \times 9 = 18$$

$$2 \times 10 = 20$$

$$2 \times 11 = 22$$

$$2 \times 12 = 24$$

Hint: Think doubles

○
2

MULTIPLICATION

$$2 \times 1 = 2$$

$$2 \times 2 = 4$$

$$2 \times 3 = 6$$

$$2 \times 4 = 8$$

$$2 \times 5 = 10$$

$$2 \times 6 = 12$$

$$2 \times 7 = 14$$

$$2 \times 8 = 16$$

$$2 \times 9 = 18$$

$$2 \times 10 = 20$$

$$2 \times 11 = 22$$

$$2 \times 12 = 24$$

Hint: Think doubles