# Board Games for Early Mathematics: Multiplication

***Start at the beginning, and stick to the order given. Skipping is OK if a learner can use the concepts to solve problems. For tips, background info, and an assessment to show if a different section would help, visit reckonmath.com.***

This packet includes these multiplication games and activities:

Think about what multiplication is
This many stars, that many times
Writing number sentences about multiplication
Write your own number sentences about multiplication
Learn the words "factor" and "product"
A number multiplied by 0 is 0
A number multiplied by 1 is the same number
Multiply by 10
2x3 = 3x2 (Commutative property of multiplication)
Multiply by 2, with answer key
Multiply by 2, no answer key
Multiply by 2, larger factors
Prime numbers
3 x (2x2) = (3x2) x 2 (Associative property of multiplication)
60 and its factors
Square numbers, with answer key
Square numbers, no answer key
Powers of 2, with answer key
Powers of 2 up to 64, no answer key
Powers of 2 up to 1028, no answer key
Find half of a number, with answer key
Find half of a number, no answer key
Multiply 1 1/2, 2 1/2, 3 1/2, and 4 1/2 by 10
5 x 3, 5 x 5, 5 x 7, and 5 x 9
Multiply by 5 by dividing in half and multiplying by 10
Multiply by 5, with answer key
Multiply by 5, no answer key
Multiply by 5, larger factors
The first three multiples of 3
Is it a multiple of 3?
Use addition or subtraction (Distributive property of multiplication)
Use addition to multiply: 3 = 2 + 1
Odd products
Multiply by 3, with answer key
Multiply by 3, no answer key
Multiply by 3, larger factors
Use addition to multiply: 4 = 2 + 2
Multiply by 4, with answer key
Multiply by 4, no answer key
Multiply by 4, larger factors
Use addition to multiply: 6 = 3 + 3
Use addition to multiply: 6 = 5 + 1
Multiply by 6, with answer key
Multiply by 6, no answer key
Multiply by 6, larger factors
Use addition to multiply: 7 = 5 + 2
Multiply by 7, with answer key
Multiply by 7, no answer key
Multiply by 7, larger factors
Use addition to multiply: 8 = 4 + 4
Use subtraction to multiply: 8 = 10 – 2
Multiply by 8, with answer key

**LIST CONTINUED ON NEXT PAGE**

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This packet includes these multiplication games and activities:

**LIST CONTINUED FROM PREVIOUS PAGE**

Multiply by 8, no answer key
Multiply by 8, larger factors
Use subtraction to multiply: 9 = 10 – 1
Multiply by 9, with answer key
Multiply by 9, no answer key
Multiply by 9, larger factors
If you have to skip count, you don't know the fact
Multiples of 2: Factors
Multiples of 3: Factors
Multiples of 4: Factors
Multiples of 5: Factors
Multiples of 6: Factors
Multiples of 7: Factors
Multiples of 8: Factors
Multiples of 9: Factors
Multiples of 10: Factors
10 x 10 multiplication table
3-D multiplication table
Products of factors that add to 12, with answer key
Products of factors that add to 12, no answer key
Products of factors that add to 13, with answer key
Products of factors that add to 13, no answer key
Products of factors that add to 14, with answer key
Products of factors that add to 14, no answer key
Products of factors that add to 15, with answer key
Products of factors that add to 15, no answer key
Products of factors that add to 16, with answer key
Products of factors that add to 17, with answer key
Products of factors that add to 17, no answer key
Products of 3 and 4 on the multiplication table
Products of 3 and 4 off the multiplication table
Products of 6, 7, 8, 9 on the multiplication table
Products of 6, 7, 8, 9 off the multiplication table
Equivalent factor pairs, with answer key
Equivalent factor pairs, no answer key
Identify multiplication facts you can learn better
Multiply by 11
Multiply by 12
Multiples of 11: Factors
Multiples of 12: Factors
Make your own multiplication bump game
Fill in the factors, products between 4 and 9
Fill in the factors, products between 10 and 18
Fill in the factors, products between 20 and 28
Fill in the factors, products between 30 and 36
Fill in the factors, products between 40 and 56
Fill in the factors, products between 63 and 81
Name factors 4, 6, 7, 8, 9 from their products

# Think about what multiplication is

**I know that 2 + 2 + 2 is 6.**
**I can say the same thing like this: 2, _____ times, is _____.**

*3 trees* is the same as *1 tree, 3 times*: 

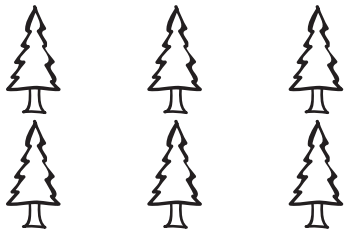
Does this *1 tree, 3 times* idea only work for trees?
No, it works for 1 of anything 3 times.

So we can leave "tree" out and just say:
*3* is the same as *1, 3 times*.

OK, that's *1, 3 times*. Does it make sense to say *2, 3 times*?

Yes.
*2, 3 times* means *2 of something, 3 times*.

How many is *2, 3 times*?
It's 2 + 2 + 2.
That's the same as 6.
So *2, 3 times* is the same as *6*.

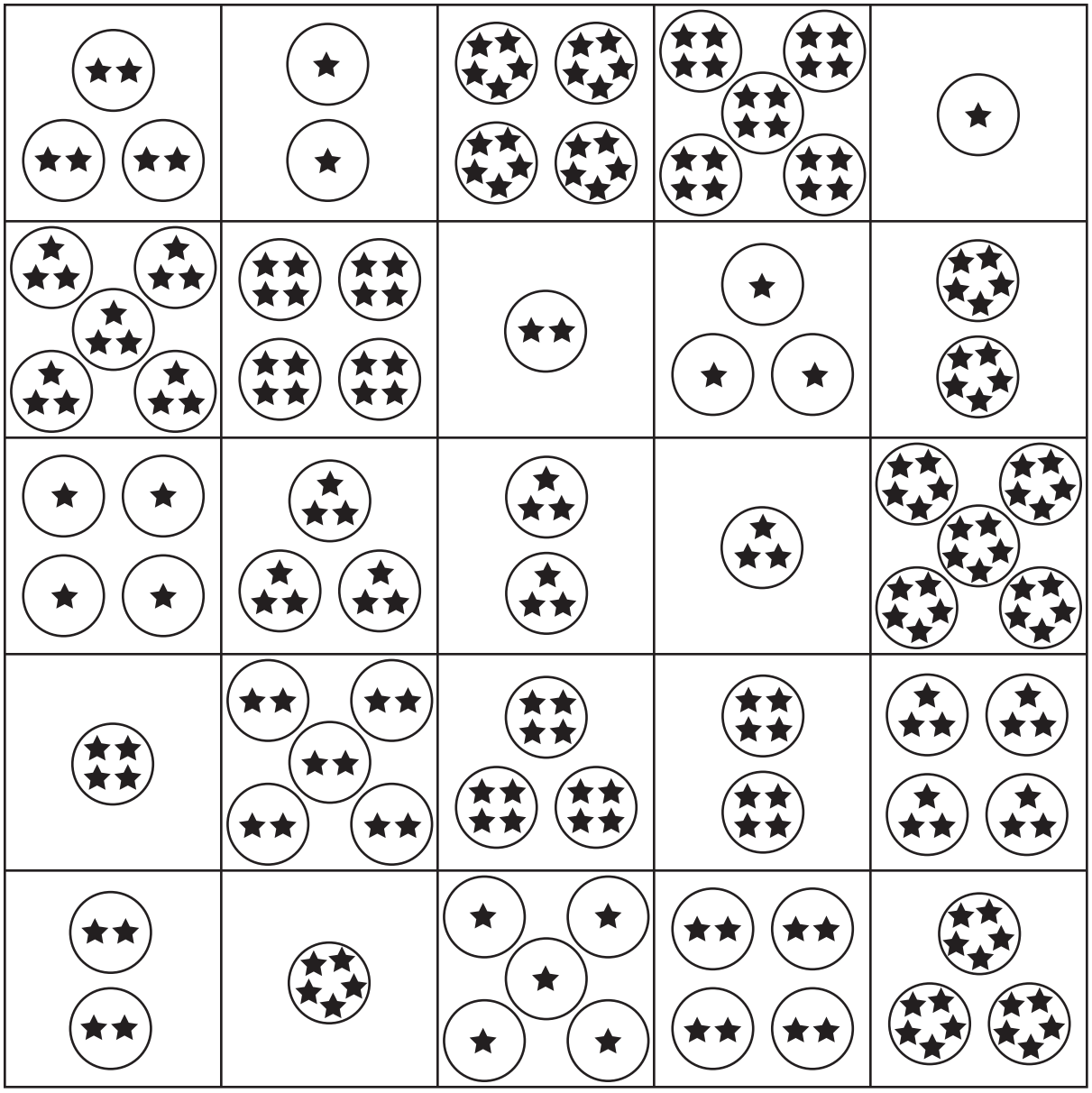


An adult helper can walk learners through this discussion activity, or learners who are comfortable reading can work on their own or with a partner. Learners who aren't used to talking about a text with a partner can use this method: Put a check mark next to any line that makes sense right away. Now look at one of the other lines. Talk about the line with each other. Can the two of you figure out why it makes sense? If you can, put a check mark by it. If you can't, move on to another line. Keep doing this until you have tried to figure out every line. If any lines still don't have a check mark, ask someone else to help you understand why those lines make sense.

# This many stars, that many times

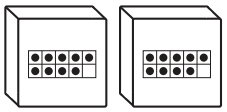
**I rolled _____ and _____.**

**That's _____ stars _____ times, or _____ stars _____ times.**



*Questions?* **reckonmath.com**

**M**



Two 0-5 frame dice, and counters in two colors.

In this game, a 2 and a 3 means "2, 3 times". Find the picture with 2 stars, 3 times (top left corner). If you count, you will see that 2 stars, 3 times is 6 stars. **How to play:** On your turn, roll both dice. If you roll a zero, roll again. Find a picture that goes with your numbers, cover it, and say the total number of stars. If none of the available pictures go with your numbers, it is the other player's turn. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins. **Example:** If you roll a 2 and a 3, choose the picture of 2 stars 3 times OR the picture of 3 stars 2 times. **Fun fact:** The total number of stars, 6, is the same in both pictures.

Skill Builders: Think about what multiplication is (M)

CCSS.MATH.CONTENT.3.OA.A.1

# Writing number sentences about multiplication

**We write 3 x 2 = 6.**

**We don't write 2 3 x = 6, because _____.**

We can write *2, 3 times is 6* like this:
3 x 2 = 6.

