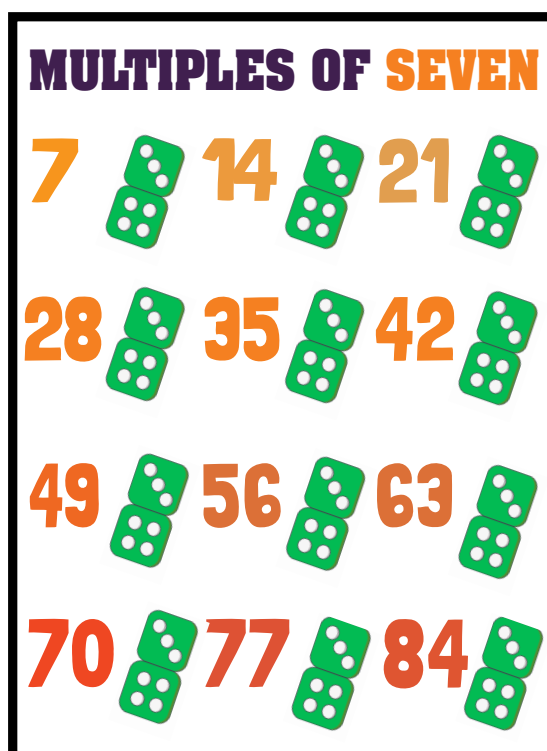
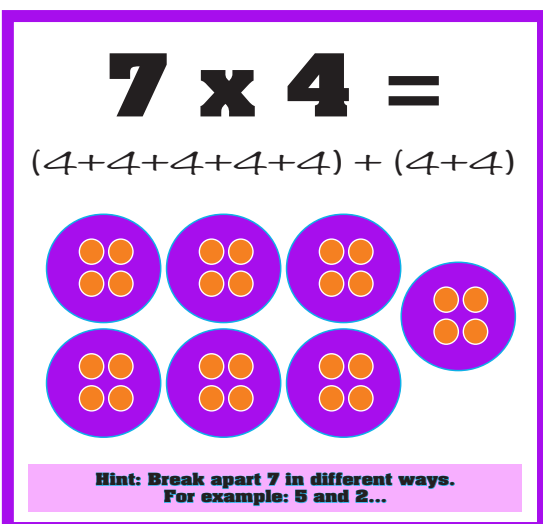
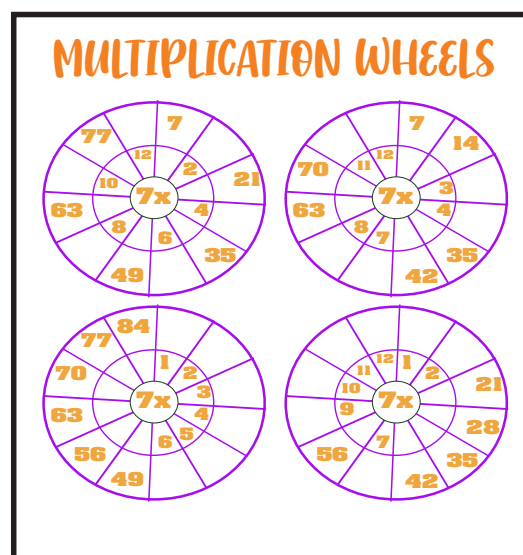
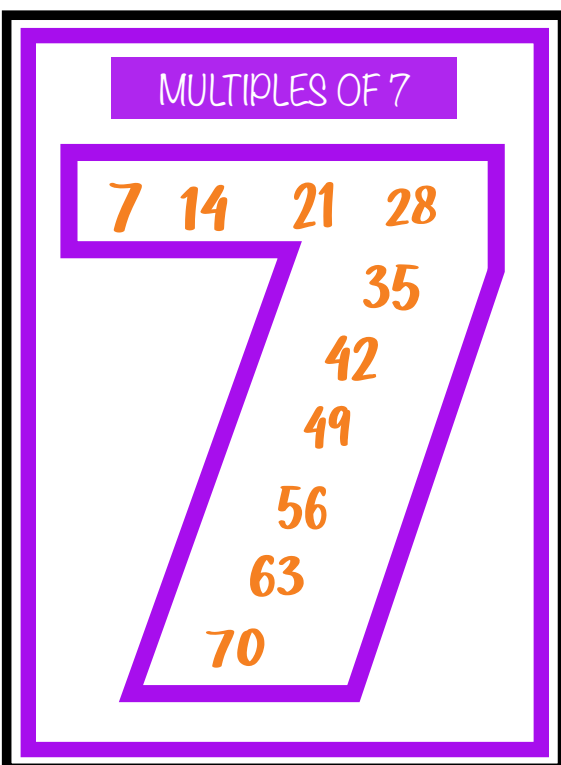


MULTIPLYING by 7

WORK BOOKLET KEY

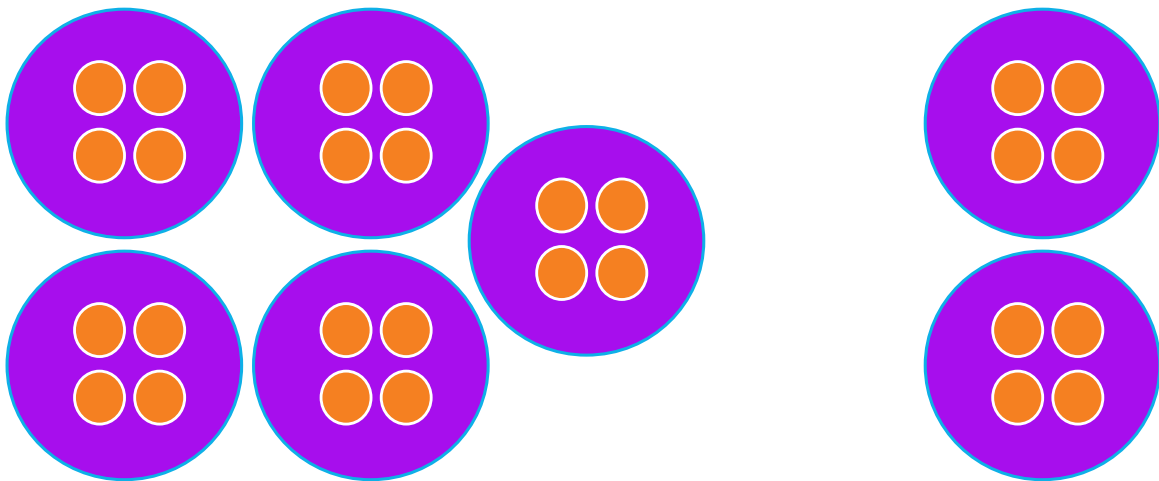


STRATEGY POSTER

When multiplying by 7
Break apart 7 in different ways.
For example: 5 and 2 ...

$$7 \times 4 =$$

$$(4+4+4+4+4) + (4+4)$$



Hint: Break apart 7 in different ways.
For example: 5 and 2...

MULTIPLICATION

$$7 \times 3 = 21$$



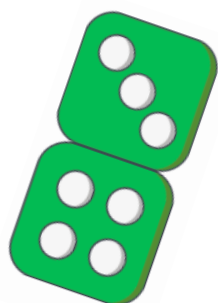
FACTOR

FACTOR

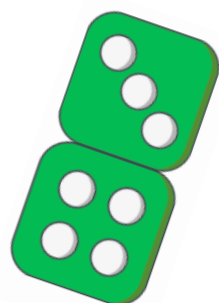
PRODUCT

MULTIPLES OF SEVEN

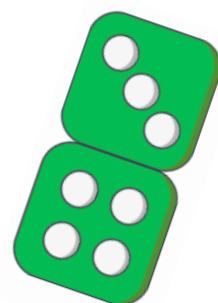
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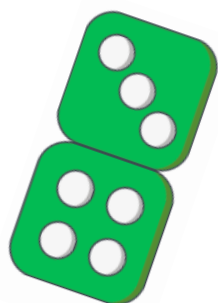
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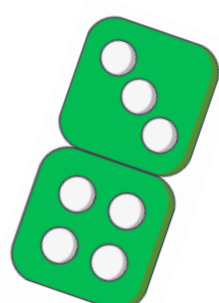
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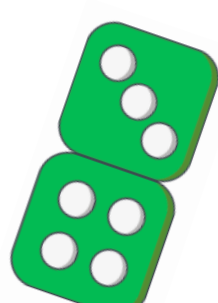
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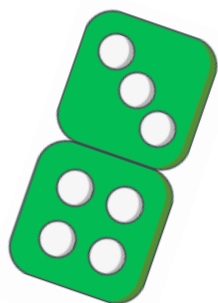
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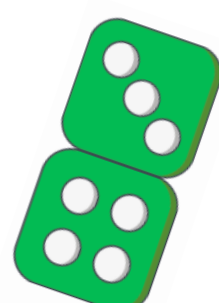
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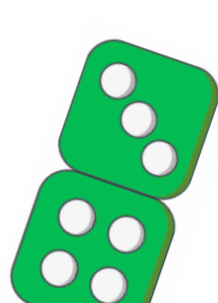
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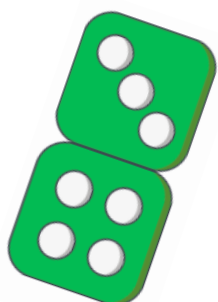
56



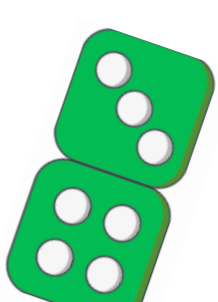
63



70



77

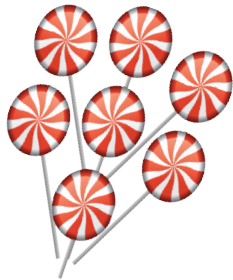


84

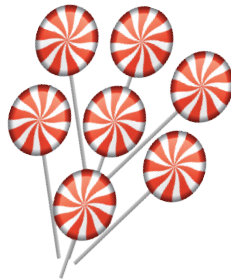


MULTIPLES OF SEVEN

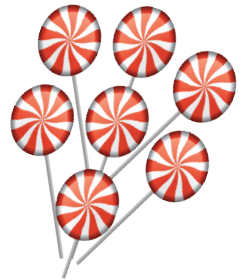
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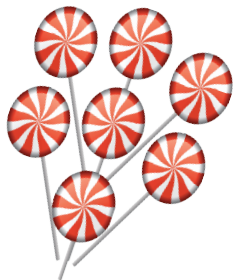
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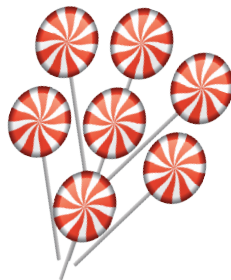
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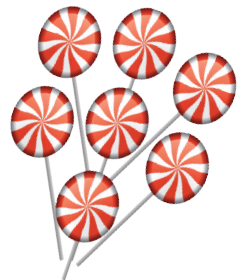
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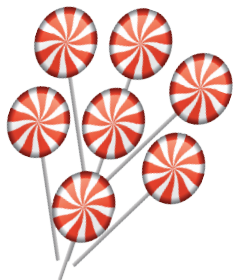
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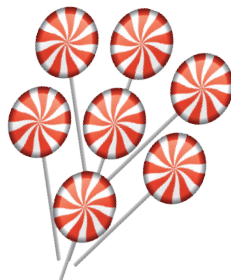
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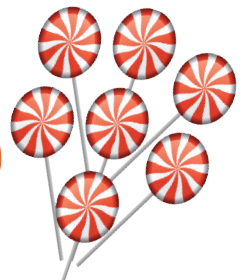
49



56



63



70



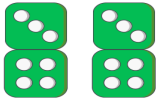
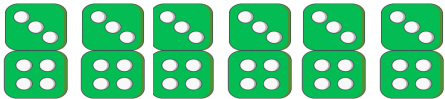
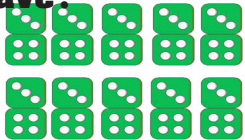
77



84



PICTURING THE MATH

GROUP THERE ARE 7 DOTS ON EACH SET	COUNT BY SEQUENCE	MULTIPLICATION EQUATION
If you have 2 sets of dice, how many dots would you have? 	7, 14	$2 \times 7 = 14$
If you have 6 sets of dice, how many dots would you have? 	7, 14, 21, 28, 35, 42	$6 \times 7 = 42$
If you have 8 sets of dice, how many dots would you have? 	7, 14, 21, 28, 35, 42, 49, 56	$8 \times 7 = 56$
If you have 4 sets of dice, how many dots would you have? 	7, 14, 21, 28	$4 \times 7 = 28$
If you have 10 sets of dice, how many dots would you have? 	7, 14, 21, 28, 35, 42, 49, 56, 63, 70	$10 \times 7 = 70$