Some people feel like this doesn't make sense.
They think,
If you want to write *2, 3 times is 6* in math language,
it should be 2 3 x = 6.

That is very logical. Anyone who feels that way is doing good thinking about mathematics.

The problem is, if we write 2 3 x = 6, we might confuse the people who are reading what we wrote.
Readers might think we mean 23 x : "Twenty-three times".

To fix that problem, we can write the 3 x part in front of the 2:
3 x 2 = 6.
Now, readers can see that it's a 2 and a 3, not the number 23.

There is a different way to write *2, 3 times is 6* that also works.
We can write the 2 first.
Then we put the x sign BEFORE the 3:
2 x 3 = 6.
That way is also OK.

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An adult helper can walk learners through this discussion activity, or learners who are comfortable reading can work on their own or with a partner. Learners who aren't used to talking about a text with a partner can use this method: Put a check mark next to any line that makes sense right away. Now look at one of the other lines. Talk about the line with each other. Can the two of you figure out why it makes sense? If you can, put a check mark by it. If you can't, move on to another line. Keep doing this until you have tried to figure out every line. If any lines still don't have a check mark, ask someone else to help you understand why those lines make sense.

# Write your own number sentences about multiplication

**My number sentence for [this picture / these words] is _____.**

| Dots | Words for the dots | Number sentence |
|---|---|---|
|  | A group of 2 dots, 3 times | 3 x 2 = 6 |
|  | A group of 2 dots, 3 times | 3 x 2 = 6 |
|  | A group of 2 dots, 3 times | 3 x 2 = 6 |
|  | A group of 2 dots, 3 times | 3 x 2 = 6 |
|  | 2 dots in each column, 3 columns | 3 x 2 = 6 |
|  | 2 dots in each row, 3 rows | 3 x 2 = 6 |
|  | A group of 3 dots, 4 times | |
|  | A group of 3 dots, 4 times | |
|  | A group of 3 dots, 4 times | |
|  | A group of 3 dots, 4 times | |
|  | 3 dots in each column, 4 columns | |
|  | 3 dots in each row, 4 rows | |

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In this activity, you can get used to some of the different things a multiplication sentence can mean. It's good to really understand what multiplication sentences mean before you move on to the next games. **What to do:** For each group of dots, write a number sentence about the multiplication fact the dots are illustrating. The first six answers are given to you. Then, on the extra sheet of paper, draw dots for a new number sentence that you choose yourself. If you want to write words too, you can.

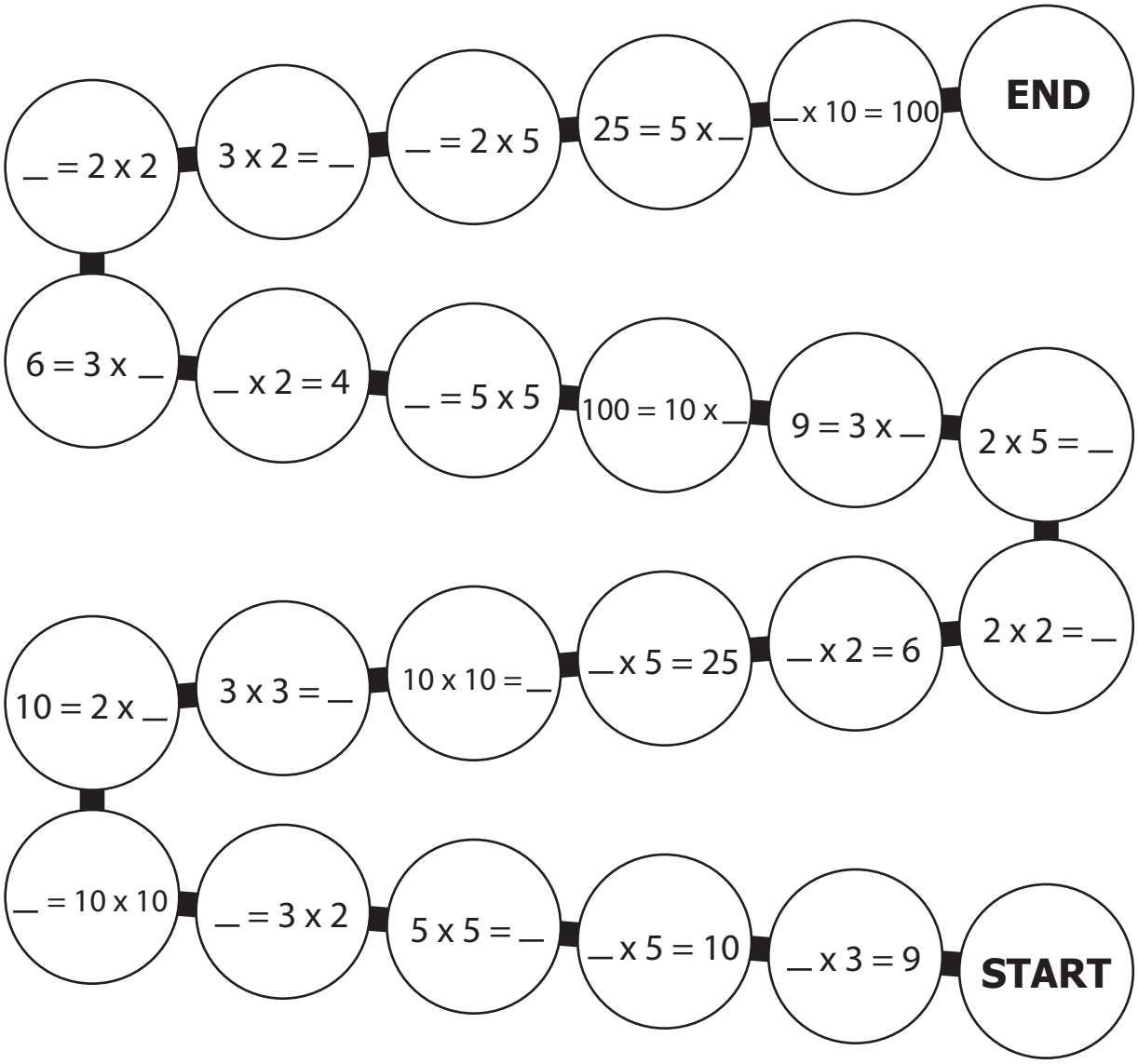
M

Skill Builders: Think about what multiplication is (M), This many stars, that many times (M), Writing number sentences about multiplication (M)

CCSS.MATH.CONTENT.3.OA.A.1

# Learn the words "factor" and "product"

**It's a [factor / product].**

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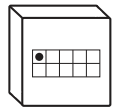

A 0-5 frame die, and two counters.

In a multiplication sentence, the factors are the numbers you multiply and the product is what those numbers multiply to. In 4 x 2 = 8, the factors are 4 and 2 and the product is 8. **Notice:** The product can be on the left of the equals sign and the factors on the right, or the factors can be on the left and the product on the right. **How to play:** On your turn, roll the die and move forward that many spaces. If you roll a zero, roll again. Look at the equation you landed in and say whether the blank is a factor or a product. You do not have to say the number. Just say "Factor" or "Product". **Example:** If you land on the equation __ x 3 = 9, say "Factor." **The first player to land on END wins.**

M

CCSS.MATH.CONTENT.4.OA.B.4 Skill Builders: Previous multiplication activities, This many stars, that many times (M)

# A number multiplied by 0 is 0

**I know _____ x 0 is _____ because _____.**

| START | | | | | END |
|---|---|---|---|---|---|

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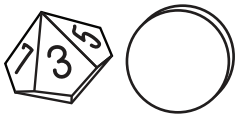


A ten-sided die, a coin for flipping, and two counters.

**How to play:** On your turn, roll the die. If you roll a zero, it means zero. Say the number you rolled times zero, and the answer. Then flip the coin. If you get heads, move forward one space. If you get tails, move forward two spaces. **Example:** If you roll a three, say "3 times 0 is 0" and then flip the coin to see how far to move. Instructors, make sure learners understand why a number times zero is zero. You can ask "OK, so 3 x 0 is 0, but why is that true?" If they understand, they might say something like "Zero is a number that means nothing. Three times nothing is still nothing." **The first player to land on END wins.**

M



CCSS.MATH.CONTENT.3.OA.A.1 Skill Builders: Count groups of zero, two, and six (C), Previous multiplication games

# A number multiplied by 1 is the same number

**I know _____ x 1 is _____ because _____.**

| START | | | | | END |
|---|---|---|---|---|---|

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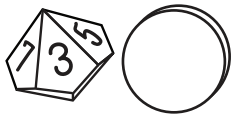



A ten-sided die, a coin for flipping, and two counters.

**How to play:** On your turn, roll the die. If you roll a zero, it means zero. Say the number you rolled times one, and the answer. Then flip the coin. If you get heads, move forward one space. If you get tails, move forward two spaces. **Example:** If you roll a three, say "3 times 1 is 3" and then flip the coin to see how far to move. Instructors, make sure learners understand why a number times one is the same number. You can ask "OK, so 3 x 1 is 3, but why is that true?" If they understand, they might say something like "One 3 is 3", or "Three ones is what three is". **The first player to land on END wins.**