MULTIPLES OF 7

7 14 21 28

35

42

49

56

63

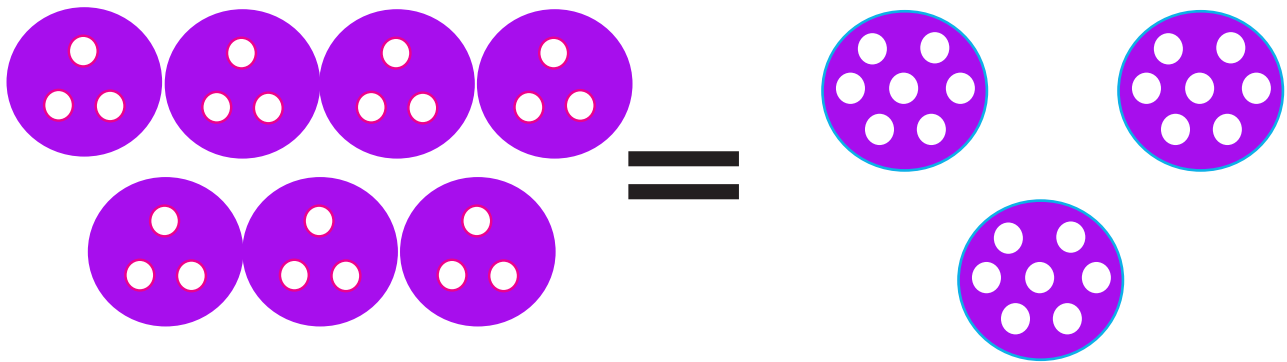
70



VOCABULARY

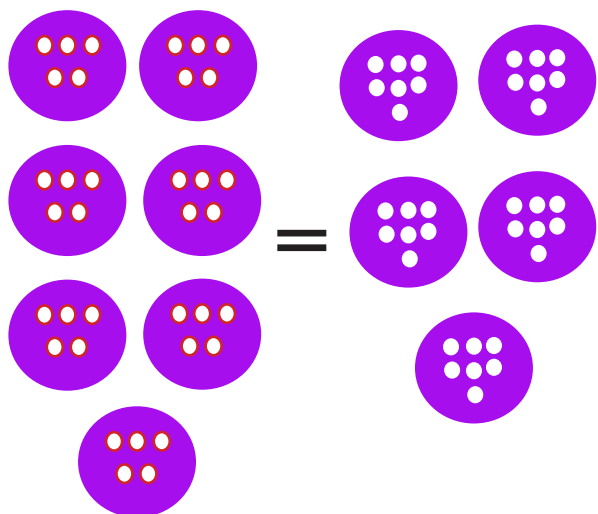
COMMUTATIVE PROPERTY

$$7 \times 3 = 3 \times 7$$

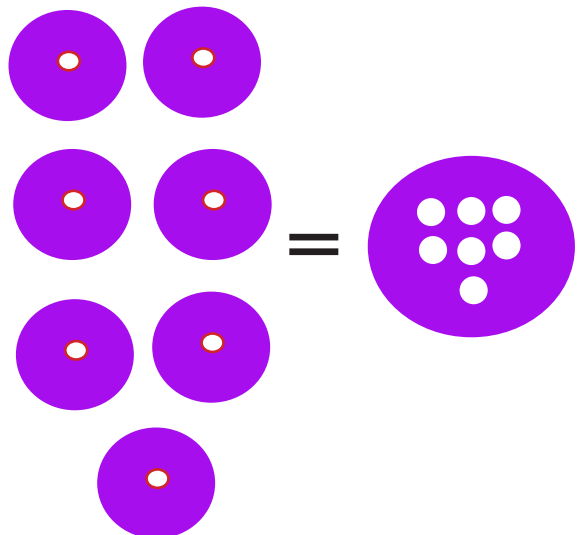


MODEL THE FACTS

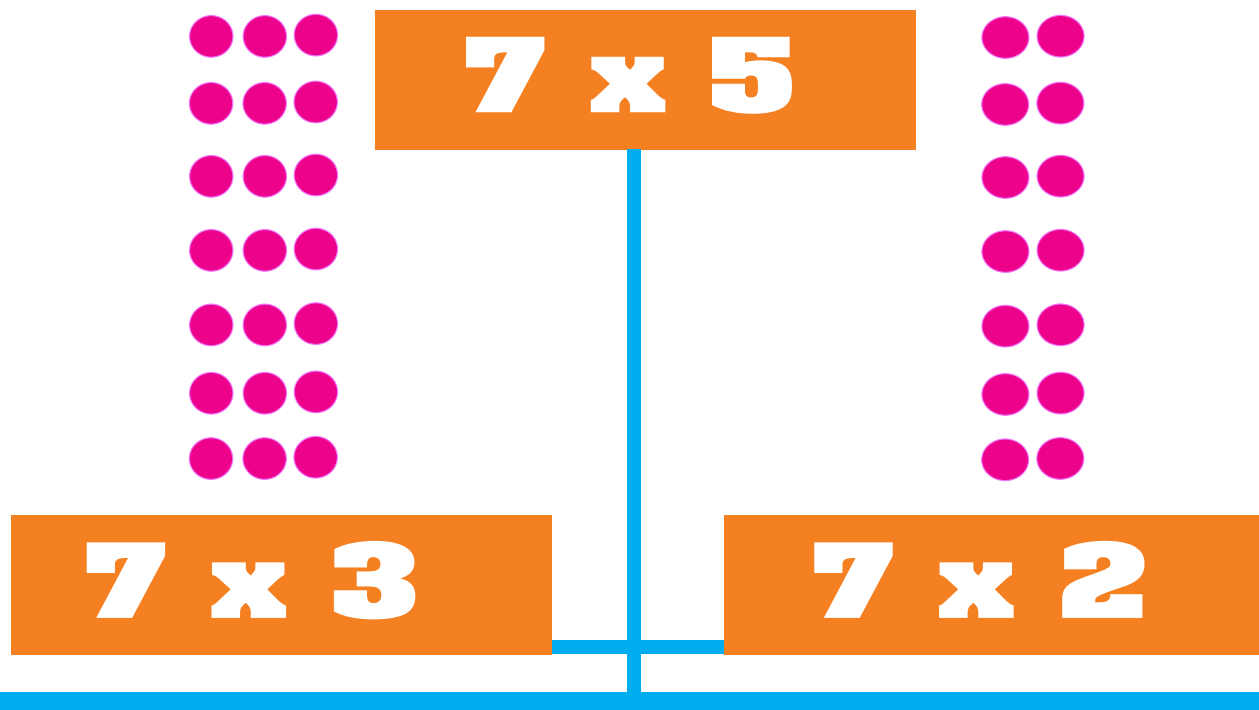
$$7 \times 5 = 5 \times 7$$



$$7 \times 1 = 1 \times 7$$

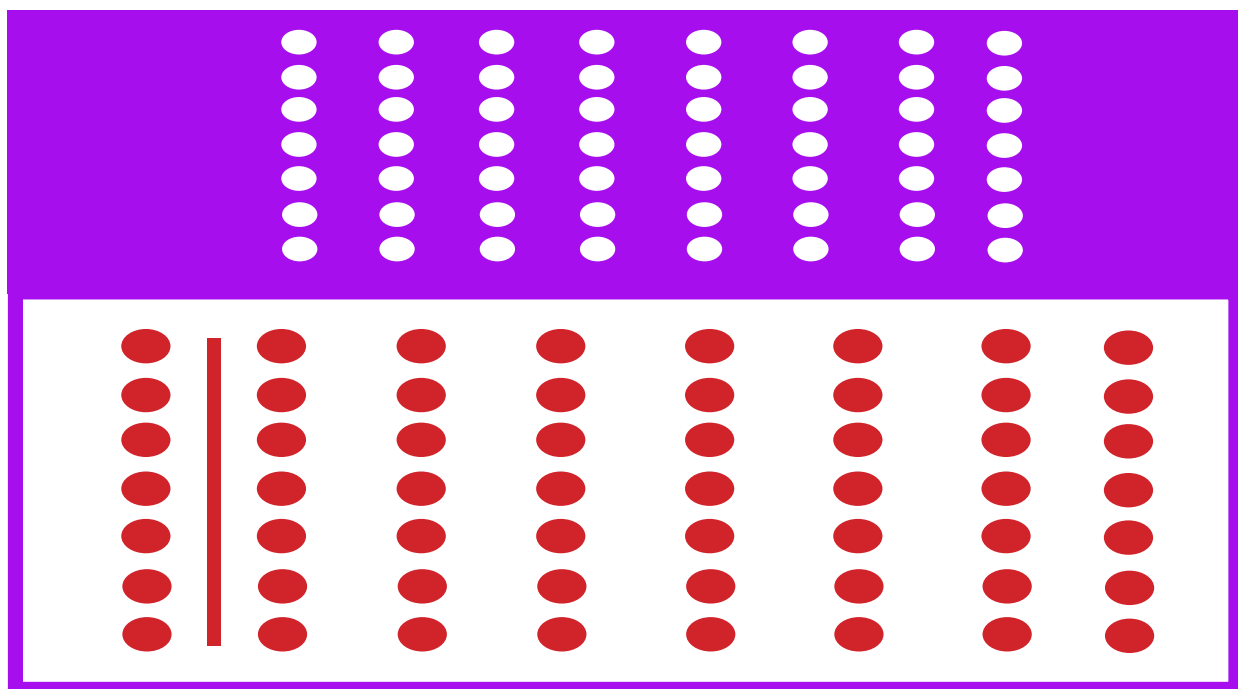


DISTRIBUTIVE PROPERTY



MODEL THE FACTS

$$7 \times 8 = (\underline{7} \times \underline{1}) + (\underline{7} \times \underline{7})$$



There are other to ways to model this as well.

ASSOCIATIVE PROPERTY

$$7 \times 2 \times 2$$
$$7 \times 4 \text{ or } 4 \times 7$$

MORE EXAMPLES

$$7 \times 1 \times 7 = \underline{7} \times \underline{7}$$

$$7 \times 7 \times 7 = \underline{7} \times \underline{49}$$

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

These are examples. There are other answers.

FREE CHOICE

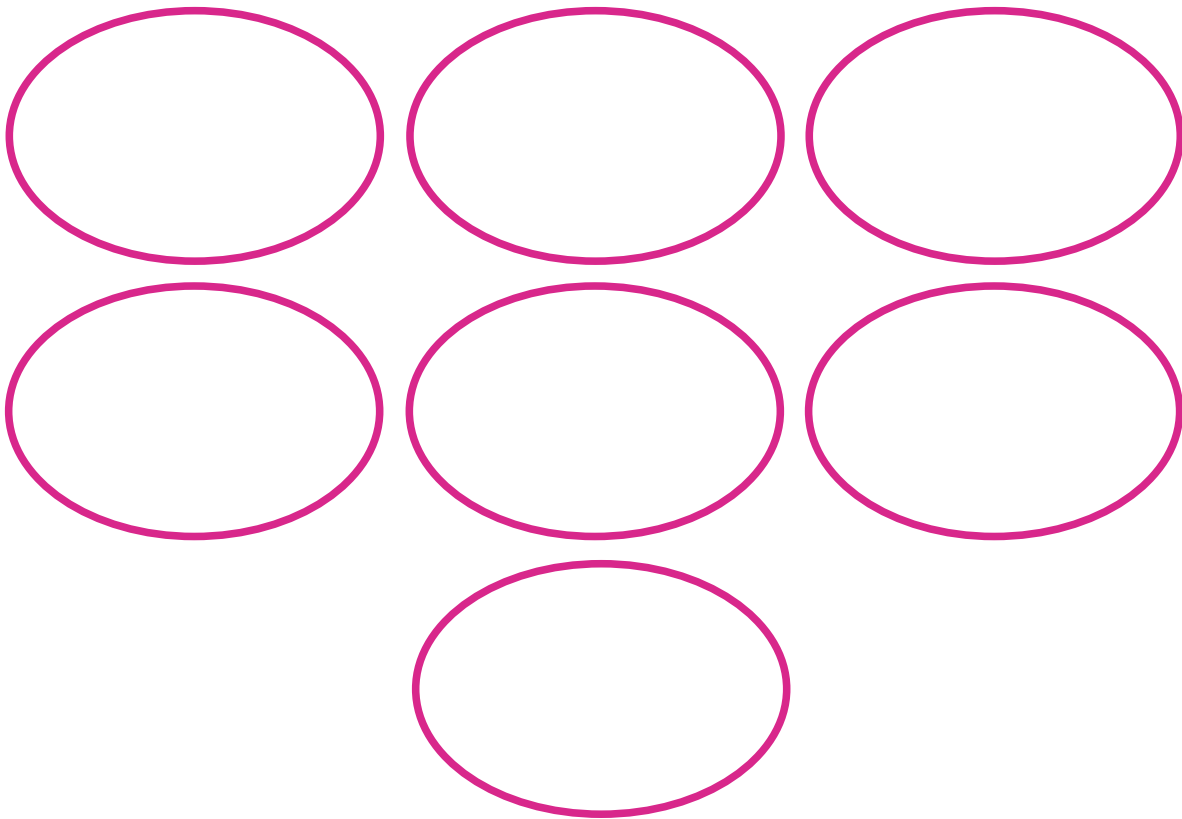
$$\underline{\quad} \times \underline{\quad} \times \underline{\quad} = \underline{\quad} \times \underline{\quad}$$

ZERO PROPERTY

When you multiply
by zero you get zero...