M

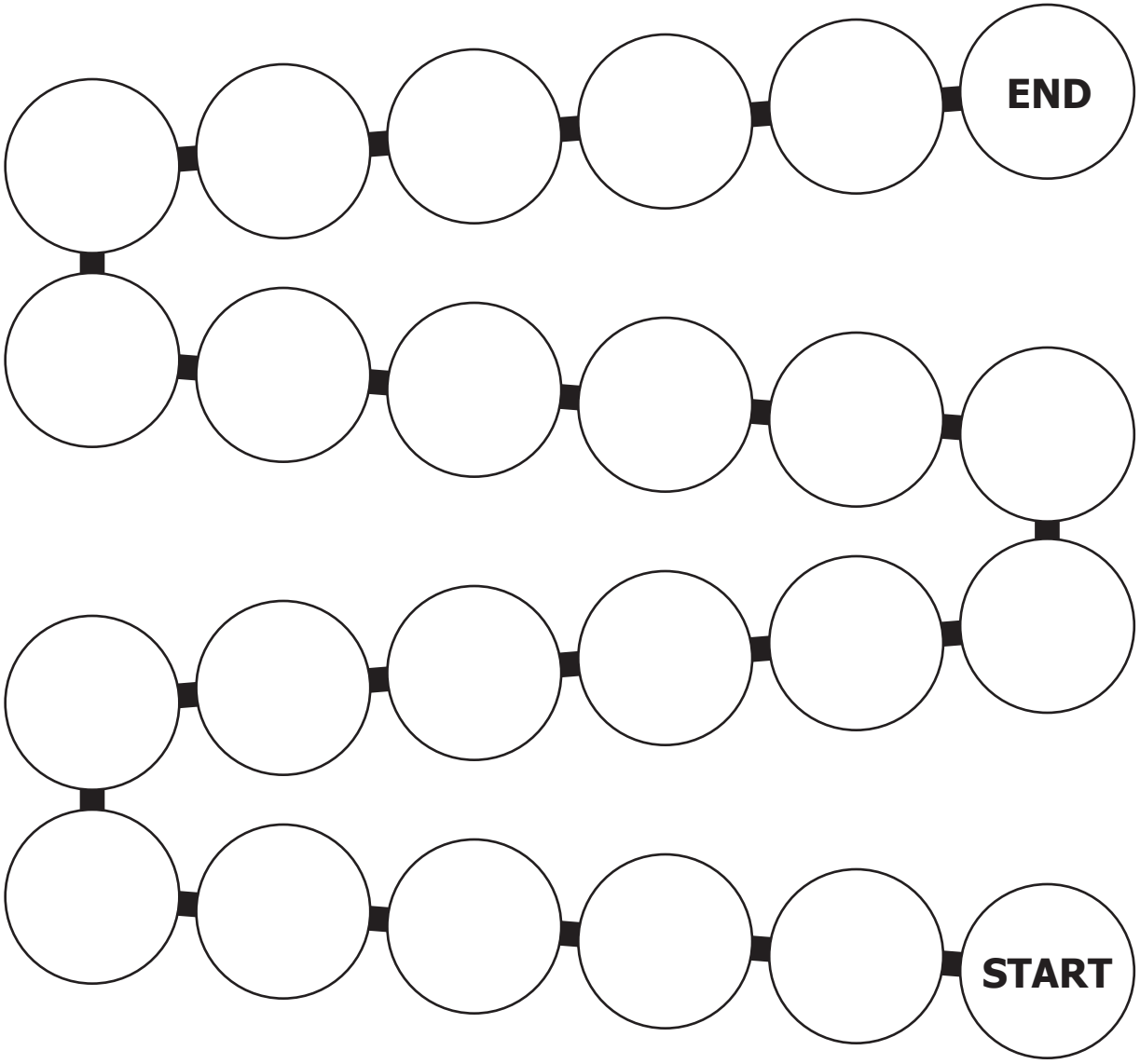


Skill Builders: This many stars, that many times (M), previous multiplication games

CCSS.MATH.CONTENT.3.OA.A.1

# Multiply by 10

**I know _____ x 10 is _____ because _____.**

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A ten-sided die, and two counters.

**How to play:** On your turn, roll the die and say the product of the number you rolled times 10. If you roll a zero, it means ten. After you say the product, move forward as many spaces as the number you rolled. **Example:** If you roll a 5, say "5 times 10 is 50" and move forward five spaces. **The first player to land on END wins.** Instructors, make sure learners understand why a number multiplied by 10 has the same digits as the original number, with an extra zero in the ones place: 3 x 10 = 30. One way to do this is to ask them how this pattern is connected to place value. Learners need to understand that moving a digit one place to the left is equivalent to multiplying it by ten.

M

CCSS.MATH.CONTENT.3.NBT.A.3 Skill Builders: Find the ones place (PV), Find the tens place (PV), Find the value of digits in the tens place (PV)

# 2x3 = 3x2 (Commutative property of multiplication)

**2 x 3 is 6. That means 3 x 2 is also _____.**

What is 2 x 3?
You already know it is 6.
So, 2 x 3 is the same as 6.
Is 2 x 3 the same as anything else?
Yes. Here is one important thing that 2 x 3 is the same as:
2 x 3 is the same as 3 x 2.
Can you see why that is true?
Well, you know that 2 x 3 = 6.
And you also know that 3 x 2 = 6.
So even if you hadn't thought about it before, now you know that 2 x 3 and 3 x 2 are both the same as 6.
And if two numbers are the same as a third number, those two numbers must be the same as each other.
So, it has to be true that 2 x 3 is the same as 3 x 2.
And so, 2 x 3 = 3 x 2.

This is true for any two numbers!
Sometimes, remembering this fact comes in very handy.



An adult helper can walk learners through this discussion activity, or learners who are comfortable reading can work on their own or with a partner. Learners who aren't used to talking about a text with a partner can use this method: Put a check mark next to any line that makes sense right away. Now look at one of the other lines. Talk about the line with each other. Can the two of you figure out why it makes sense? If you can, put a check mark by it. If you can't, move on to another line. Keep doing this until you have tried to figure out every line. If any lines still don't have a check mark, ask someone else to help you understand why those lines make sense.

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 2, with answer key

**2 x _____ is _____ / _____ x 2 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1 x 2<br>2 | | | | | | | | |
| 2 | 2 x 1<br>2 | 2 x 2<br>4 | 2 x 3<br>6 | 2 x 4<br>8 | 2 x 5<br>10 | 2 x 6<br>12 | 2 x 7<br>14 | 2 x 8<br>16 | 2 x 9<br>18 | 2 x 10<br>20 |
| 3 | | 3 x 2<br>6 | | | | | | | | |
| 4 | | 4 x 2<br>8 | | | | | | | | |
| 5 | | 5 x 2<br>10 | | | | | | | | |
| 6 | | 6 x 2<br>12 | | | | | | | | |
| 7 | | 7 x 2<br>14 | | | | | | | | |
| 8 | | 8 x 2<br>16 | | | | | | | | |
| 9 | | 9 x 2<br>18 | | | | | | | | |
| 10 | | 10 x 2<br>20 | | | | | | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 2 and the product, or say 2 times the number and the product. **Example:** If you roll a five, say "5 times 2 is 10" or "2 times 5 is 10". Put a counter on a space for that fact. If both spaces are occupied (5x2 AND 2x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** Multiplying a number by 2 is the same as adding that number to itself. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

# Multiply by 2, no answer key

**2 x _____ is _____ / _____ x 2 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1 x 2 | | | | | | | | |
| 2 | 2 x 1 | 2 x 2 | 2 x 3 | 2 x 4 | 2 x 5 | 2 x 6 | 2 x 7 | 2 x 8 | 2 x 9 | 2 x 10 |
| 3 | | 3 x 2 | | | | | | | | |
| 4 | | 4 x 2 | | | | | | | | |
| 5 | | 5 x 2 | | | | | | | | |
| 6 | | 6 x 2 | | | | | | | | |
| 7 | | 7 x 2 | | | | | | | | |
| 8 | | 8 x 2 | | | | | | | | |
| 9 | | 9 x 2 | | | | | | | | |
| 10 | | 10 x 2 | | | | | | | | |

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A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. ou can choose: Say the number times 2 and the product, or say 2 times the number and the product. **Example:** If you roll a five, say "5 times 2 is 10" or say "2 times 5 is 10". Put a counter on a space for that fact. If both spaces are occupied (5x2 AND 2x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** Multiplying a number by 2 is the same as adding that number to itself. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

Skill Builders: Multiply by 2, with answer key (M)

CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 2, larger factors

**2 x _____ is _____ / _____ x 2 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | 2 x 5 | 2 x 6 | 2 x 7 | 2 x 8 | 2 x 9 | 2 x 10 |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | 5 x 2 | | | | | | | | |
| 6 | | 6 x 2 | | | | | | | | |
| 7 | | 7 x 2 | | | | | | | | |
| 8 | | 8 x 2 | | | | | | | | |
| 9 | | 9 x 2 | | | | | | | | |
| 10 | | 10 x 2 | | | | | | | | |

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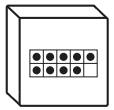


A 5-10 frame die, and counters in two colors.

**How to play:** On your turn, roll the die. You can choose: Say the number times 2 and the product, or say 2 times the number and the product. **Example:** If you roll a five, say "5 times 2 is 10" or say "2 times 5 is 10". Put a counter on a space for that fact. If both spaces are occupied (5x2 AND 2x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** Multiplying a number by 2 is the same as adding that number to itself.

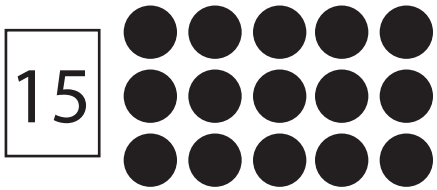
M

Skill Builders: Multiply by 2, with answer key (M)

CCSS.MATH.CONTENT.3.OA.C.7

# Prime numbers

**Numbers that can't be made into a rectangle are called _____ numbers.**





2 3 4 5 6 7 8 9 10 11 12

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M

15-20 counters

If you take 15 counters, you can arrange them in a rectangle 5 counters wide and 3 counters high. But with 7 counters, you can only make a line. **What to do:** For each number, take that many counters. Can you make them into a rectangle (or square) with two or more counters in both directions? **Prime numbers** are the numbers you can only make into a line. **Composite numbers** are the numbers you can make into rectangles. When two whole numbers, both greater than one, are multiplied, the product is always a composite number, never a prime number. Are there any even prime numbers that are greater than 2? Which numbers on this page are both odd and composite?

Skill Builders: Write your own number sentences about multiplication (M), Learn the words "factor" and "product" (M), Identify odd and even 2-digit numbers (PV)

CCSS.MATH.CONTENT.4.OA.B.4

# 3 x (2x2) = (3x2) x 2 (Associative property of multiplication)

**4 is 2 x 2. That means 3 x 4 is the same as _____.**

What is 3 x 4?
You probably already know it is 12.
**But what if you only knew how to multiply by two?**
How could you figure out 3 x 4 then?
You could do it if you write 3 x 4 as something else that it is the same as.
3 x 4 is the same as 3 x (2 x 2), because (2 x 2) = 4.

Is 3 x 2 x 2 the same as anything else?

Yes. Here, a handy thing for 3 x (2 x 2) to be the same as is (3 x 2) x 2.

Why is this so handy?
Remember up there, where we said "**what if you only knew how to multiply by two?**"
In that case, you wouldn't know what 3 x 4 is. But you would know what 3 x 2 is. You would know that it is 6.
So you could turn 3 x 2 x 2 into 6 x 2.
And then you could look at 6 x 2, and know it is 12.
Even though you only knew how to multiply by two, you could still figure out 3 x 4.
You can do this with many multiplication problems. It's useful sometimes.

*Questions?* **reckonmath.com**

An adult helper can walk learners through this discussion activity, or learners who are comfortable reading can work on their own or with a partner. Learners who aren't used to talking about a text with a partner can use this method: Put a check mark next to any line that makes sense right away. Now look at one of the other lines. Talk about the line with each other. Can the two of you figure out why it makes sense? If you can, put a check mark by it. If you can't, move on to another line. Keep doing this until you have tried to figure out every line. If any lines still don't have a check mark, ask someone else to help you understand why those lines make sense.

# 60 and its factors

**One hour is the same as _____ minutes, _____ times.**











CCSS.MATH.CONTENT.3.OA.C.7

Skill Builders: Learn the words "factor" and "product" (M), previous multiplication games

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The 2, 3, 4, 5, 6 cards from a deck of ten-frame cards, and counters in two colors.

Why is an hour 60 minutes? 60 has many factors, so you can group 60 in many different ways. This game shows you that 2 x 30, 3 x 20, 4 x 15, 5 x 12, and 6 x 10 are all equal to 60. **How to play:** On your turn, draw a card. Put a counter on the square of the row where your number is a factor. An adult helper describes the information shown in that row. **Example:** If you drew a 2, put a counter in the top square. The helper says "2 times 30 is 60 [point at dot array], and 2 times 30 minutes is an hour [point at circle]. If the other player's counter is already in a row, you can bump it off. **When all five squares are covered, the player with more counters wins.**

M

# Square numbers, with answer key

**_____ x _____ is _____.**

**This number is called a square number because _____.**

1 x 1  1

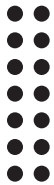
2 x 2  4

3 x 3  9

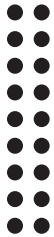
4 x 4  16

5 x 5  25

6 x 6  36

7 x 7  49

8 x 8  64

9 x 9  81

10 x 10  100






A ten-sided die, and counters in two colors.

The square of a number is the product of that number times itself. The pictures show you why we call these products "square numbers" or "squares". **How to play:** On your turn, roll the die. If you roll a zero, it means ten. Say the square of the number you rolled, and put a counter on the square where the number of dots on each side is the number you rolled. **Example:** If you roll a three, your fact is 3 x 3 = 9. Say "3 squared is 9" or "3 x 3 is 9". Both ways of saying it mean the same thing. Put a counter on the square with three dots on each side. If the other player's counter is already there, you can bump it off. **When all ten squares are covered, the player with more counters wins.**

# Square numbers, no answer key

**_____ x _____ is _____.**

**This number is called a square number because _____.**

1 x 1 

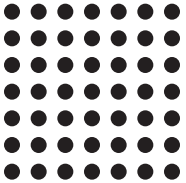
2 x 2 

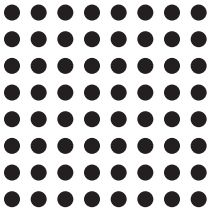
3 x 3 

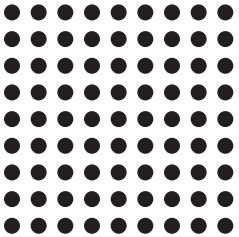
4 x 4 

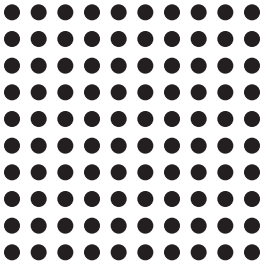
5 x 5 

6 x 6 

7 x 7 

8 x 8 

9 x 9 

10 x 10 

*Questions?* **reckonmath.com**

M


A ten-sided die, and counters in two colors.

The square of a number is the product of that number times itself. The pictures show you why we call these products "square numbers" or "squares". **How to play:** On your turn, roll the die. If you roll a zero, it means ten. Say the square of the number you rolled, and put a counter on the square where the number of dots on each side is the number you rolled. **Example:** If you roll a three, your fact is 3 x 3 = 9. Say "3 squared is 9" or "3 x 3 is 9". Both ways of saying it mean the same thing. Put a counter on the square with three dots on each side. If the other player's counter is already there, you can bump it off. **When all ten squares are covered, the player with more counters wins.**

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.6.EE.A.1

# Powers of 2, with answer key

**2 to the power of _____ is _____.**

| | | | | | |
|---|---|---|---|---|---|
| 1 | | $2 = 2^1 =$ | ◯ | 2 |
| 2 | $2 \times 2$ | $= 2^2 =$ | ◯ | 4 |
| 3 | $2 \times 2 \times 2$ | $= 2^3 =$ | ◯ | 8 |
| 4 | $2 \times 2 \times 2 \times 2$ | $= 2^4 =$ | ◯ | 16 |
| 5 | $2 \times 2 \times 2 \times 2 \times 2$ | $= 2^5 =$ | ◯ | 32 |
| 6 | $2 \times 2 \times 2 \times 2 \times 2 \times 2$ | $= 2^6 =$ | ◯ | 64 |
| 7 | $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ | $= 2^7 =$ | ◯ | 128 |
| 8 | $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ | $= 2^8 =$ | ◯ | 256 |
| 9 | $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ | $= 2^9 =$ | ◯ | 512 |
| 10 | $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ | $= 2^{10} =$ | ◯ | 1028 |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

This game helps you remember facts like 4 x 8 = 32, and it is interesting, too. **How to play:** On your turn, roll the die. If you roll a zero, it means ten. Find the row with the number you rolled all the way on the left. Here is an example of what to do: if you roll a five, say "2 x 2 x 2 x 2 x 2 is 32", or say "2 to the power of 5 is 32", or say "2 to the fifth power is 32". These ways of saying it all mean the same thing. Put your counter in the circle. If the other player's counter is already there, you can bump it off. **When all the circles have a counter, the player with more counters wins. Note:** "Squared" means "to the second power". "Cubed" means "to the third power". You can use these words if you want.

M

# Powers of 2 up to 64, no answer key

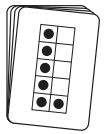
**2 to the power of _____ is _____.**

| | | | | |
|---|---|---|---|---|
| 1 | | $2 = 2^1 =$ | | ◯ |
| 2 | | $2 \times 2 = 2^2 =$ | | ◯ |
| 3 | | $2 \times 2 \times 2 = 2^3 =$ | | ◯ |
| 4 | | $2 \times 2 \times 2 \times 2 = 2^4 =$ | | ◯ |
| 5 | | $2 \times 2 \times 2 \times 2 \times 2 = 2^5 =$ | | ◯ |
| 6 | | $2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^6 =$ | | ◯ |

Skill Builders: Powers of 2, with answer key (M)

CCSS.MATH.CONTENT.6.EE.A.1

*Questions?* **reckonmath.com**



The 1-6 cards from a deck of ten frame cards, and counters in two colors.

This game helps you remember facts like 4 x 8 = 32, and it is interesting, too. **How to play:** On your turn, draw a card. Find the row with the number you drew all the way on the left. Now, play just as in "Powers of 2, with answer key". **Notice:** You can group the factors of 2. For example, if you see 2x2x2x2x2, you can think (2x2) x (2x2x2), which is 4 x 8. And 4 x 8 is 32.

M

# Powers of 2 up to 1028, no answer key

**2 to the power of _____ is _____.**

| | | | | |
|---|---|---|---|---|
| 1 | | $2 = 2^1 =$ | | ◯ |
| 2 | | $2 \times 2 = 2^2 =$ | | ◯ |
| 3 | | $2 \times 2 \times 2 = 2^3 =$ | | ◯ |
| 4 | | $2 \times 2 \times 2 \times 2 = 2^4 =$ | | ◯ |
| 5 | | $2 \times 2 \times 2 \times 2 \times 2 = 2^5 =$ | | ◯ |
| 6 | | $2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^6 =$ | | ◯ |
| 7 | | $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^7 =$ | | ◯ |
| 8 | | $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^8 =$ | | ◯ |
| 9 | | $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^9 =$ | | ◯ |
| 10 | | $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^{10} =$ | | ◯ |

Skill Builders: Powers of 2, with answer key (M)

CCSS.MATH.CONTENT.6.EE.A.1

*Questions?* **reckonmath.com**

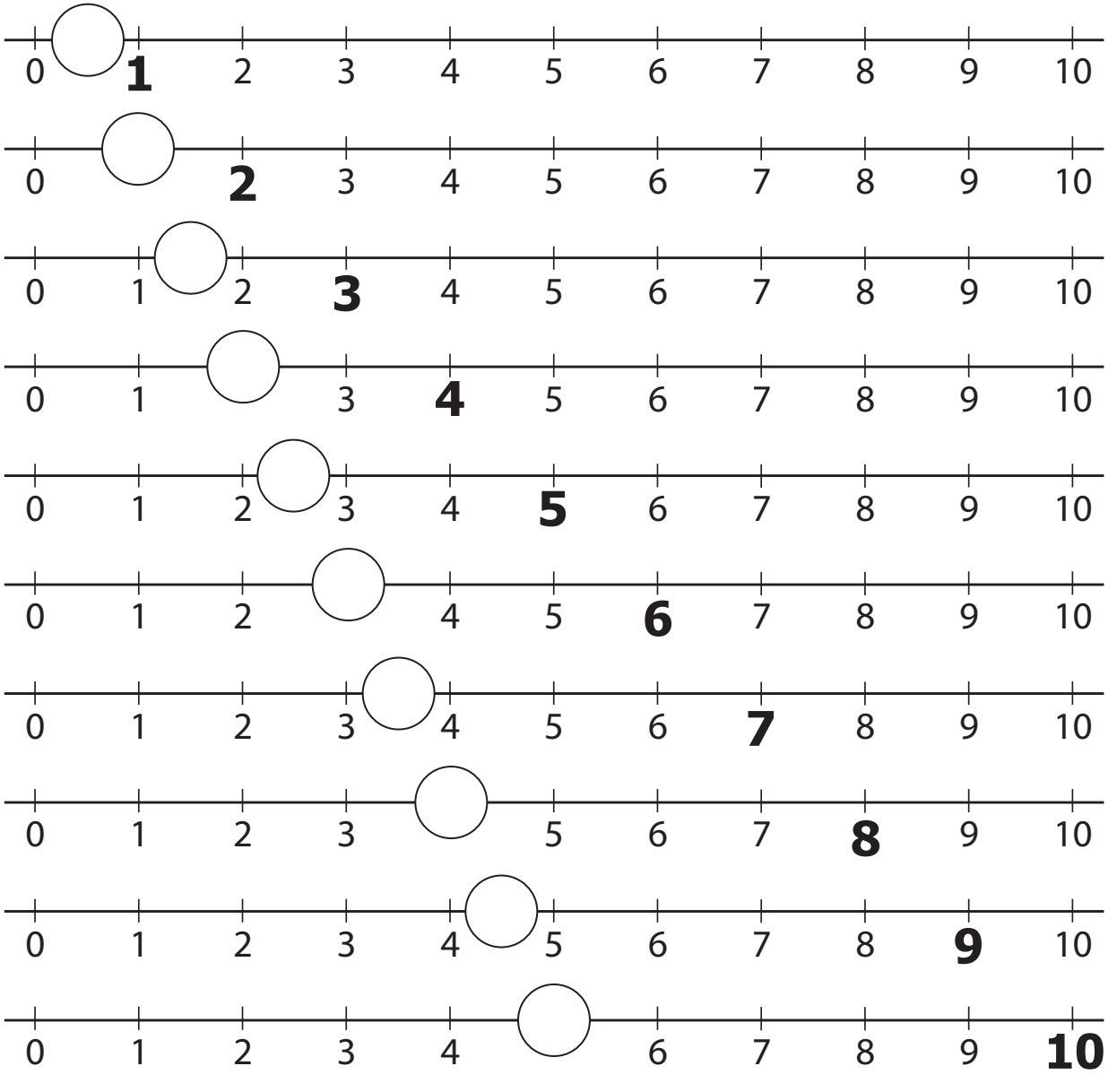

A ten-sided die, and counters in two colors.