Zero groups of anything is zero

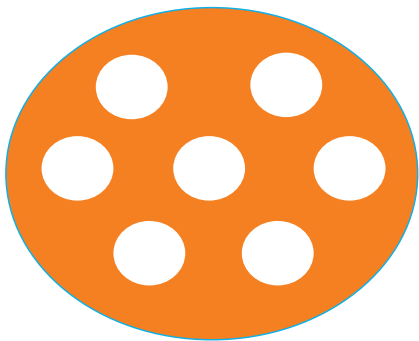
7 groups of **0** is **0**



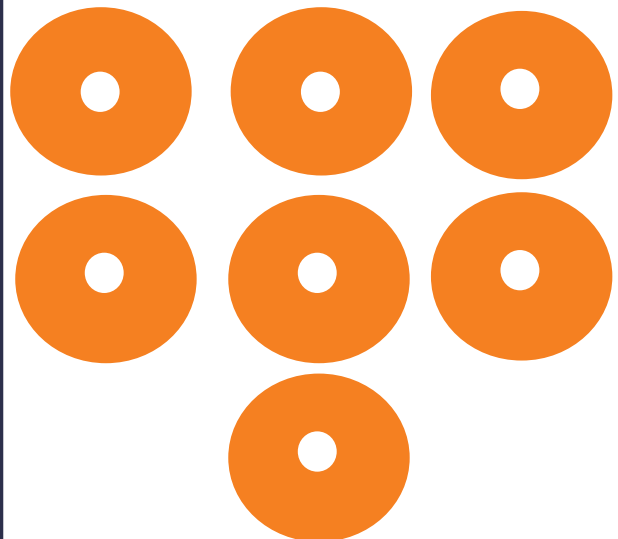
IDENTITY PROPERTY

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

**1 group of
7 is 7**

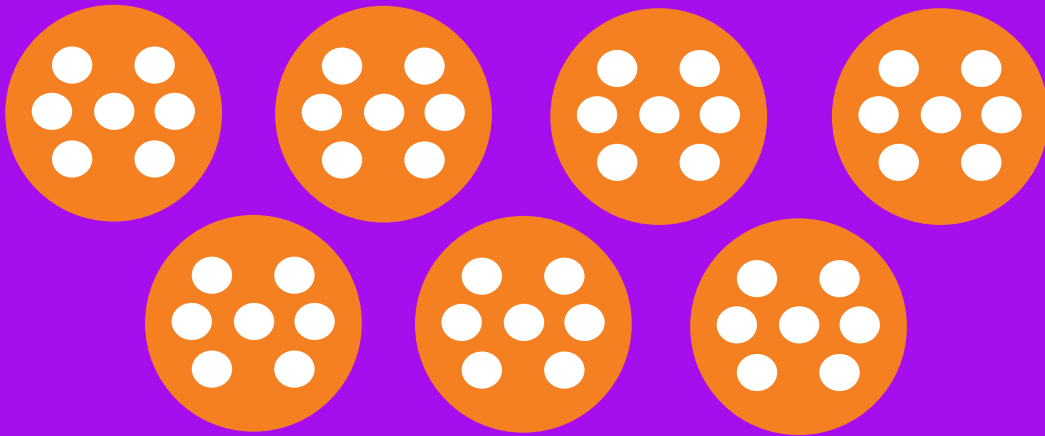


**7 groups
of 1 is 7**



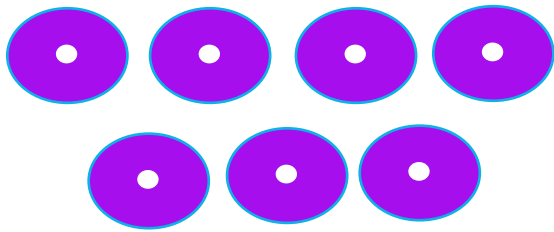
Modeling Multiplication

DRAW EQUAL GROUPS

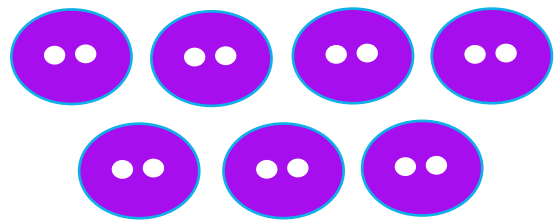


$$7 \times 7$$

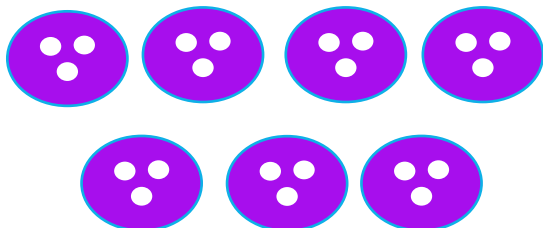
$$7 \times 1$$



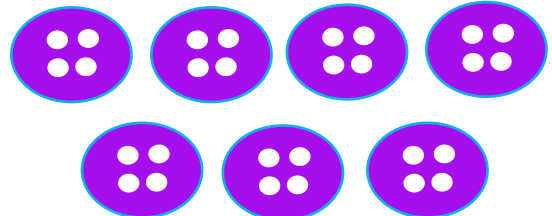
$$7 \times 2$$



$$7 \times 3$$



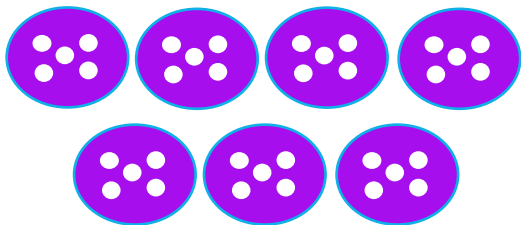
$$7 \times 4$$



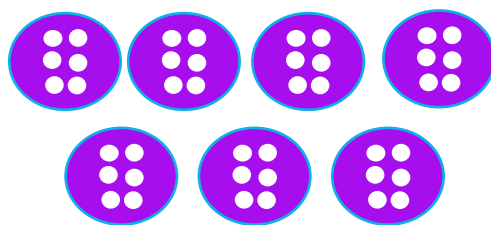
Modeling Multiplication

DRAW EQUAL GROUPS

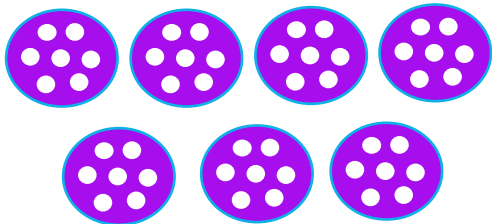
7×5



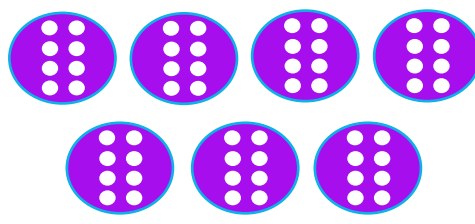
7×6



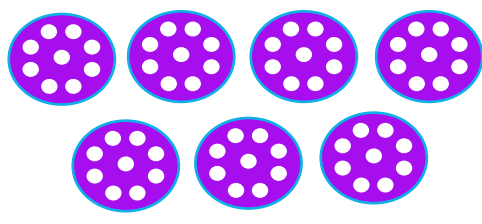
7×7



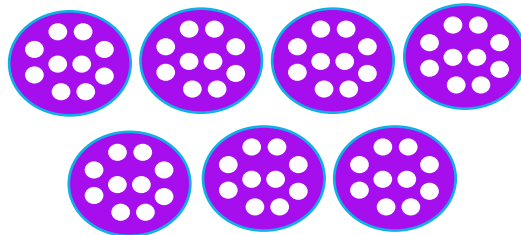
7×8



7×9



7×10



FREE CHOICE

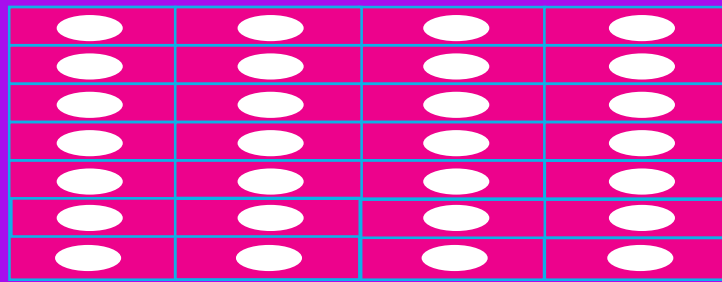
FREE CHOICE

Modeling Multiplication

DRAW AN ARRAY

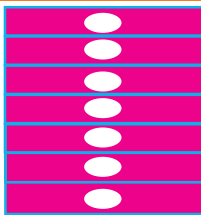
7 groups of 4

$$7 \times 4 = ?$$

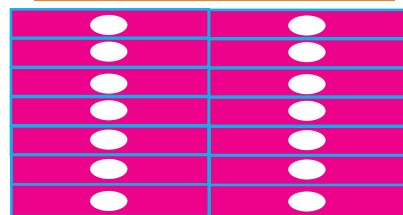


DRAW AN ARRAY

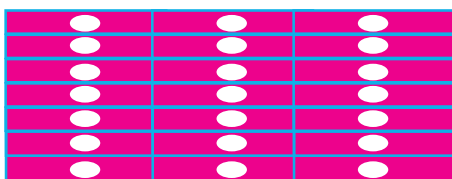
$$7 \times 1$$



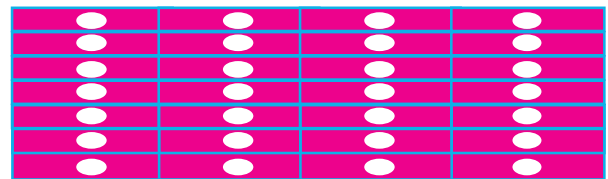
$$7 \times 2$$



$$7 \times 3$$



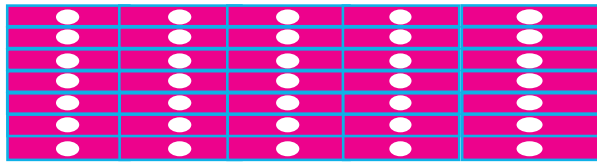
$$7 \times 4$$



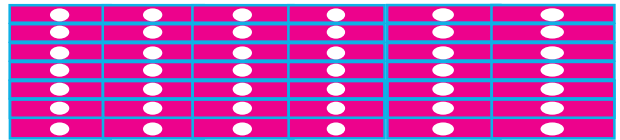
Modeling Multiplication

DRAW AN ARRAY

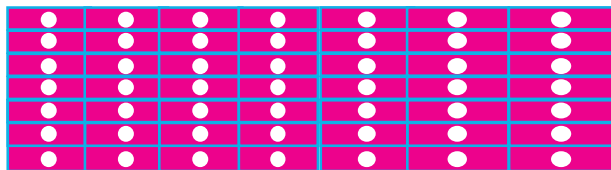
7×5



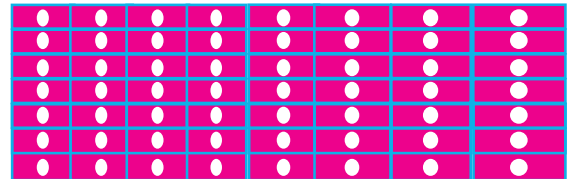
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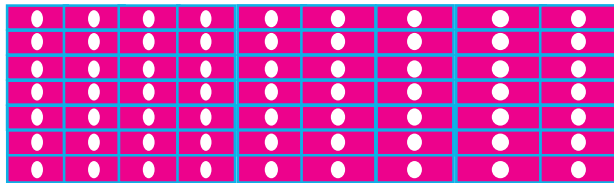
7×7



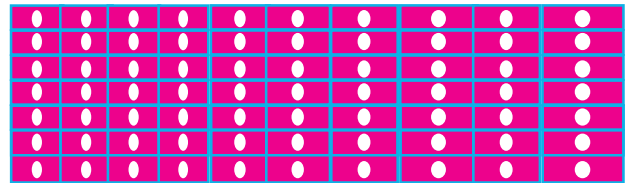
7×8



7×9



7×10



FREE CHOICE

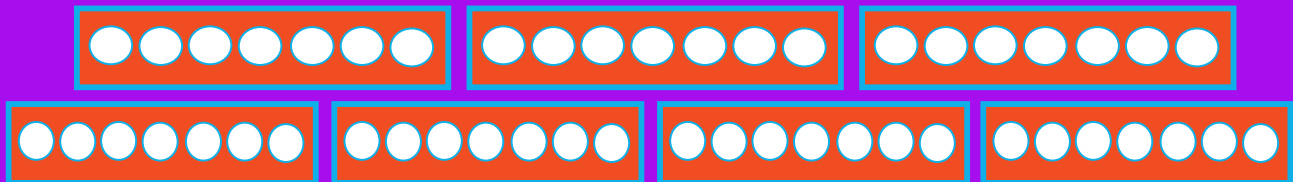
FREE CHOICE

Multiplication strategies:

REPEATED ADDITION

7 groups of 7

$$7 + 7 + 7 + 7 + 7 + 7 + 7 = 49$$

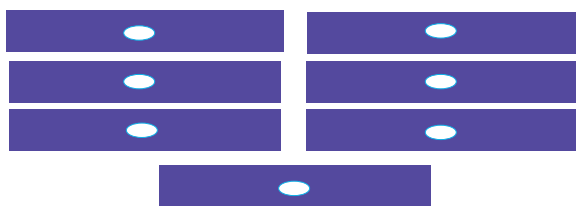


$$7 \times 7 = 49$$

MODEL THE REPEATED ADDITION SENTENCE

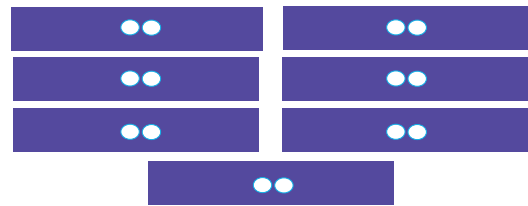
$$7 \times 1 =$$

$$1+1+1+1+1+1+1$$



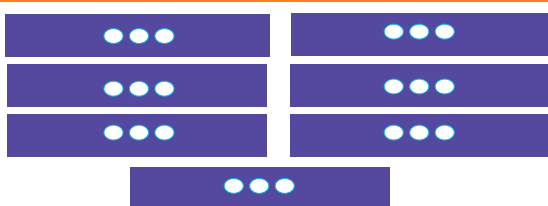
$$7 \times 2 =$$

$$2+2+2+2+2+2+2$$



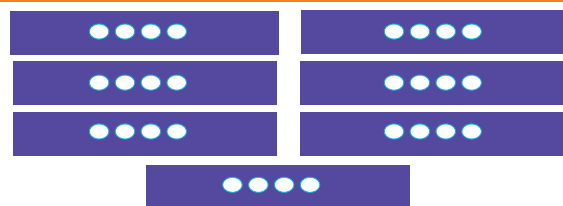
$$7 \times 3 =$$

$$3+3+3+3+3+3+3$$



$$7 \times 4 =$$

$$4+4+4+4+4+4+4$$

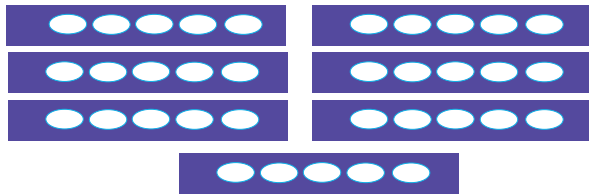


Multiplication strategies:

REPEATED ADDITION

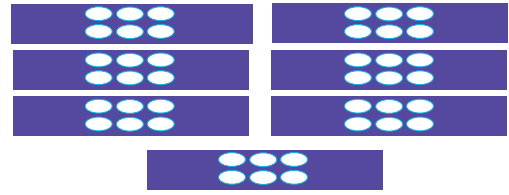
$$7 \times 5 =$$

$$5 + 5 + 5 + 5 + 5 + 5 + 5$$



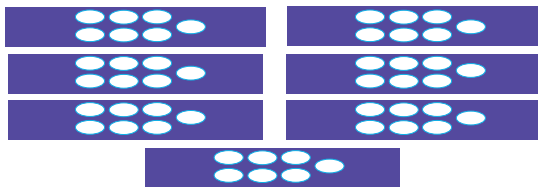
$$7 \times 6 =$$

$$6 + 6 + 6 + 6 + 6 + 6 + 6$$



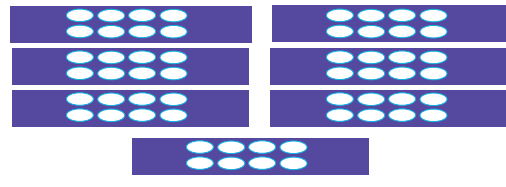
$$7 \times 7 =$$

$$7 + 7 + 7 + 7 + 7 + 7 + 7$$



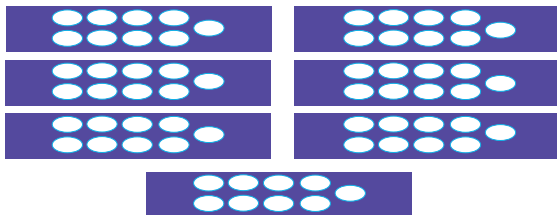
$$7 \times 8 =$$

$$8 + 8 + 8 + 8 + 8 + 8 + 8$$



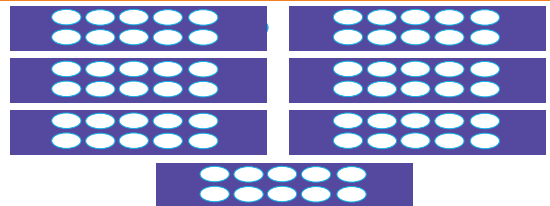
$$7 \times 9 =$$

$$9 + 9 + 9 + 9 + 9 + 9 + 9$$



$$7 \times 10 =$$

$$10 + 10 + 10 + 10 + 10 + 10 + 10$$



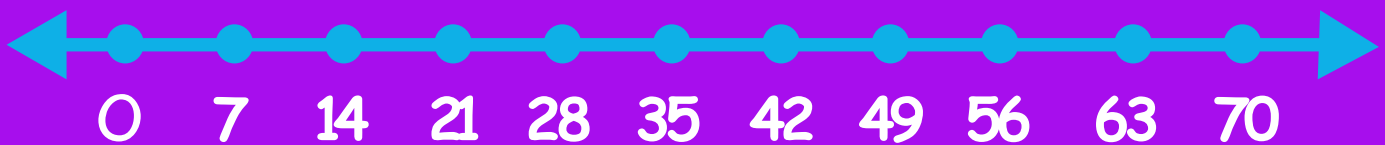
FREE CHOICE

FREE CHOICE

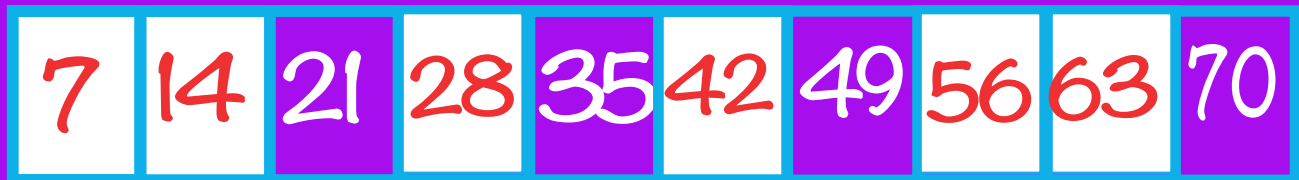
Modeling Multiplication

SKIP COUNTING

DRAW ON A NUMBER LINE



FILL IN THE MISSING NUMBERS



Modeling Multiplication

SKIP COUNTING

FILL IN THE MISSING NUMBERS

7	14	21	28	35	42	49	56	63	70
---	----	----	----	----	----	----	----	----	----

FILL IN THE MISSING NUMBERS

7	14	21	28	35	42	49	56	63	70
---	----	----	----	----	----	----	----	----	----

FILL IN THE MISSING NUMBERS

7	14	21	28	35	42	49	56	63	70
---	----	----	----	----	----	----	----	----	----

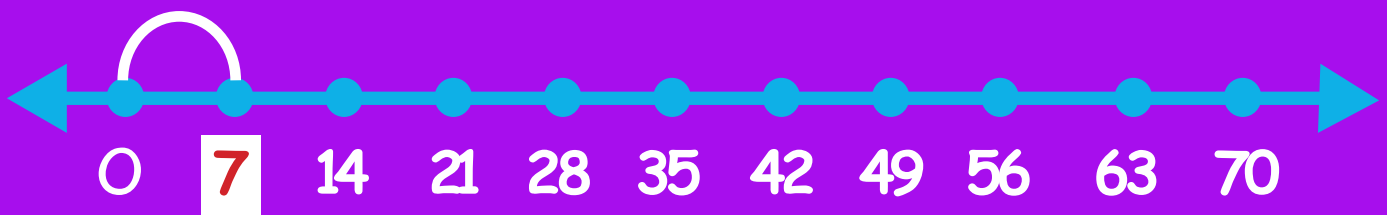
FILL IN THE MISSING NUMBERS

7	14	21	28	35	42	49	56	63	70
---	----	----	----	----	----	----	----	----	----

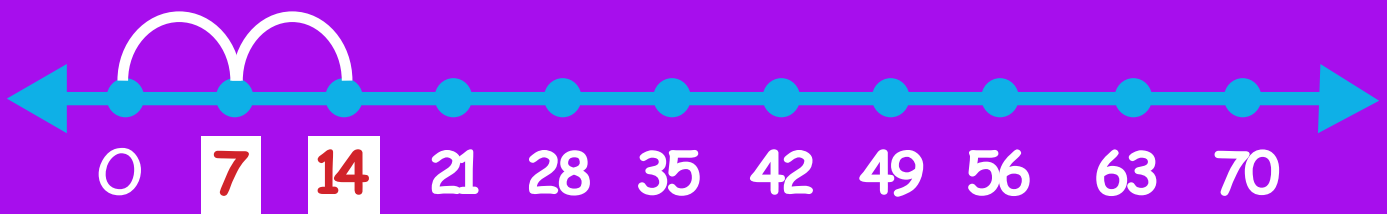
Modeling Multiplication

SKIP COUNTING

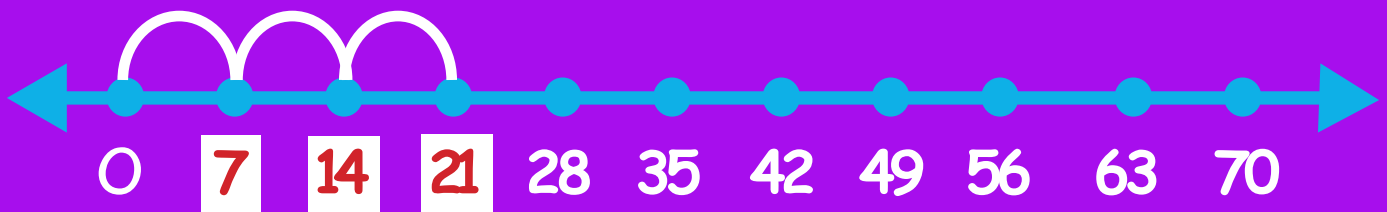
FILL IN THE MISSING NUMBERS. MODEL 7×1 ON THE NUMBER LINE.



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



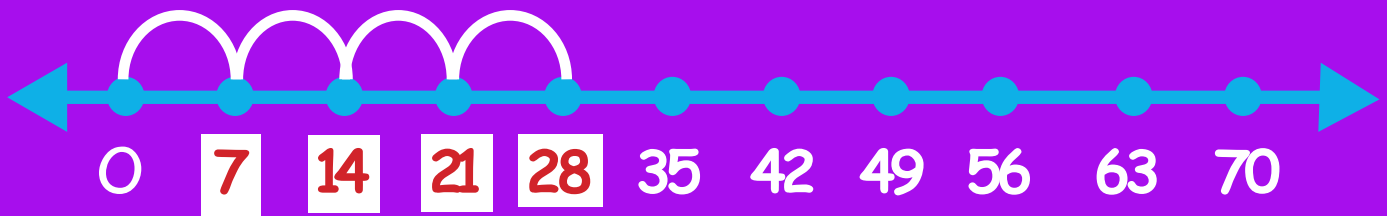
FILL IN THE MISSING NUMBERS. MODEL 7×3 ON THE NUMBER LINE.



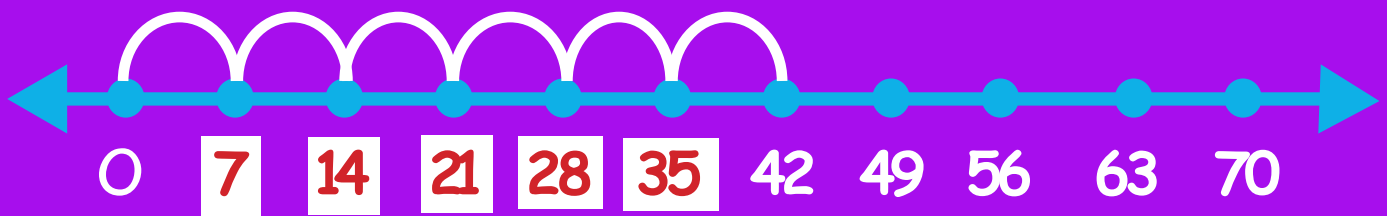
Modeling Multiplication

SKIP COUNTING

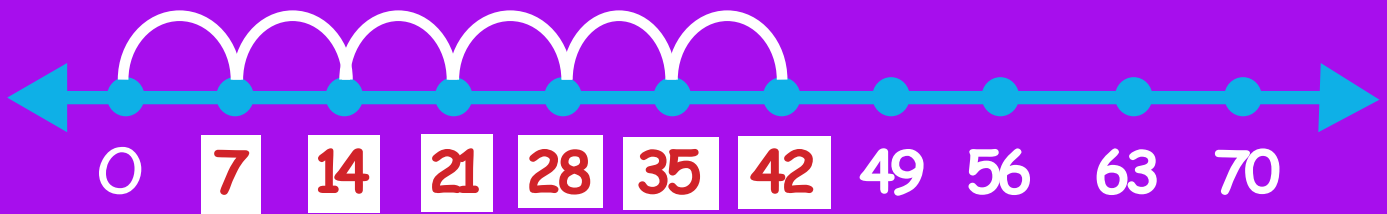
FILL IN THE MISSING NUMBERS. MODEL 7×4 ON THE NUMBER LINE.



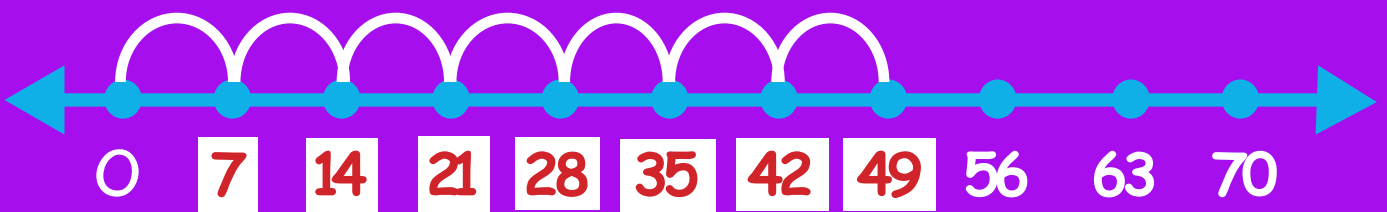
FILL IN THE MISSING NUMBERS. MODEL 7×5 ON THE NUMBER LINE.



FILL IN THE MISSING NUMBERS. MODEL 7×6 ON THE NUMBER LINE.



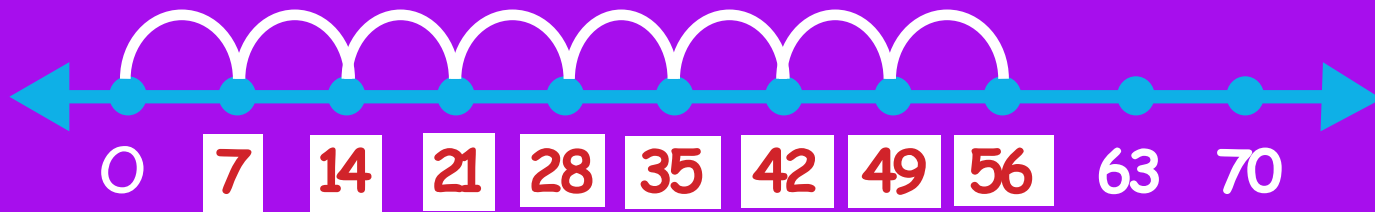
FILL IN THE MISSING NUMBERS. MODEL 7×7 ON THE NUMBER LINE.



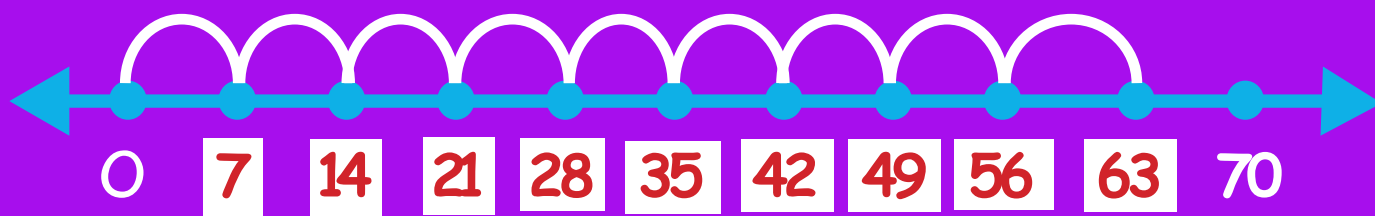
Modeling Multiplication

SKIP COUNTING

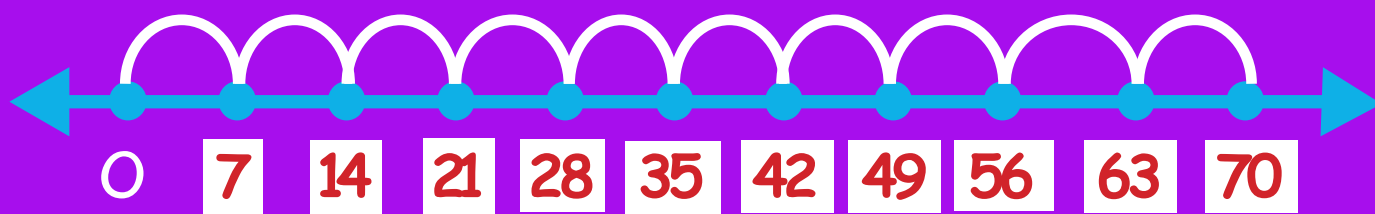
FILL IN THE MISSING NUMBERS. MODEL 7×8 ON THE NUMBER LINE.



FILL IN THE MISSING NUMBERS. MODEL 7×9 ON THE NUMBER LINE.

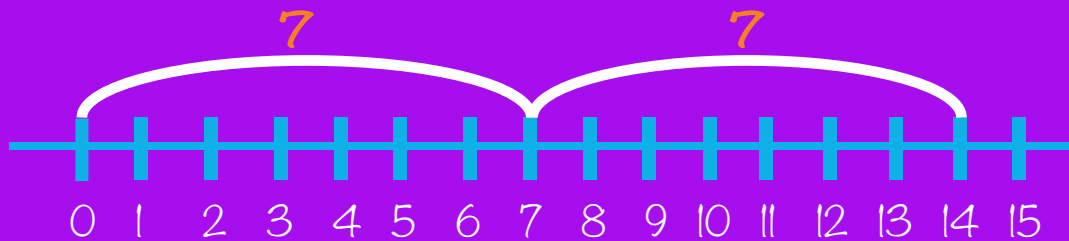


FILL IN THE MISSING NUMBERS. MODEL 7×10 ON THE NUMBER LINE.



Multiplication Strategies:

SKIP COUNTING ON THE NUMBER LINE



$$7 \times 2$$

SOLVE THE PROBLEM ON THE NUMBER LINE



$$7 \times 2$$



$$7 \times 3$$



$$7 \times 4$$



$$7 \times 5$$



SOLVE THE PROBLEM ON THE NUMBER LINE

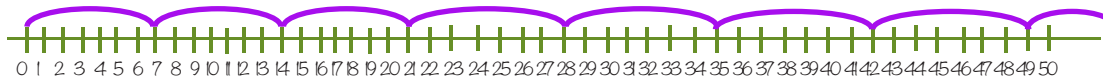
7×6



7×7



7×8



7×9



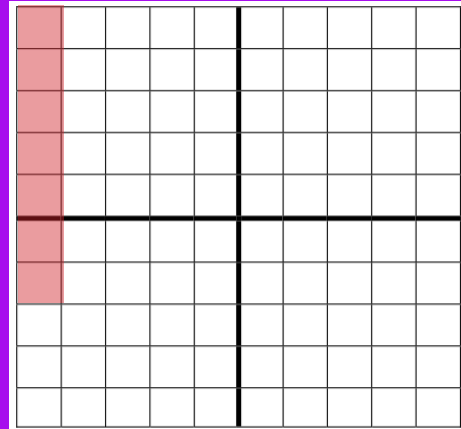
7×10



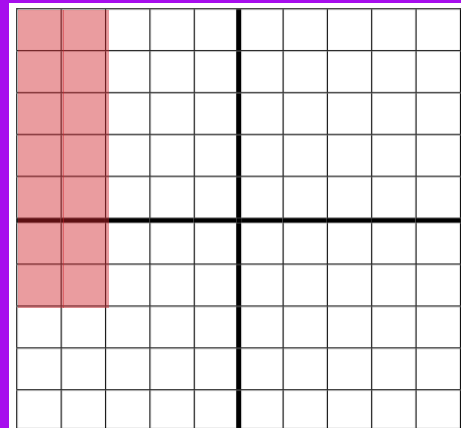
Array Flashcards

MODEL THE PROBLEMS ON THE GRIDS.