You do not need to know higher powers of 2 to do most kinds of arithmetic in school, but some students want to learn about them anyway because these numbers are famous and fun, or because these numbers are useful outside school (for example, with computers). **Hint:** Every product is twice as big as the product before it, and half as big as the product after it.

M

# Find half of a number, with answer key

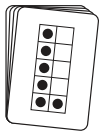
**Half of _____ is _____.**




Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.NF.A.2

*Questions?* **reckonmath.com**



A deck of ten frame cards, and counters in two colors.

In this bump game, you practice finding half of a number. **How to play:** On your turn, draw a card. Find the number line where the number you drew is big, say what half of your number is, and put a counter at that place. **Example:** If you draw a three, find the number line where the numeral 3 is big, say "Half of 3 is 1 1/2," and put a counter between the 1 mark and the 2 mark. If the other player's counter is already there, you can bump it off. **When all the number lines have a counter in the correct place, the player with more counters wins.**

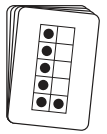
M

# Find half of a number, no answer key

**Half of _____ is _____.**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | **1** | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 0 | 1 | **2** | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 0 | 1 | 2 | **3** | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 0 | 1 | 2 | 3 | **4** | 5 | 6 | 7 | 8 | 9 | 10 |
| 0 | 1 | 2 | 3 | 4 | **5** | 6 | 7 | 8 | 9 | 10 |
| 0 | 1 | 2 | 3 | 4 | 5 | **6** | 7 | 8 | 9 | 10 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | **7** | 8 | 9 | 10 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | **8** | 9 | 10 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | **9** | 10 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | **10** |

*Questions?* **reckonmath.com**



A deck of ten frame cards, and counters in two colors.

In this bump game, you practice finding half of a number. **How to play:** On your turn, draw a card. Find the number line where the number you drew is big, say what half of your number is, and put a counter at that place. **Example:** If you draw a three, find the number line where the numeral 3 is big, say "Half of 3 is 1 1/2," and put a counter between the 1 mark and the 2 mark. If the other player's counter is already there, you can bump it off. **When all the number lines have a counter in the correct place, the player with more counters wins.**

M

Skill Builders: Find half of a number, with answer key (M)

CCSS.MATH.CONTENT.3.NF.A.2

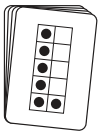
# Multiply 1 1/2, 2 1/2, 3 1/2, and 4 1/2 by 10

**_____ and a half times 10 is _____**

| | | | | |
|---|---|---|---|---|
| 25 | 15 | 35 | 15 | 45 |
| 35 | 25 | 45 | 35 | 25 |
| 45 | 15 | **FREE SPACE** | 45 | 15 |
| 25 | 35 | 15 | 25 | 35 |
| 15 | 45 | 35 | 45 | 25 |

| **Your card:** | **The problem is:** |
|---|---|
| 1 | 1 1/2 x 10 = __ |
| 2 | 2 1/2 x 10 = __ |
| 3 | 3 1/2 x 10 = __ |
| 4 | 4 1/2 x 10 = __ |

*Questions?* **reckonmath.com**



The 1, 2, 3, 4 cards from a deck of ten-frame cards, and counters in two colors.

You already know 1 x 10, 2 x 10, 3 x 10 and 4 x 10. This game shows you 1 1/2 x 10, 2 1/2 x 10, 3 1/2 x 10, and 4 1/2 x 10. **How to play:** On your turn, draw a card. In the table below the board, find the multiplication problem that goes with the card you drew. Cover the answer. **Example:** If you draw a 1, solve 1 1/2 x 10 = __ and cover a 15. If the answer is not available, it is the other player's turn. **Hint:** 1 1/2 is halfway between 1 and 2, so 1 1/2 x 10 is halfway between 10 and 20, which is 15. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

M

Skill Builders: Multiply by 10 (M), Find half of a number (M)

CCSS.MATH.CONTENT.4.NF.B.4

Skill Builders: Multiply by 10 (M), Find half of a number (M), Multiply 1 1/2, 2 1/2, 3 1/2 and 4 1/2 by 10 (M)

CCSS.MATH.CONTENT.3.OA.B.5

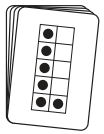
# 5 x 3, 5 x 5, 5 x 7, and 5 x 9

**Half of _____ is _____, so 5 x _____ is _____. [OR]**

**_____ x 10 is _____, so 5 x _____ is half of that: _____.**

| | | | | |
|---|---|---|---|---|
| 25 | 15 | 35 | 15 | 45 |
| 35 | 25 | 45 | 35 | 25 |
| 45 | 15 | **FREE SPACE** | 45 | 15 |
| 25 | 35 | 15 | 25 | 35 |
| 15 | 45 | 35 | 45 | 25 |

*Questions?* **reckonmath.com**



The 3, 5, 7, 9 cards from a deck of ten-frame cards, and counters in two colors.

5 is half of 10. So one way to multiply a number by 5 is to figure out what half of it is, and multiply that by 10. Think about 5 x 7. You know half of 7 is 3 1/2. And you know 3 1/2 x 10 is 35. Another way is multiplying 7 x 10 first and taking half of that to find 35. Both ways work fine. **How to play:** On your turn, draw a card and cover 5 times the number you drew. **Example:** If you draw a 9, half of 9 is 4 1/2, halfway between 4 and 5. So 5 x 9 is halfway between 40 and 50. Or, 9 x 10 is 90 and half of 90 is 45. Cover the answer. If the answer is not available, it is the other player's turn. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

M

# Multiply by 5 by dividing in half and multiplying by 10

**Half of _____ is _____, so 5 x _____ is _____. [OR]**

**_____ x 10 is _____, so 5 x _____ is half of that: _____. [OR]**

**I just know that 5 x _____ is _____.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 20 | 50 | 40 | 30 | 15 | 45 | 5 |
| 10 | 30 | 25 | 35 | 50 | 20 | 10 |
| 25 | 35 | 10 | 40 | 35 | 45 | 50 |
| 40 | 30 | 5 | 45 | 20 | 25 | 15 |
| 5 | 50 | 35 | 25 | 15 | 5 | 10 |
| 15 | 40 | 45 | 20 | 40 | 45 | 30 |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. Say the number you rolled times five and the product, and cover the product.

**Example:** If you roll a 7, say "7 x 5 = 35," and cover 35.

**The first player to get four in a row wins.**

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 5, with answer key

**5 x _____ is _____ / _____ x 5 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | 1 x 5<br>5 | | | | | |
| 2 | | | | | 2 x 5<br>10 | | | | | |
| 3 | | | | | 3 x 5<br>15 | | | | | |
| 4 | | | | | 4 x 5<br>20 | | | | | |
| 5 | 5 x 1<br>5 | 5 x 2<br>10 | 5 x 3<br>15 | 5 x 4<br>20 | 5 x 5<br>25 | 5 x 6<br>30 | 5 x 7<br>35 | 5 x 8<br>40 | 5 x 9<br>45 | 5 x 10<br>50 |
| 6 | | | | | 6 x 5<br>30 | | | | | |
| 7 | | | | | 7 x 5<br>35 | | | | | |
| 8 | | | | | 8 x 5<br>40 | | | | | |
| 9 | | | | | 9 x 5<br>45 | | | | | |
| 10 | | | | | 10 x 5<br>50 | | | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 5 and the product, or say 5 times the number and the product. **Example:** If you roll an eight, say "8 times 5 is 40" or say "5 times 8 is 40". Put a counter on a space for that fact. If both spaces are occupied (8x5 AND 5x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.** **Hint:** 5 times a number is the same as 10 times half of the number. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

# Multiply by 5, no answer key

**5 x _____ is _____ / _____ x 5 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | 1 x 5 | | | | | |
| 2 | | | | | 2 x 5 | | | | | |
| 3 | | | | | 3 x 5 | | | | | |
| 4 | | | | | 4 x 5 | | | | | |
| 5 | 5 x 1 | 5 x 2 | 5 x 3 | 5 x 4 | 5 x 5 | 5 x 6 | 5 x 7 | 5 x 8 | 5 x 9 | 5 x 10 |
| 6 | | | | | 6 x 5 | | | | | |
| 7 | | | | | 7 x 5 | | | | | |
| 8 | | | | | 8 x 5 | | | | | |
| 9 | | | | | 9 x 5 | | | | | |
| 10 | | | | | 10 x 5 | | | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 5 and the product, or say 5 times the number and the product. **Example:** If you roll an eight, say "8 times 5 is 40" or say "5 times 8 is 40". Put a counter on a space for that fact. If both spaces are occupied (8x5 AND 5x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.** **Hint:** 5 times a number is the same as 10 times half of the number. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

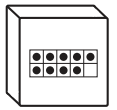
M

# Multiply by 5, larger factors

**5 x _____ is _____ / _____ x 5 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | 5 x 5 | 5 x 6 | 5 x 7 | 5 x 8 | 5 x 9 | 5 x 10 |
| 6 | | | | | 6 x 5 | | | | | |
| 7 | | | | | 7 x 5 | | | | | |
| 8 | | | | | 8 x 5 | | | | | |
| 9 | | | | | 9 x 5 | | | | | |
| 10 | | | | | 10 x 5 | | | | | |

*Questions?* **reckonmath.com**



A 5-10 frame die, and counters in two colors.