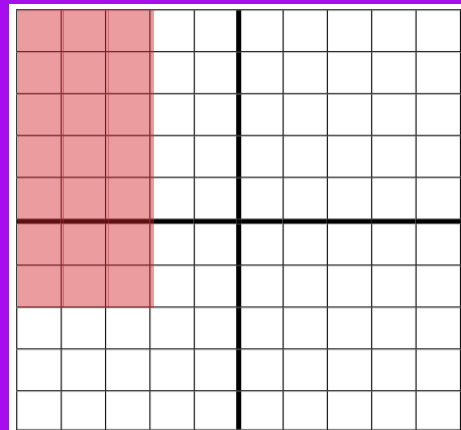
$$7 \times 1 = \underline{7}$$



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



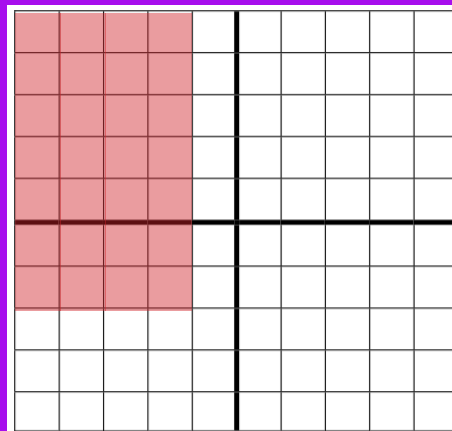
$$7 \times 3 = \underline{21}$$



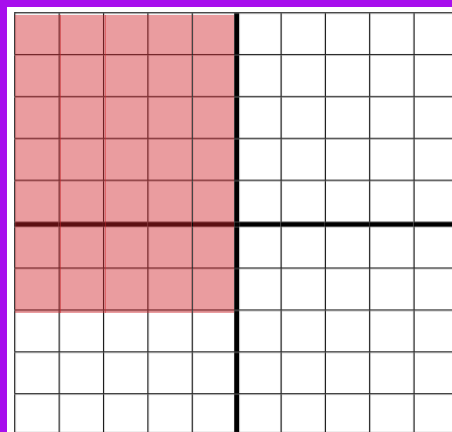
Array Flashcards

MODEL THE PROBLEMS ON THE GRIDS.

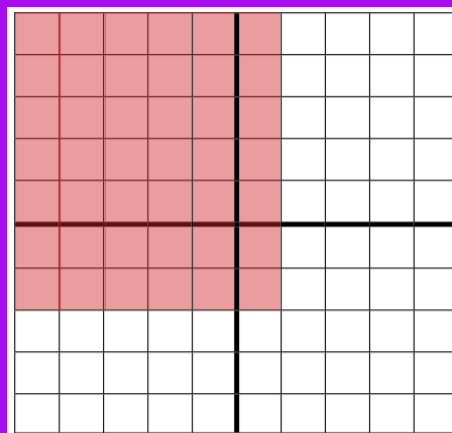
$$7 \times 4 = \underline{28}$$



$$7 \times 5 = \underline{35}$$



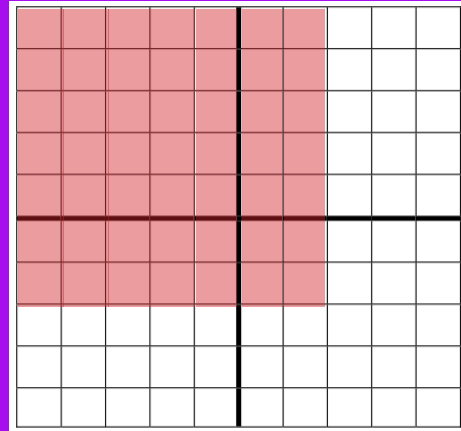
$$7 \times 6 = \underline{42}$$



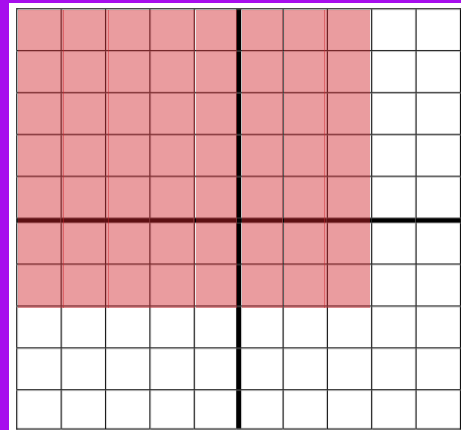
Array Flashcards

MODEL THE PROBLEMS ON THE GRIDS.

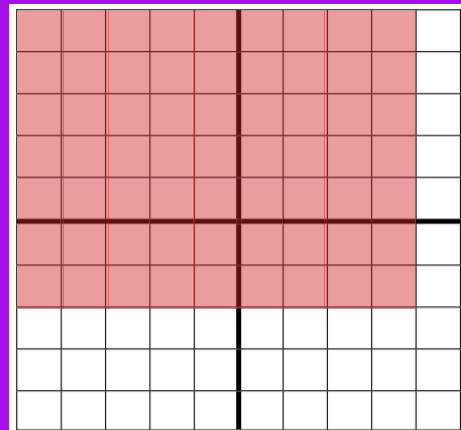
$$7 \times 7 = \underline{49}$$



$$7 \times 8 = \underline{56}$$



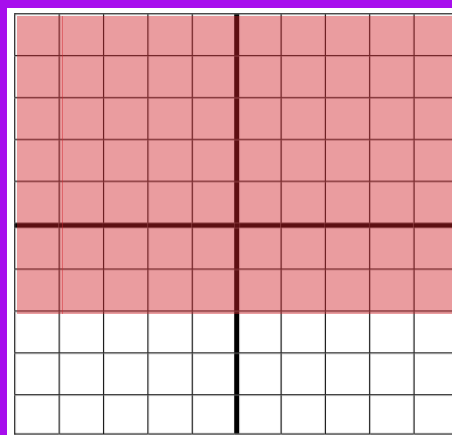
$$7 \times 9 = \underline{63}$$



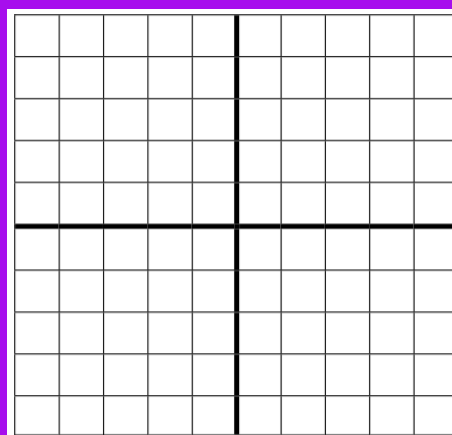
Array Flashcards

MODEL THE PROBLEMS ON THE GRIDS.