**How to play:** On your turn, roll the die. You can choose: Say the number times 5 and the product, or say 5 times the number and the product. **Example:** If you roll an eight, say "8 times 5 is 40" or say "5 times 8 is 40". Put a counter on a space for that fact. If both spaces are occupied (8x5 AND 5x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.**

**Hint:** 5 times a number is the same as 10 times half of the number.

M

Skill Builders: Multiply by 5, with answer key (M)

CCSS.MATH.CONTENT.3.OA.C.7

# The first three multiples of 3

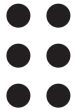
**I know that 1 x 3 is _____, 2 x 3 is _____, and 3 x 3 is _____.**

Dot picture for 1 x 3

Another dot picture for 1 x 3

Dot picture for 2 x 3

Another dot picture for 2 x 3



Dot picture for 3 x 3

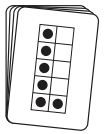
Another dot picture for 3 x 3

| | | | |
|---|---|---|---|
| 9 = 3 x __ | __ x 3 = 9 | __ x 3 = 3 | 6 = 3 x __ |
| 3 x __ = 3 | 3 = __ x 3 | 6 = __ x 3 | 3 = 3 x __ |
| 3 x __ = 9 | __ x 3 = 6 | 9 = __ x 3 | 3 x __ = 6 |

Skill Builders: This many stars, that many times (M), Think about what multiplication is (M)

CCSS.MATH.CONTENT.3.OA.A.1

*Questions?* **reckonmath.com**



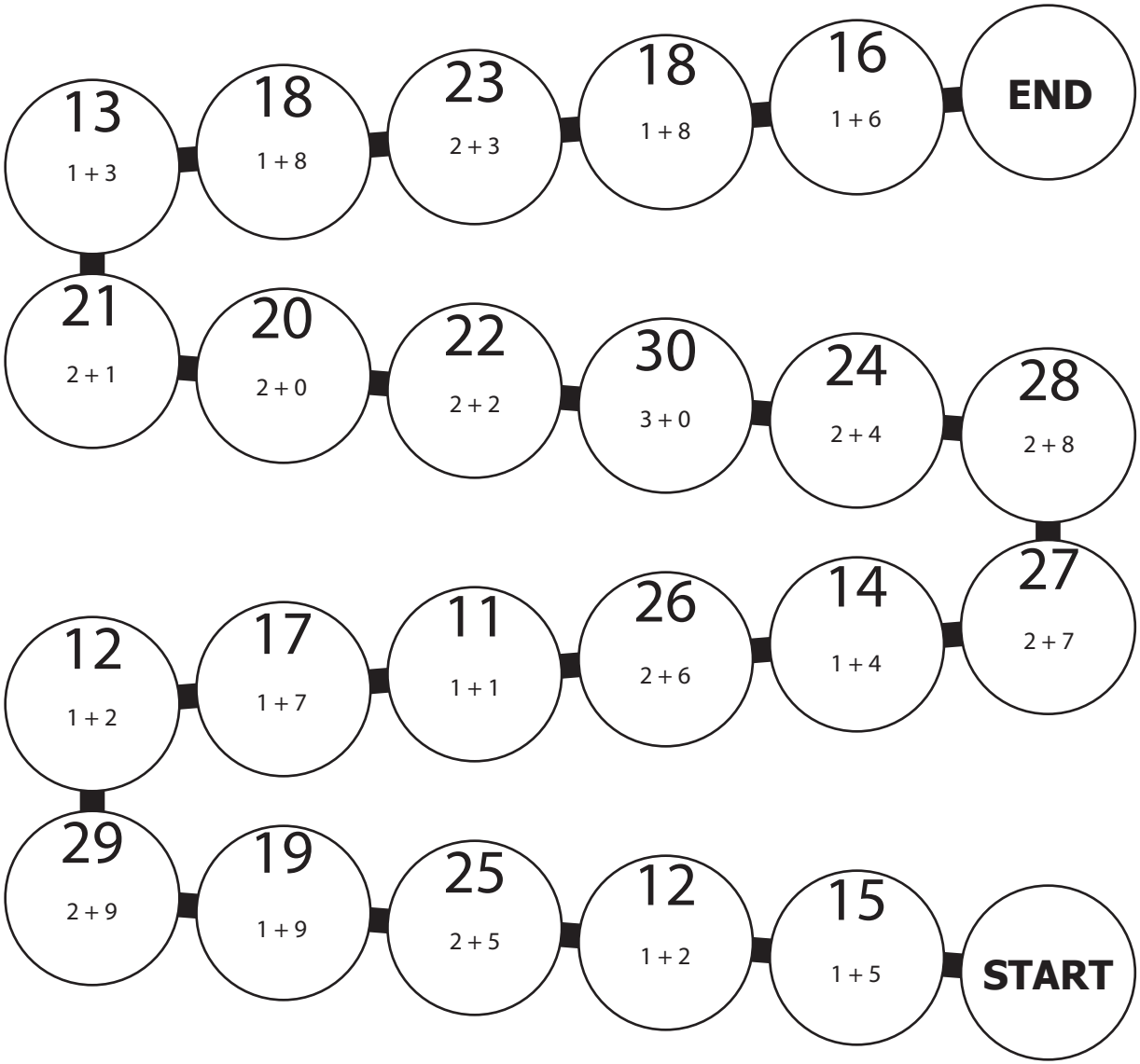
The 1, 2, 3 cards from a deck of ten-frame cards, and counters in two colors.

In this game, you practice just three facts: 3 x 1 = 3, 3 x 2 = 6, and 3 x 3 = 9. Having these three facts in your memory will help you become much more comfortable with a lot more facts later. **How to play:** On your turn, draw a card. Then cover an oval where the number you drew makes the sentence true. If you aren't sure right away, the dot pictures will help you. This is not a bump game. If all the ovals with the answer you need are covered, it's the other player's turn. **When the board is covered, the player with more ovals wins.**

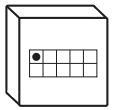
M

# Is it a multiple of 3?

**I know that _____ [is / is not] a multiple of 3, because _____ + _____ is _____.**




*Questions?* **reckonmath.com**



A 0-5 frame die, and two counters.

When you are multiplying two numbers, it helps to know which numbers could or could not be the products. In any multiple of 3 (that means a product having 3 as a factor), the digits add to a smaller multiple of 3. **How to play:** On your turn, roll the die and move forward that many spaces. If you roll a zero, roll again. If the number you landed on is not a multiple of 3, your turn is over. If it is, move ahead three spaces. **Example:** If you land on 24, you can tell 24 is a multiple of 3, because 2 + 4 = 6, which is a multiple of 3. If you land on 17, you can tell 17 is not a multiple of 3, because 1 + 7 = 8, and 8 is not a multiple of 3. **The first player to land on END wins.**

M

# Use addition or subtraction (Distributive property of multiplication)

**9 is 10 – 1.**

**That means 7 x 9 is the same as 7 x _____ minus 7 x _____.**

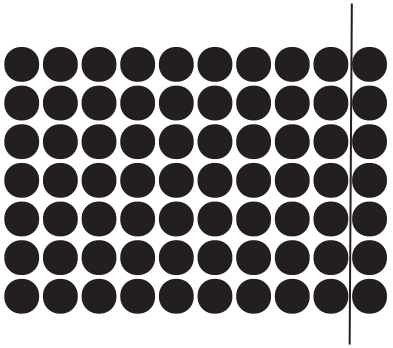
Here is one way to see that 7 x 9 is 63.

$9 = 10 - 1$

$\mathbf{7} \times 9 = \mathbf{7} \times 10 - \mathbf{7} \times 1$

$7 \times 9 = 70 - 7$

$7 \times 9 = 63$



Here is another way to see that 7 x 9 is 63.

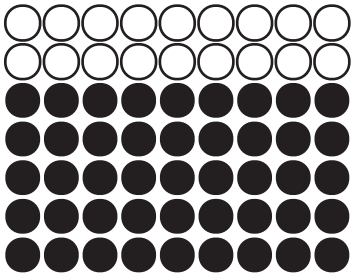
$7 \times 9 = 9 \times 7$

$7 = 5 + 2$

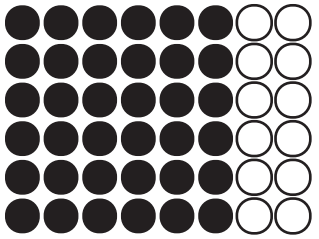
$\mathbf{9} \times 7 = \mathbf{9} \times 5 + \mathbf{9} \times 2$

$9 \times 7 = 45 + 18$

$7 \times 9 = 63$



Here is a way to figure out that 6 x 8 is 48.
(Say some number sentences that relate the fact 6 x 8 = 48 to the picture.)



*Questions?* **reckonmath.com**

Let's say you need to find a product like 7 x 9 = __ . And let's say you can remember some multiplication facts, but not 7 x 9. This activity shows you how to change 7 x 9 into something you can solve with the facts you know. **What to do:** With a partner, talk about how each 7x9 picture is showing the number sentences next to it. For 6x8, say some number sentences that relate the fact 6 x 8 = 48 to the picture.