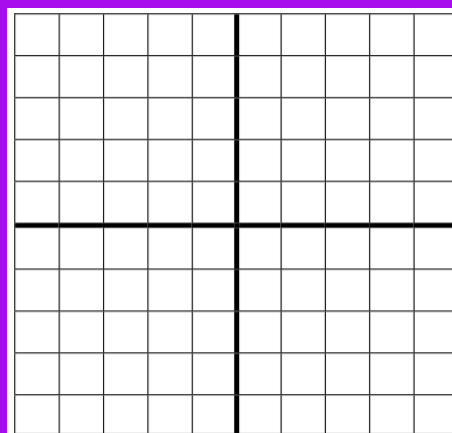
$$7 \times 10 = \underline{70}$$



FREE CHOICE



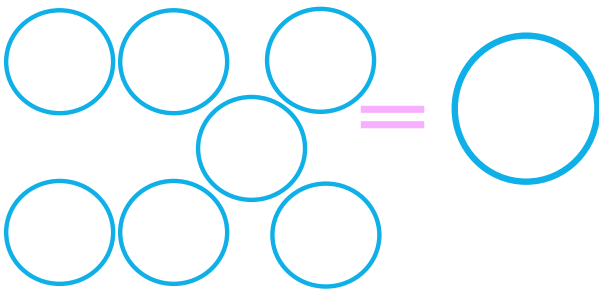
FREE CHOICE



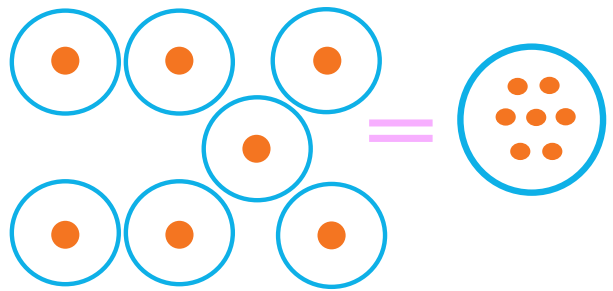
Equal Group Flashcards

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

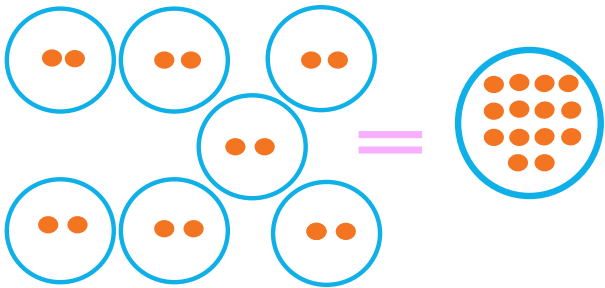
$$7 \times 0 = 0$$



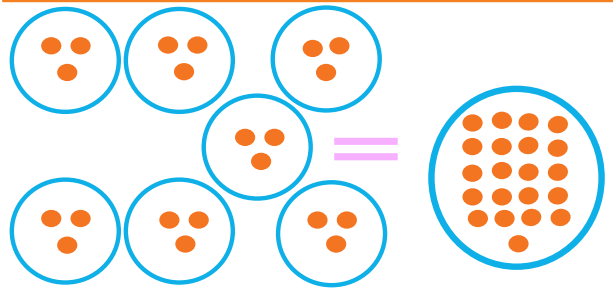
$$7 \times 1 = 7$$



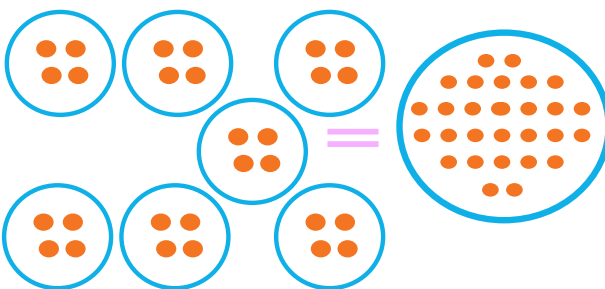
$$7 \times 2 = 14$$



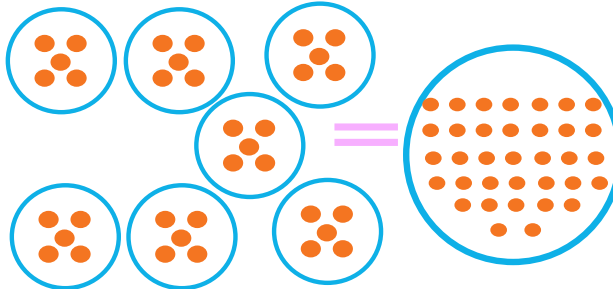
$$7 \times 3 = 21$$



$$7 \times 4 = 28$$



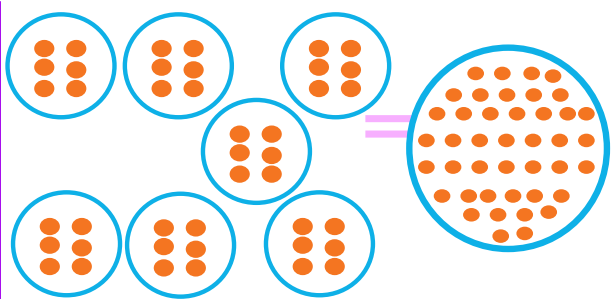
$$7 \times 5 = 35$$



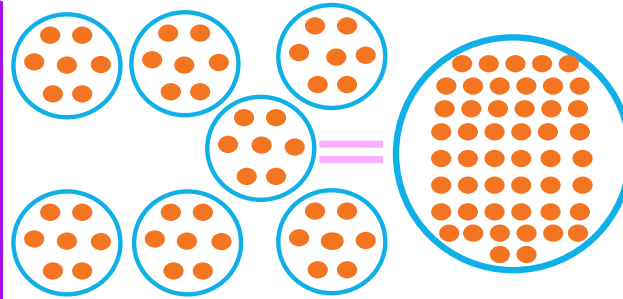
Equal Group Flashcards

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

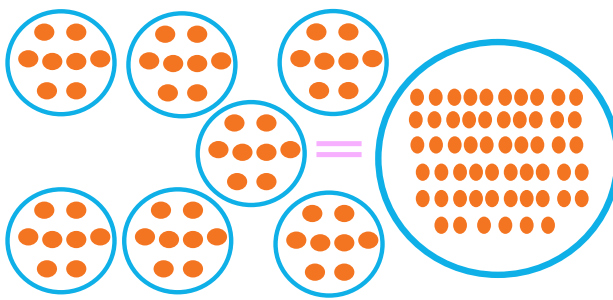
$$7 \times 6 = 42$$



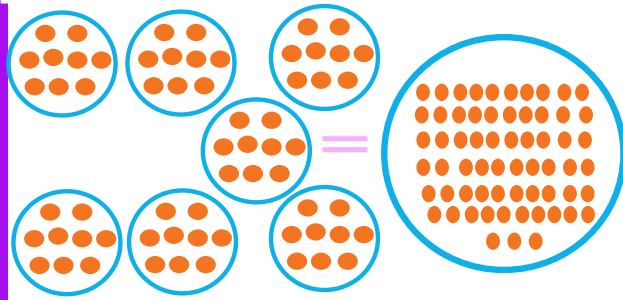
$$7 \times 7 = 49$$



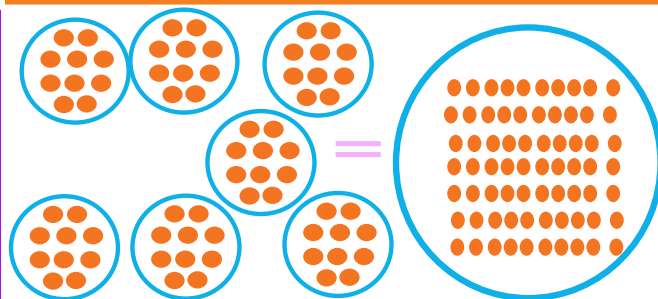
$$7 \times 8 = 56$$



$$7 \times 9 = 63$$



$$7 \times 10 = 70$$



Regular Flashcards

$$7 \times 0$$

$$7 \times 1$$

$$7 \times 2$$

$$7 \times 3$$

$$7 \times 4$$

$$7 \times 5$$

Regular Flashcards

$$7 \times 6$$

$$7 \times 7$$

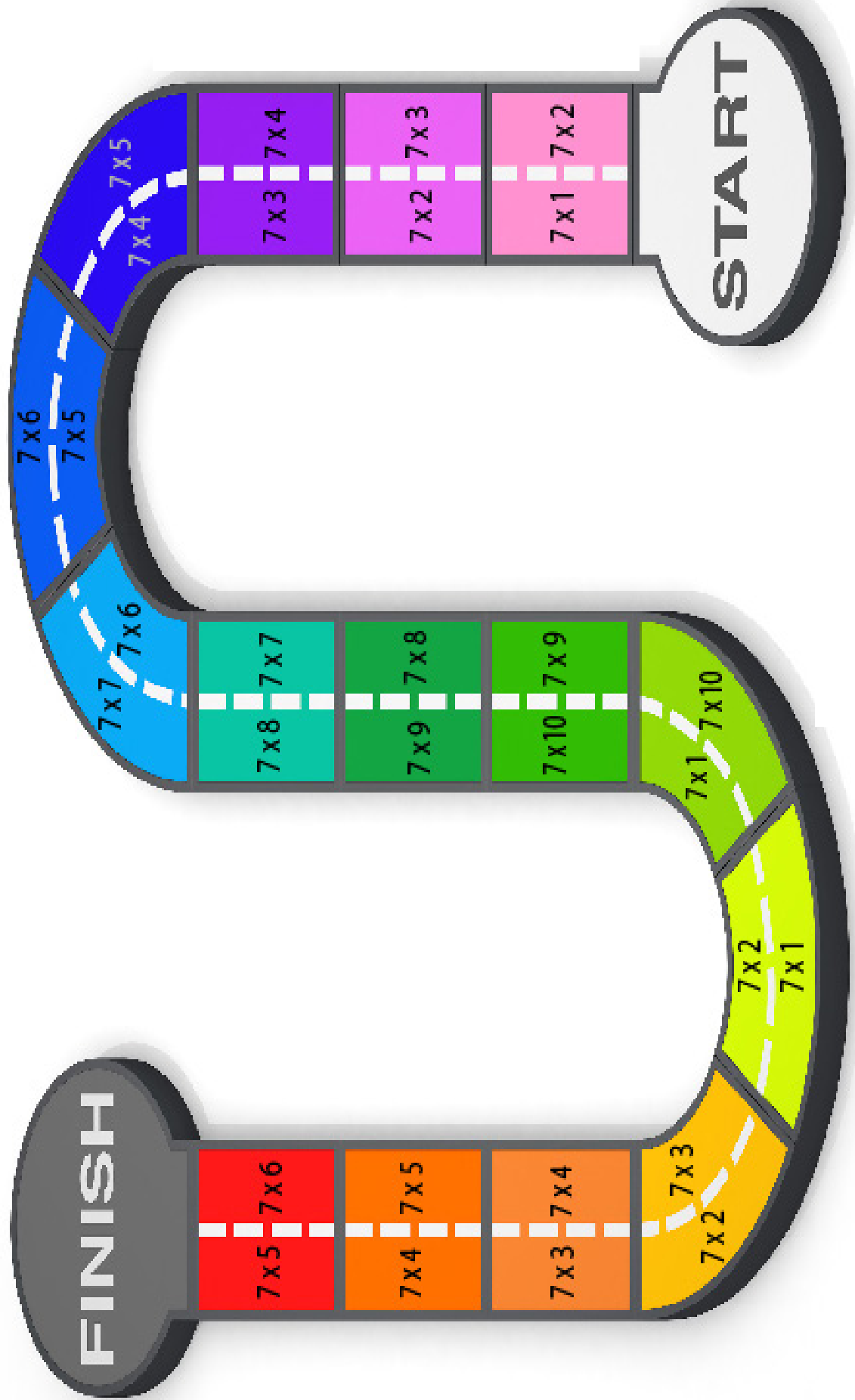
$$7 \times 8$$

$$7 \times 9$$

$$7 \times 10$$

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.

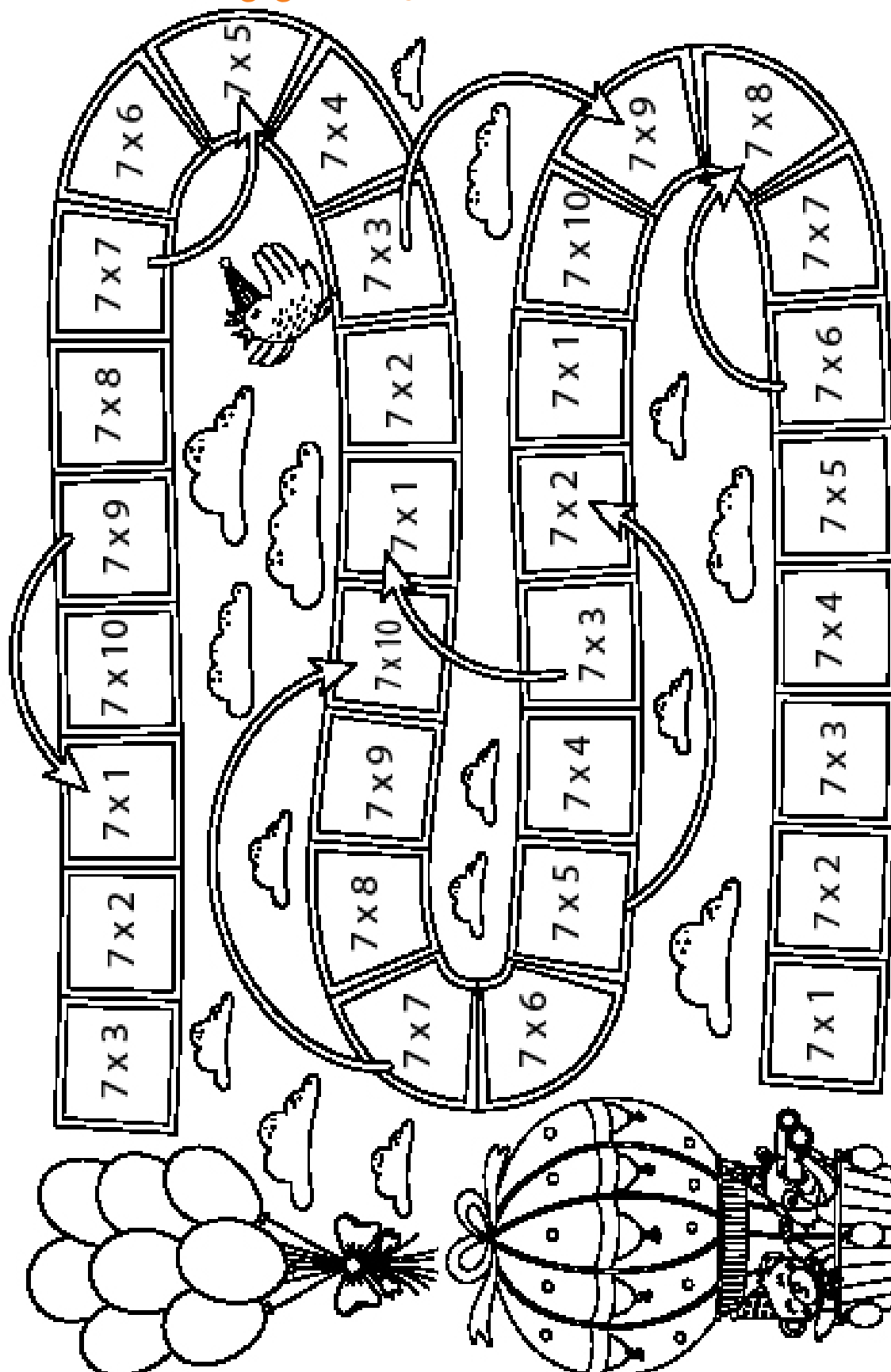




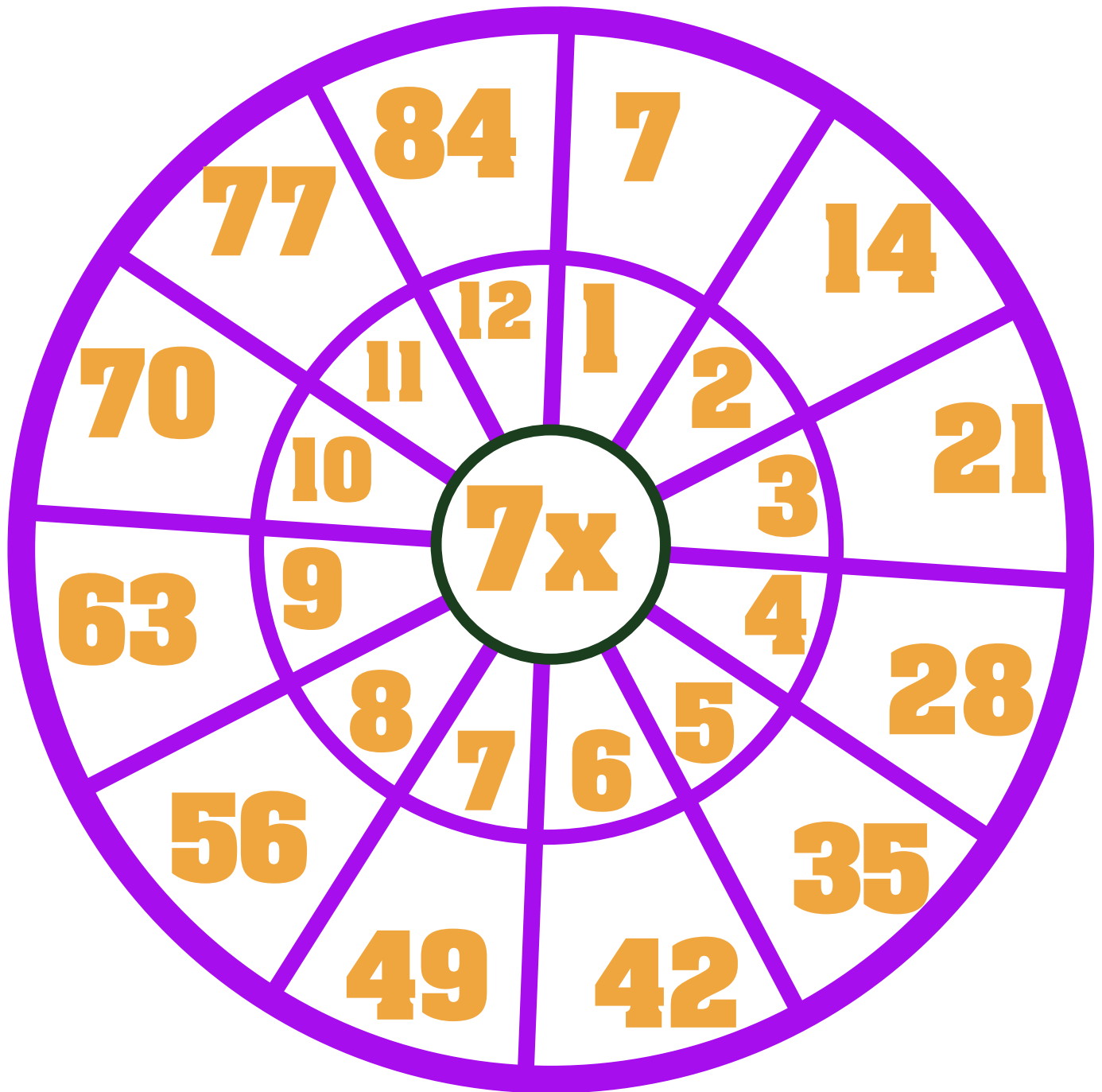
Help the animals get to the bunch of balloons



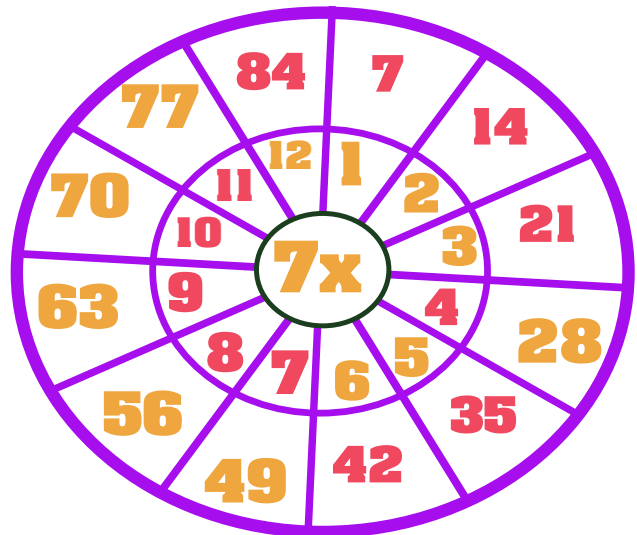
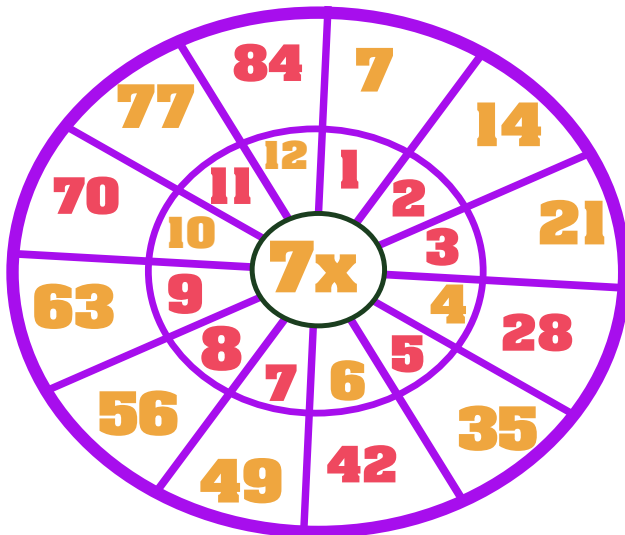
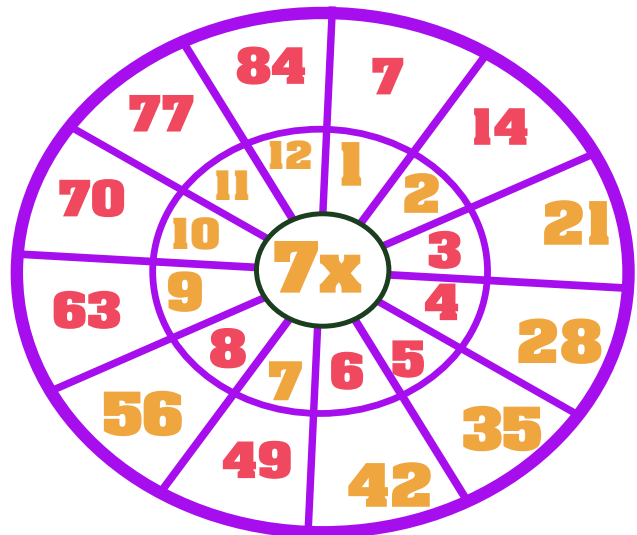
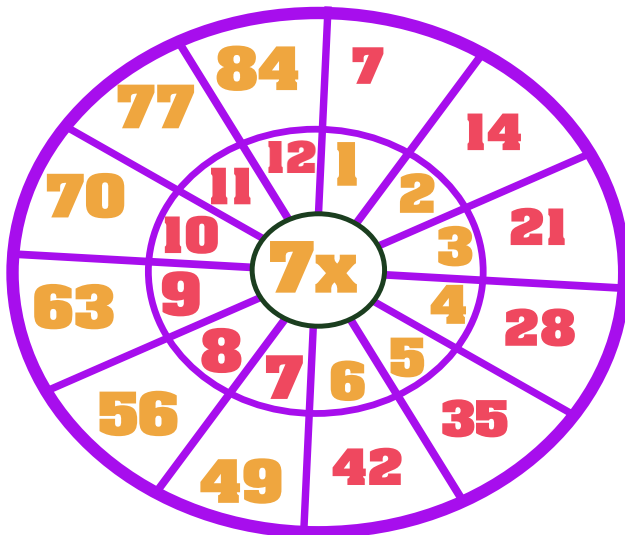
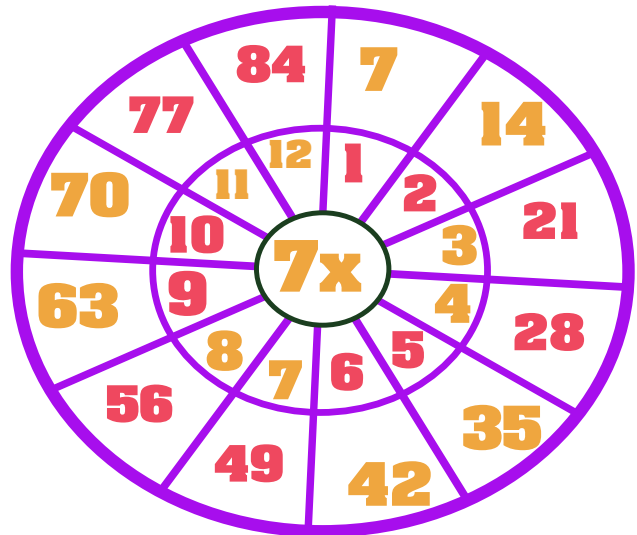
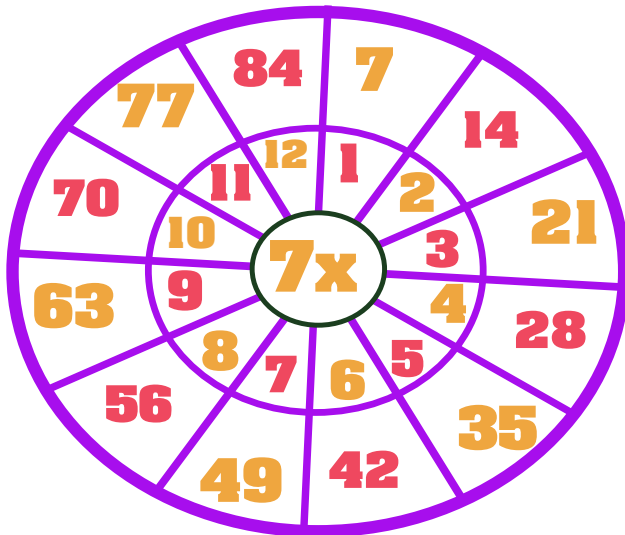
BALLOON RACE



MULTIPLICATION WHEELS



MULTIPLICATION WHEELS



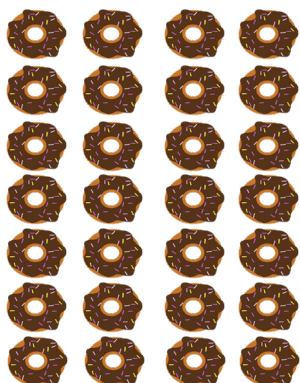
PICTURE FACT FAMILY



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



$$\begin{array}{r} 7 \\ \hline 3 \\ \hline 21 \\ \hline 21 \end{array} \times \begin{array}{r} 3 \\ \hline 7 \\ \hline 3 \\ \hline 7 \end{array} = \begin{array}{r} 21 \\ \hline 21 \\ \hline 7 \\ \hline 3 \end{array}$$

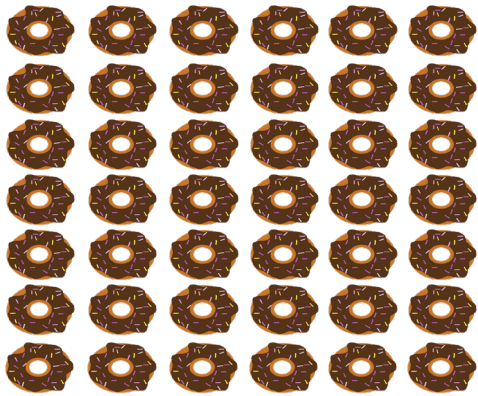


$$\begin{array}{r} 7 \\ \hline 4 \\ \hline 28 \\ \hline 28 \end{array} \times \begin{array}{r} 4 \\ \hline 7 \\ \hline 4 \\ \hline 7 \end{array} = \begin{array}{r} 28 \\ \hline 28 \\ \hline 7 \\ \hline 4 \end{array}$$

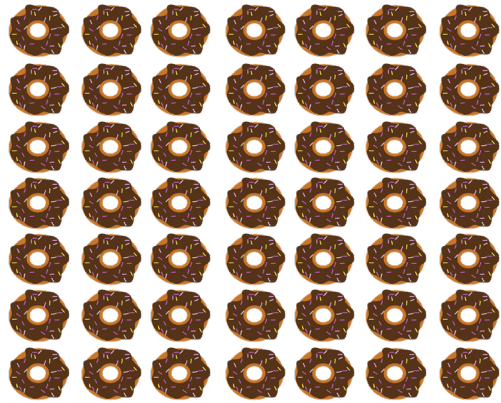


$$\begin{array}{r} 7 \\ \hline 5 \\ \hline 35 \\ \hline 35 \end{array} \times \begin{array}{r} 5 \\ \hline 7 \\ \hline 5 \\ \hline 7 \end{array} = \begin{array}{r} 35 \\ \hline 35 \\ \hline 7 \\ \hline 5 \end{array}$$

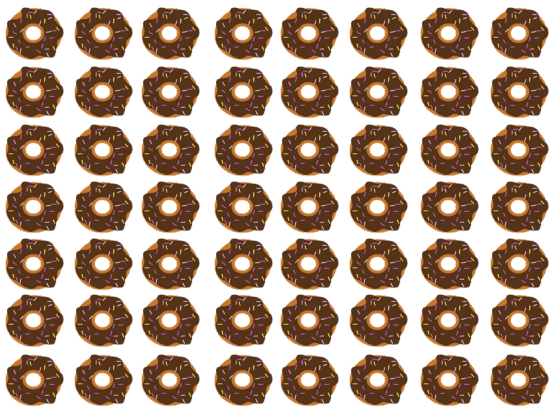
PICTURE FACT FAMILY



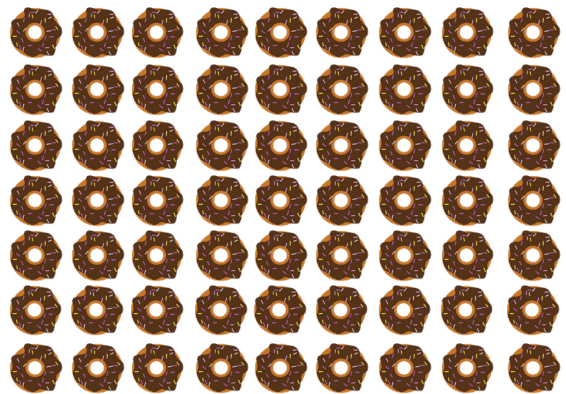
$$\begin{array}{r} 7 \times 6 = 42 \\ 6 \times 7 = 42 \\ 42 \div 6 = 7 \\ 42 \div 7 = 6 \end{array}$$



$$\begin{array}{r} 7 \times 7 = 49 \\ 7 \times 7 = 49 \\ 49 \div 7 = 7 \\ 49 \div 7 = 7 \end{array}$$

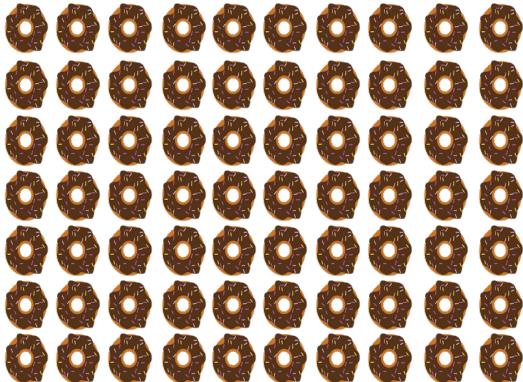


$$\begin{array}{r} 7 \times 8 = 56 \\ 8 \times 7 = 56 \\ 56 \div 8 = 7 \\ 56 \div 7 = 8 \end{array}$$



$$\begin{array}{r} 7 \times 9 = 63 \\ 9 \times 7 = 63 \\ 63 \div 9 = 7 \\ 63 \div 7 = 9 \end{array}$$

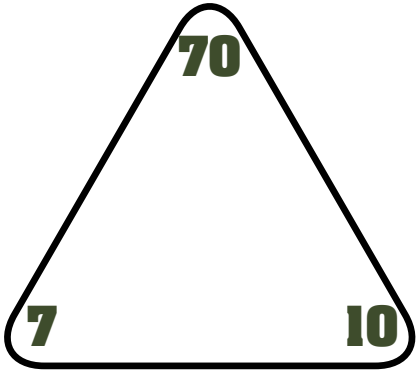
PICTURE FACT FAMILY


$$\begin{array}{r} 7 \\ \hline 10 \end{array} \times \begin{array}{r} 10 \\ \hline 7 \end{array} = \begin{array}{r} 70 \\ \hline 70 \end{array}$$
$$\begin{array}{r} 70 \\ \hline 70 \end{array} \div \begin{array}{r} 10 \\ \hline 7 \end{array} = \begin{array}{r} 7 \\ \hline 10 \end{array}$$

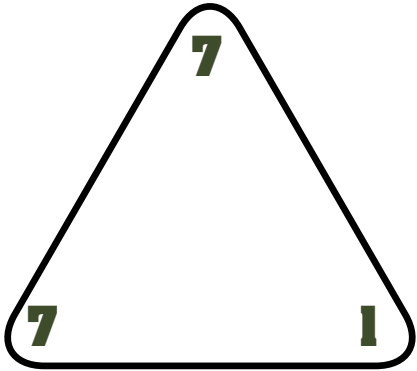
MAKE YOUR OWN

_____	x	_____	=	_____
_____	x	_____	=	_____
_____	÷	_____	=	_____
_____	÷	_____	=	_____

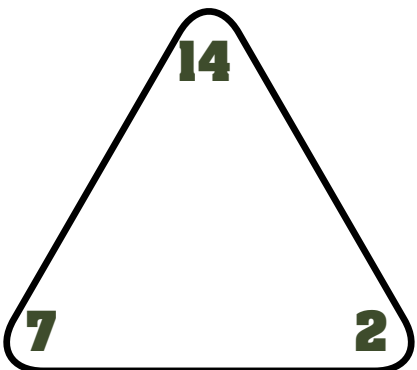
TRIANGLE FACT FAMILY



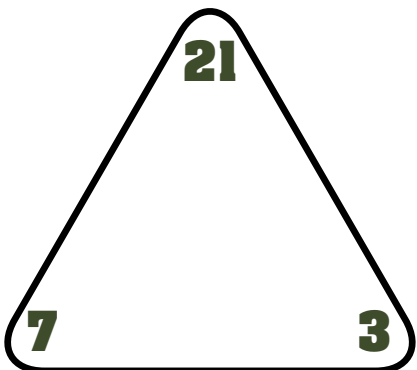
A triangle with the number 70 at the top vertex, 7 at the bottom-left vertex, and 10 at the bottom-right vertex.

$$\begin{array}{rcl} 7 & \times & 10 = 70 \\ 10 & \times & 7 = 70 \\ 70 & \div & 10 = 7 \\ 70 & \div & 7 = 10 \end{array}$$


A triangle with the number 7 at the top vertex, 7 at the bottom-left vertex, and 1 at the bottom-right vertex.

$$\begin{array}{rcl} 7 & \times & 1 = 7 \\ 1 & \times & 7 = 7 \\ 7 & \div & 1 = 7 \\ 7 & \div & 7 = 1 \end{array}$$


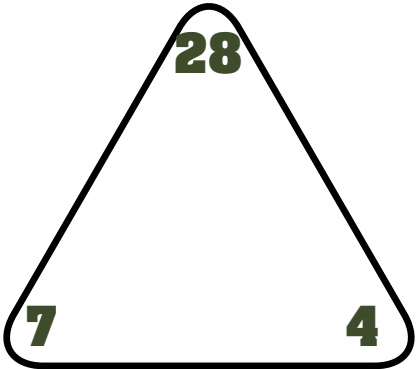
A triangle with the number 14 at the top vertex, 7 at the bottom-left vertex, and 2 at the bottom-right vertex.

$$\begin{array}{rcl} 7 & \times & 2 = 14 \\ 2 & \times & 7 = 14 \\ 14 & \div & 2 = 7 \\ 14 & \div & 7 = 2 \end{array}$$


A triangle with the number 21 at the top vertex, 7 at the bottom-left vertex, and 3 at the bottom-right vertex.

$$\begin{array}{rcl} 7 & \times & 3 = 21 \\ 3 & \times & 7 = 21 \\ 21 & \div & 3 = 7 \\ 21 & \div & 7 = 3 \end{array}$$