Skill Builders: Learn the words "factor" and "product" (M), previous multiplication games

CCSS.MATH.CONTENT.3.OA.B.5

M

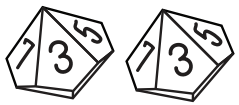
CCSS.MATH.CONTENT.3.OA.B.5 Skill Builders: Distributive property of multiplication (M), Multiply by 2 games (M), A number multiplied by 1 is the same number (M)

# Use addition to multiply: 3 = 2 + 1

**3 x _____ is the same as 2 x _____ + 1 x _____.**

| | | | | |
|---|---|---|---|---|
| 10 + 5 | 6 + 3 | 2 + 1 | 14 + 7 | 16 + 8 |
| 18 + 9 | 4 + 2 | 20 + 10 | 12 + 6 | 8 + 4 |
| 12 + 6 | 6 + 3 | **FREE SPACE** | 20 + 10 | 14 + 7 |
| 4 + 2 | 10 + 5 | 8 + 4 | 2 + 1 | 18 + 9 |
| 16 + 8 | 6 + 3 | 4 + 2 | 12 + 6 | 8 + 4 |

*Questions?* **reckonmath.com**



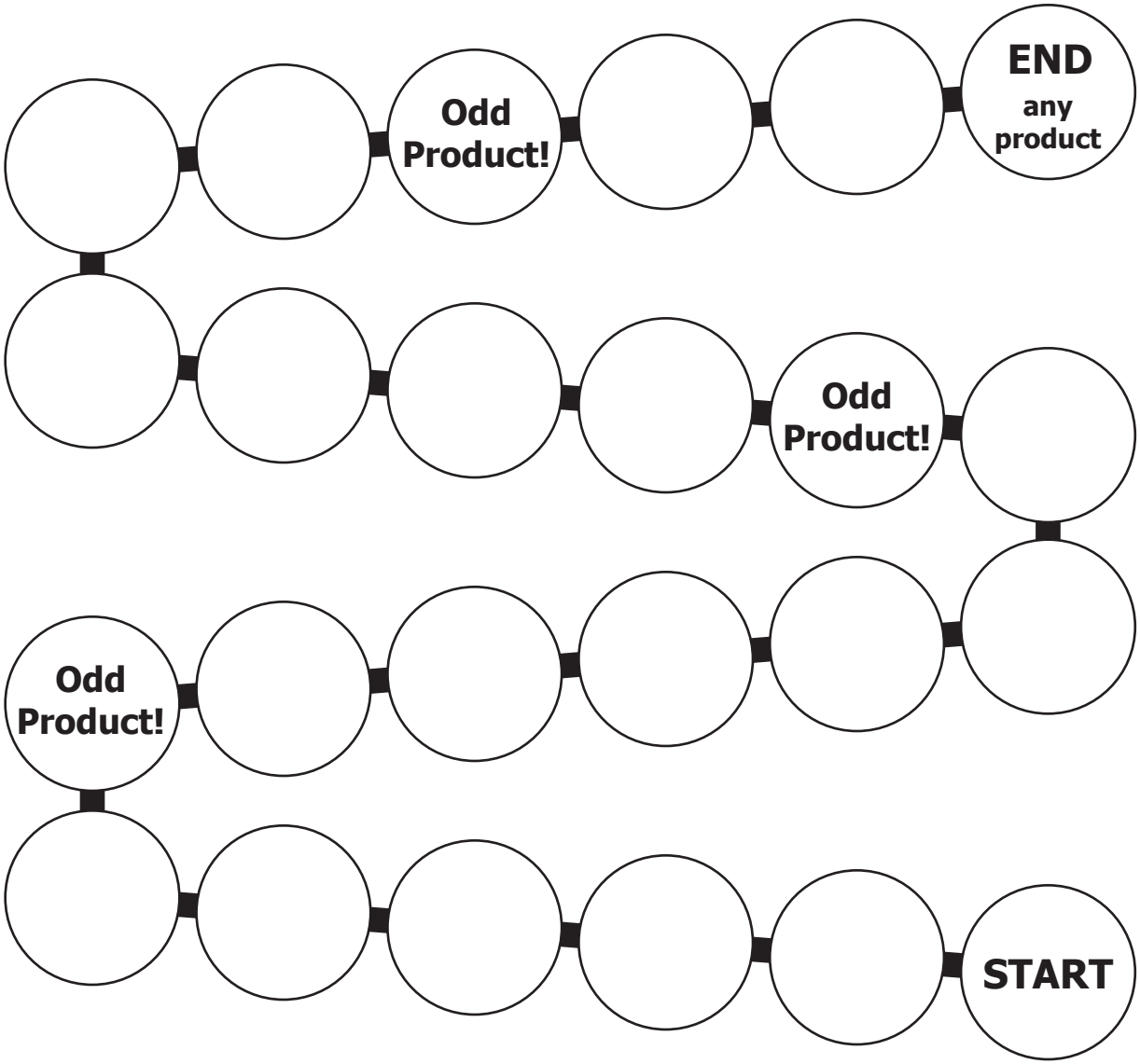
Two ten-sided dice, and counters in two colors.

This game is a chance for you to get comfortable with one powerful way to multiply 3 times another factor: Changing the 3 into 2+1. **How to play:** Leave one die on the table with the 3 side facing up. On your turn, roll the other die. If you roll a zero, it means 10. Say a number sentence with your number times (2 + 1), and cover the square that says the same thing. If the answer is not available, it is the other player's turn. **Example:** If you roll an 8, it means 3 x 8. Since 3 is 2 plus 1, say "3 x 8 is the same as 2 x 8 + 1 x 8", and cover a 16 + 8 square. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

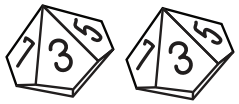
M

# Odd products

_____ x _____ is [odd / even].




*Questions?* **reckonmath.com**



Two ten-sided dice, and two counters.

3 and 5 are both odd, and 3 x 5 is 15, which is odd. 2 is even, and 3 x 2 is 6, which is even. **The only way for a product of two factors to be odd is for both factors to be odd. And if two factors are odd, the product is always odd.** These patterns can help you solve multiplication problems.

**How to play:** Each player puts a counter on START. On your turn, roll the dice. If you roll a zero, it means ten. Your job is to say whether the product of the numbers you rolled is odd or even. You don't have to say the product. Just say "odd" or "even". If it is even, move forward one space. If it is odd, jump to the next "Odd product!" circle. **The first player to land on END wins.**

M



CCSS.MATH.CONTENT.3.OA.D.9

Skill Builders: Previous multiplication games, Identify odds and evens (NP)

# Multiply by 3, with answer key

**3 x _____ is _____ / _____ x 3 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 1 x 3<br>3 | | | | | | | |
| 2 | | | 2 x 3<br>6 | | | | | | | |
| 3 | 3 x 1<br>3 | 3 x 2<br>6 | 3 x 3<br>9 | 3 x 4<br>12 | 3 x 5<br>15 | 3 x 6<br>18 | 3 x 7<br>21 | 3 x 8<br>24 | 3 x 9<br>27 | 3 x 10<br>30 |
| 4 | | | 4 x 3<br>12 | | | | | | | |
| 5 | | | 5 x 3<br>15 | | | | | | | |
| 6 | | | 6 x 3<br>18 | | | | | | | |
| 7 | | | 7 x 3<br>21 | | | | | | | |
| 8 | | | 8 x 3<br>24 | | | | | | | |
| 9 | | | 9 x 3<br>27 | | | | | | | |
| 10 | | | 10 x 3<br>30 | | | | | | | |

CCSS.MATH.CONTENT.3.OA.C.7 Skill Builders: Previous multiplication games, Odd products (M), Is it a multiple of 3? (M)

*Questions?* **reckonmath.com**

M


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 3 and the product, or say 3 times the number and the product. **Example:** If you roll a four, say "4 times 3 is 12" or say "3 times 4 is 12". Put a counter on a space for that fact. If both spaces are occupied (4x3 AND 3x4), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** Three is odd, so the product will be odd with an odd factor and even with an even factor. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

# Multiply by 3, no answer key

**3 x _____ is _____ / _____ x 3 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 1 x 3 | | | | | | | |
| 2 | | | 2 x 3 | | | | | | | |
| 3 | 3 x 1 | 3 x 2 | 3 x 3 | 3 x 4 | 3 x 5 | 3 x 6 | 3 x 7 | 3 x 8 | 3 x 9 | 3 x 10 |
| 4 | | | 4 x 3 | | | | | | | |
| 5 | | | 5 x 3 | | | | | | | |
| 6 | | | 6 x 3 | | | | | | | |
| 7 | | | 7 x 3 | | | | | | | |
| 8 | | | 8 x 3 | | | | | | | |
| 9 | | | 9 x 3 | | | | | | | |
| 10 | | | 10 x 3 | | | | | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 3 and the product, or say 3 times the number and the product. **Example:** If you roll a four, say "4 times 3 is 12" or say "3 times 4 is 12". Put a counter on a space for that fact. If both spaces are occupied (4x3 AND 3x4), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** Three is odd, so the product will be odd with an odd factor and even with an even factor. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

Skill Builders: Multiply by 3, with answer key (M)

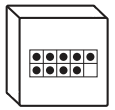
CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 3, larger factors

**3 x _____ is _____ / _____ x 3 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | 3 x 5 | 3 x 6 | 3 x 7 | 3 x 8 | 3 x 9 | 3 x 10 |
| 4 | | | | | | | | | | |
| 5 | | | 5 x 3 | | | | | | | |
| 6 | | | 6 x 3 | | | | | | | |
| 7 | | | 7 x 3 | | | | | | | |
| 8 | | | 8 x 3 | | | | | | | |
| 9 | | | 9 x 3 | | | | | | | |
| 10 | | | 10 x 3 | | | | | | | |

*Questions?* **reckonmath.com**



A 5-10 frame die, and counters in two colors.

**How to play:** On your turn, roll the die. You can choose: Say the number times 3 and the product, or say 3 times the number and the product. **Example:** If you roll a four, say "4 times 3 is 12" or say "3 times 4 is 12". Put a counter on a space for that fact. If both spaces are occupied (4x3 AND 3x4), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** Three is odd, so the product will be odd with an odd factor and even with an even factor.

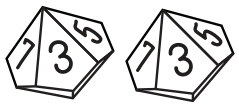
M

# Use addition to multiply: 4 = 2 + 2

**4 x _____ is the same as 2 x _____ + 2 x _____.**

| | | | | |
|---|---|---|---|---|
| 10 + 10 | 6 + 6 | 2 + 2 | 14 + 14 | 16 + 16 |
| 18 + 18 | 4 + 4 | 20 + 20 | 12 + 12 | 8 + 8 |
| 12 + 12 | 6 + 6 | **FREE SPACE** | 20 + 20 | 14 + 14 |
| 4 + 4 | 10 + 10 | 8 + 8 | 2 + 2 | 18 + 18 |
| 16 + 16 | 6 + 6 | 4 + 4 | 12 + 12 | 8 + 8 |

*Questions?* **reckonmath.com**



Two ten-sided dice, and counters in two colors.