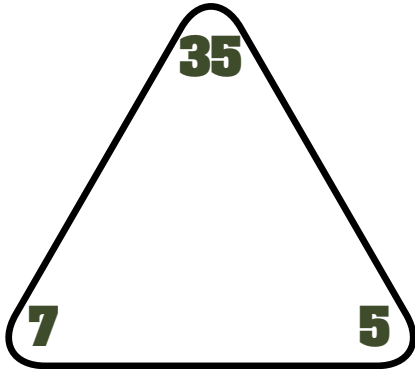
TRIANGLE FACT FAMILY



28

7

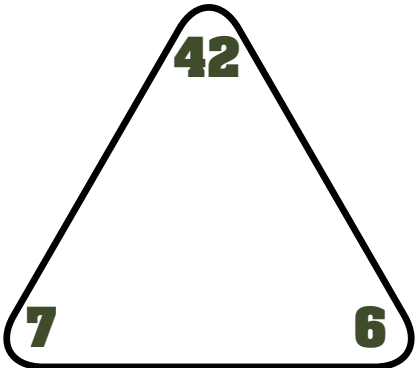
4

$$\begin{array}{r} 7 \times 4 = 28 \\ 4 \times 7 = 28 \\ 28 \div 4 = 7 \\ 28 \div 7 = 4 \end{array}$$


35

7

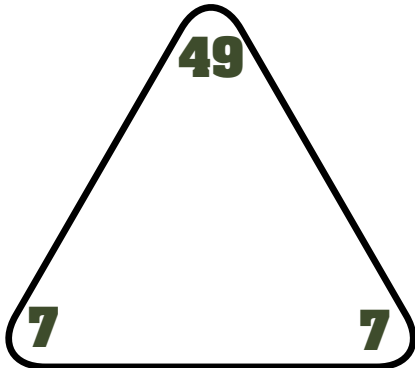
5

$$\begin{array}{r} 7 \times 5 = 35 \\ 5 \times 7 = 35 \\ 35 \div 5 = 7 \\ 35 \div 7 = 5 \end{array}$$


42

7

6

$$\begin{array}{r} 7 \times 6 = 42 \\ 6 \times 7 = 42 \\ 42 \div 6 = 7 \\ 42 \div 7 = 6 \end{array}$$


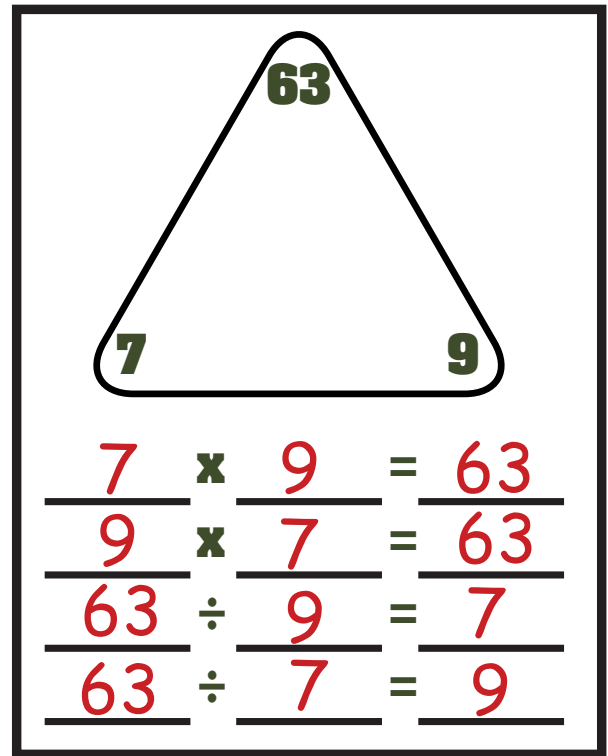
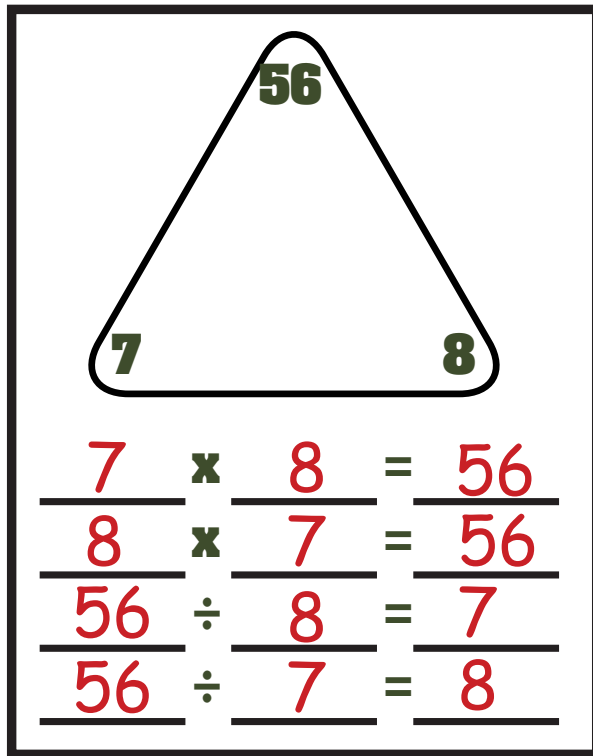
49

7

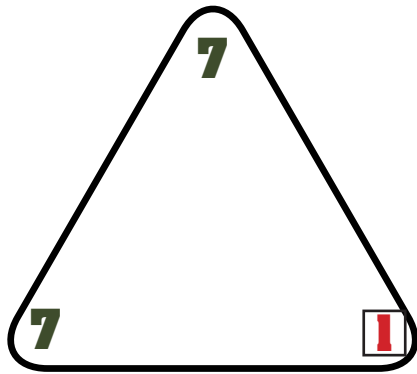
7

$$\begin{array}{r} 7 \times 7 = 49 \\ 7 \times 7 = 49 \\ 49 \div 7 = 7 \\ 49 \div 7 = 7 \end{array}$$

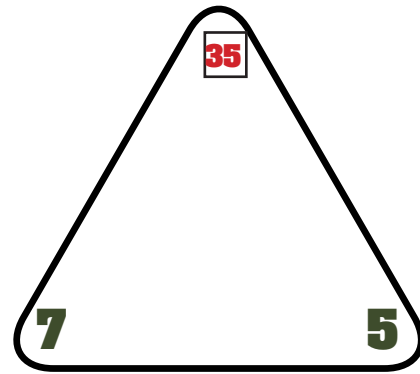
TRIANGLE FACT FAMILY



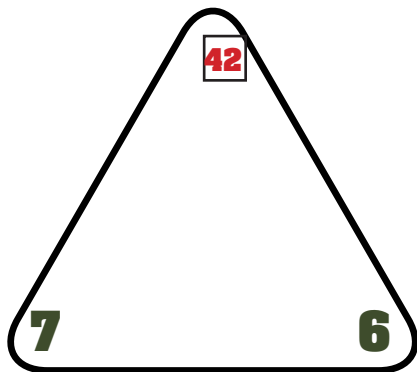
TRIANGLE FACT FAMILY



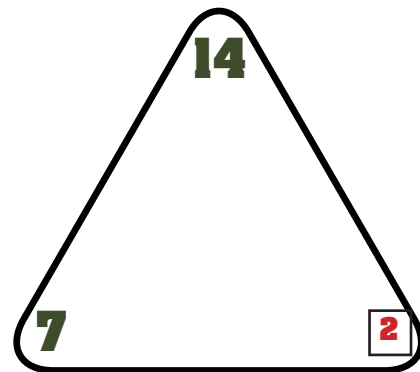
$$\begin{array}{r} 7 \times 1 = 7 \\ 1 \times 7 = 7 \\ 7 \div 1 = 7 \\ 7 \div 7 = 1 \end{array}$$



$$\begin{array}{r} 7 \times 5 = 35 \\ 5 \times 7 = 35 \\ 35 \div 5 = 7 \\ 35 \div 7 = 5 \end{array}$$

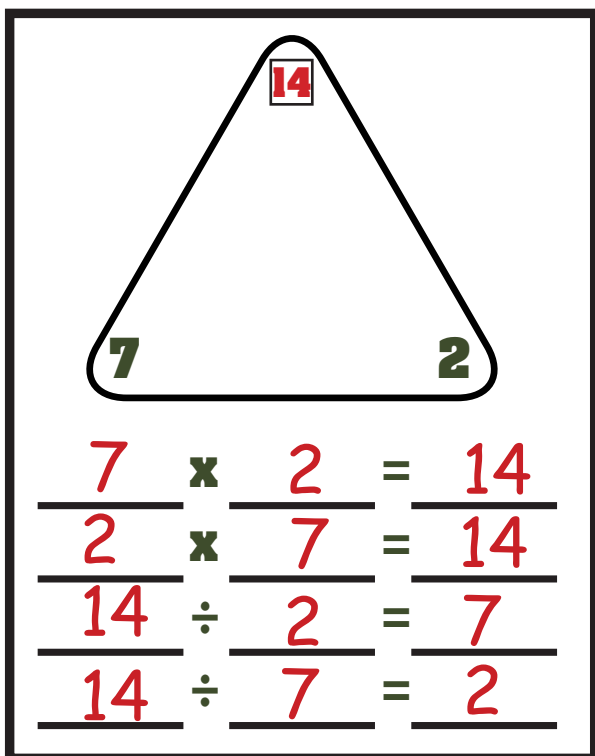
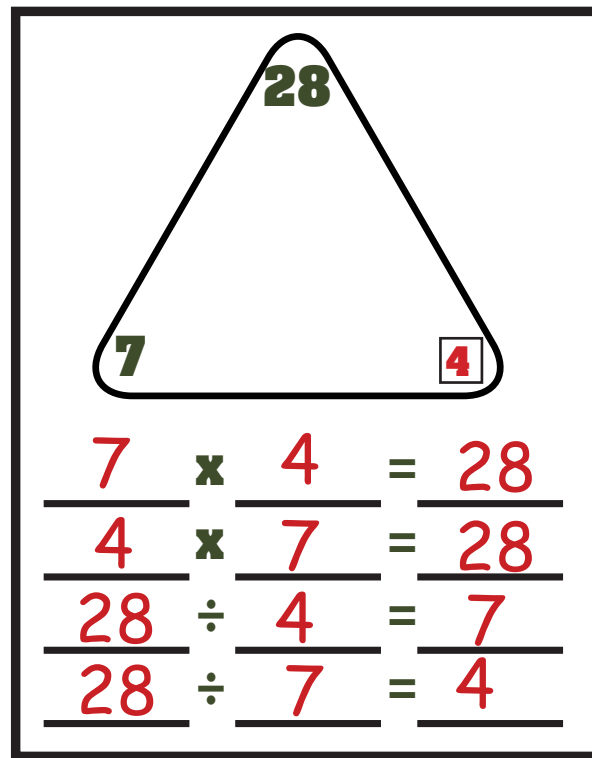
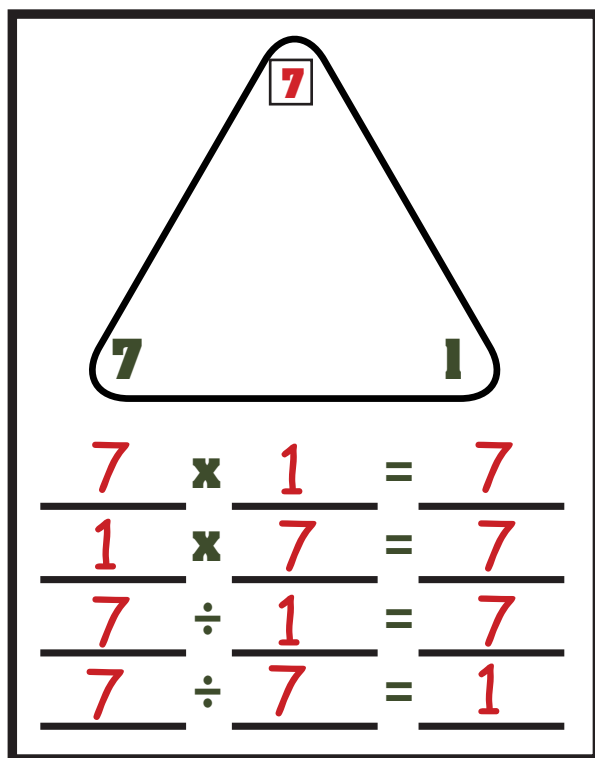


$$\begin{array}{r} 7 \times 6 = 42 \\ 6 \times 7 = 42 \\ 42 \div 6 = 7 \\ 42 \div 7 = 6 \end{array}$$



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

TRIANGLE FACT FAMILY



WORD PROBLEM

MODEL YOUR THINKING AND SOLVE THE PROBLEM

THE BAKERY HAD 7 ROWS OF DONUTS. THERE WERE 6 IN EACH ROW. HOW MANY DONUTS DID THEY HAVE ALTOGETHER?

$$\underline{7} \times \underline{6} = \underline{42}$$

THE BAKERY HAD 7 BOXES WITH 4 DONUTS IN EACH. HOW MANY DONUTS DID THEY HAVE?

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

THERE WERE 7 BAGS OF DONUTS IN THE BAKERY. EACH BAG HAD 3 DONUTS INSIDE. HOW MANY DONUTS WERE THERE ALTOGETHER?

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

THE BAKERY HAD 7 BOXES OF DONUTS WITH 7 DONUTS IN EACH BOX. HOW MANY DONUTS DID THEY HAVE ALTOGETHER?

$$\underline{7} \times \underline{7} = \underline{49}$$

QUIZ

WRITE A 7'S FACT IN EACH BOX. THEN FOLLOW THE INSTRUCTIONS IN EACH BOX TO MATCH THE FACT.

**I CAN SKIP COUNT
BY 7'S!**

**I CAN REPRESENT 7'S
WITH EQUAL GROUPS!**

**I CAN REPRESENT 7'S
WITH ARRAYS!**

**I CAN REPRESENT 7'S
ON THE NUMBER LINE.**

**I CAN USE REPEATED
ADDITION FOR MY 7'S.**

**MY STRATEGY FOR
THINKING ABOUT 7'S IS...**

CERTIFICATE

★ GREAT MATH WORK! ★

HAS SUCCESSFULLY PRACTICED THE
7 TIMES TABLES!

GREAT JOB!

TEACHER: _____ DATE: _____

7

Multiplication

$$\begin{aligned}7 \times 1 &= 7 \\7 \times 2 &= 14 \\7 \times 3 &= 21 \\7 \times 4 &= 28 \\7 \times 5 &= 35 \\7 \times 6 &= 42 \\7 \times 7 &= 49 \\7 \times 8 &= 56 \\7 \times 9 &= 63 \\7 \times 10 &= 70\end{aligned}$$

Hint: Break apart 7 in different ways. For example: 2 and 5 ...

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