This game is a chance for you to get comfortable with one powerful way to multiply 4 times another factor: Changing the 4 into 2 + 2. **How to play:** Leave one die on the table with the 4 side facing up. On your turn, roll the other die. If you roll a zero, it means 10. Say a number sentence with your number times (2 + 2), and cover the square that says the same thing. If the answer is not available, it is the other player's turn. **Example:** If you roll a 6, it means 4 x 6. Since 4 is 2 plus 2, say "4 x 6 is the same as 2 x 6 + 2 x 6", and cover a 12 + 12 square. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 4, with answer key

**4 x _____ is _____ / _____ x 4 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 1 x 4<br>4 | | | | | | |
| 2 | | | | 2 x 4<br>8 | | | | | | |
| 3 | | | | 4 x 3<br>12 | | | | | | |
| 4 | 4 x 1<br>4 | 4 x 2<br>8 | 4 x 3<br>12 | 4 x 4<br>16 | 4 x 5<br>20 | 4 x 6<br>24 | 4 x 7<br>28 | 4 x 8<br>32 | 4 x 9<br>36 | 4 x 10<br>40 |
| 5 | | | | 5 x 4<br>20 | | | | | | |
| 6 | | | | 6 x 4<br>24 | | | | | | |
| 7 | | | | 7 x 4<br>28 | | | | | | |
| 8 | | | | 8 x 4<br>32 | | | | | | |
| 9 | | | | 9 x 4<br>36 | | | | | | |
| 10 | | | | 10 x 4<br>40 | | | | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 4 and the product, or say 4 times the number and the product. **Example:** If you roll a five, say "5 times 4 is 20" or say "4 times 5 is 20". Put a counter on a space for that fact. If both spaces are occupied (5x4 AND 4x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

# Multiply by 4, no answer key

**4 x _____ is _____ / _____ x 4 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 1 x 4 | | | | | | |
| 2 | | | | 2 x 4 | | | | | | |
| 3 | | | | 4 x 3 | | | | | | |
| 4 | 4 x 1 | 4 x 2 | 4 x 3 | 4 x 4 | 4 x 5 | 4 x 6 | 4 x 7 | 4 x 8 | 4 x 9 | 4 x 10 |
| 5 | | | | 5 x 4 | | | | | | |
| 6 | | | | 6 x 4 | | | | | | |
| 7 | | | | 7 x 4 | | | | | | |
| 8 | | | | 8 x 4 | | | | | | |
| 9 | | | | 9 x 4 | | | | | | |
| 10 | | | | 10 x 4 | | | | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 4 and the product, or say 4 times the number and the product. **Example:** If you roll a five, say "5 times 4 is 20" or say "4 times 5 is 20". Put a counter on a space for that fact. If both spaces are occupied (5x4 AND 4x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

Skill Builders: Multiply by 4, with answer key (M)

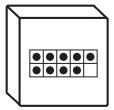
CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 4, larger factors

**4 x _____ is _____ / _____ x 4 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | 4 x 5 | 4 x 6 | 4 x 7 | 4 x 8 | 4 x 9 | 4 x 10 |
| 5 | | | | 5 x 4 | | | | | | |
| 6 | | | | 6 x 4 | | | | | | |
| 7 | | | | 7 x 4 | | | | | | |
| 8 | | | | 8 x 4 | | | | | | |
| 9 | | | | 9 x 4 | | | | | | |
| 10 | | | | 10 x 4 | | | | | | |

*Questions?* **reckonmath.com**



A 5-10 frame die, and counters in two colors.

**How to play:** On your turn, roll the die. You can choose: Say the number times 4 and the product, or say 4 times the number and the product. **Example:** If you roll a five, say "5 times 4 is 20" or say "4 times 5 is 20". Put a counter on a space for that fact. If both spaces are occupied (5x4 AND 4x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them.

M

Skill Builders: Multiply by 4, with answer key (M)

CCSS.MATH.CONTENT.3.OA.C.7

CCSS.MATH.CONTENT.3.OA.B.5 Skill Builders: Distributive property of multiplication (M), Multiply by 3 games (M)

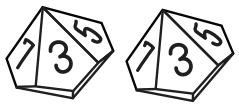
# Use addition to multiply: 6 = 3 + 3

**6 x _____ is the same as 3 x _____ + 3 x _____.**

| | | | | |
|---|---|---|---|---|
| 15 + 15 | 9 + 9 | 3 + 3 | 21 + 21 | 24 + 24 |
| 27 + 27 | 6 + 6 | 30 + 30 | 18 + 18 | 12 + 12 |
| 18 + 18 | 9 + 9 | **FREE SPACE** | 30 + 30 | 21 + 21 |
| 6 + 6 | 15 + 15 | 12 + 12 | 3 + 3 | 27 + 27 |
| 24 + 24 | 9 + 9 | 6 + 6 | 18 + 18 | 12 + 12 |

*Questions?* **reckonmath.com**

**M**




Two ten-sided dice, and counters in two colors.

This game is a chance for you to get comfortable with one powerful way to multiply 6 times another factor: Changing the 6 into 3 + 3. **How to play:** Leave one die on the table with the 6 side facing up. On your turn, roll the other die. If you roll a zero, it means 10. Say a number sentence with your number times (3 + 3), and cover the square that says the same thing. If the answer is not available, it is the other player's turn. **Example:** If you roll an 8, it means 6 x 8. Since 6 is 3 plus 3, say "6 x 8 is the same as 3 x 8 + 3 x 8", and cover a 24 + 24 square. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

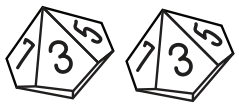
CCSS.MATH.CONTENT.3.OA.B.5 Skill Builders: Distributive property of multiplication (M), Multiply by 5 games (M), A number multiplied by 1 is the same number (M)

# Use addition to multiply: 6 = 5 + 1

**6 x _____ is the same as 5 x _____ + 1 x _____.**

| | | | | |
|---|---|---|---|---|
| 25 + 5 | 15 + 3 | 5 + 1 | 35 + 7 | 40 + 8 |
| 45 + 9 | 10 + 2 | 50 + 10 | 30 + 6 | 20 + 4 |
| 30 + 6 | 15 + 3 | **FREE SPACE** | 50 + 10 | 35 + 7 |
| 10 + 2 | 25 + 5 | 20 + 4 | 5 + 1 | 45 + 9 |
| 40 + 8 | 15 + 3 | 10 + 2 | 30 + 6 | 20 + 4 |

*Questions?* **reckonmath.com**




Two ten-sided dice, and counters in two colors.

This game is a chance for you to get comfortable with one powerful way to multiply 6 times another factor: Changing the 6 into 5 + 1. **How to play:** Leave one die on the table with the 6 side facing up. On your turn, roll the other die. If you roll a zero, it means 10. Say a number sentence with your number times (5 + 1), and cover the square that says the same thing. If the answer is not available, it is the other player's turn. **Example:** If you roll an 8, it means 6 x 8. Since 6 is 5 plus 1, say "6 x 8 is the same as 5 x 8 + 1 x 8", and cover a 40 + 8 square. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 6, with answer key

**6 x _____ is _____ / _____ x 6 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 1 x 6<br>6 | | | | |
| 2 | | | | | | 2 x 6<br>12 | | | | |
| 3 | | | | | | 3 x 6<br>18 | | | | |
| 4 | | | | | | 4 x 6<br>24 | | | | |
| 5 | | | | | | 5 x 6<br>30 | | | | |
| 6 | 6 x 1<br>6 | 6 x 2<br>12 | 6 x 3<br>18 | 6 x 4<br>24 | 6 x 5<br>30 | 6 x 6<br>36 | 6 x 7<br>42 | 6 x 8<br>48 | 6 x 9<br>54 | 6 x 10<br>60 |
| 7 | | | | | | 7 x 6<br>42 | | | | |
| 8 | | | | | | 8 x 6<br>48 | | | | |
| 9 | | | | | | 9 x 6<br>54 | | | | |
| 10 | | | | | | 10 x 6<br>60 | | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 6 and the product, or say 6 times the number and the product. **Example:** If you roll an eight, say "8 times 6 is 48" or say "6 times 8 is 48". Put a counter on a space for that fact. If both spaces are occupied (8x6 AND 6x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.** **Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

# Multiply by 6, no answer key

**6 x _____ is _____ / _____ x 6 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 1 x 6 | | | | |
| 2 | | | | | | 2 x 6 | | | | |
| 3 | | | | | | 3 x 6 | | | | |
| 4 | | | | | | 4 x 6 | | | | |
| 5 | | | | | | 5 x 6 | | | | |
| 6 | 6 x 1 | 6 x 2 | 6 x 3 | 6 x 4 | 6 x 5 | 6 x 6 | 6 x 7 | 6 x 8 | 6 x 9 | 6 x 10 |
| 7 | | | | | | 7 x 6 | | | | |
| 8 | | | | | | 8 x 6 | | | | |
| 9 | | | | | | 9 x 6 | | | | |
| 10 | | | | | | 10 x 6 | | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 6 and the product, or say 6 times the number and the product. **Example:** If you roll an eight, say "8 times 6 is 48" or say "6 times 8 is 48". Put a counter on a space for that fact. If both spaces are occupied (8x6 AND 6x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.** **Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

Skill Builders: Multiply by 6, with answer key (M)

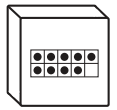
CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 6, larger factors

**6 x _____ is _____ / _____ x 6 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | 5 x 6 | | | | |
| 6 | | | | | 6 x 5 | 6 x 6 | 6 x 7 | 6 x 8 | 6 x 9 | 6 x 10 |
| 7 | | | | | | 7 x 6 | | | | |
| 8 | | | | | | 8 x 6 | | | | |
| 9 | | | | | | 9 x 6 | | | | |
| 10 | | | | | | 10 x 6 | | | | |

*Questions?* **reckonmath.com**



A 5-10 frame die, and counters in two colors.

**How to play:** On your turn, roll the die. You can choose: Say the number times 6 and the product, or say 6 times the number and the product. **Example:** If you roll an eight, say "8 times 6 is 48" or say "6 times 8 is 48". Put a counter on a space for that fact. If both spaces are occupied (8x6 AND 6x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.**

**Hint:** You can use other facts to help you find products if you don't remember them.

M

Skill Builders: Multiply by 6, with answer key (M)

CCSS.MATH.CONTENT.3.OA.C.7

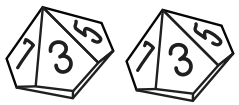
CCSS.MATH.CONTENT.3.OA.B.5 Skill Builders: Distributive property of multiplication (M), Multiply by 5 games (M), Multiply by 2 games (M)

# Use addition to multiply: 7 = 5 + 2

**7 x _____ is the same as 5 x _____ + 2 x _____.**

| | | | | |
|---|---|---|---|---|
| 25 + 10 | 15 + 6 | 5 + 2 | 35 + 14 | 40 + 16 |
| 45 + 18 | 10 + 4 | 50 + 20 | 30 + 12 | 20 + 8 |
| 30 + 12 | 15 + 6 | **FREE SPACE** | 50 + 20 | 35 + 14 |
| 10 + 4 | 25 + 10 | 20 + 8 | 5 + 2 | 45 + 18 |
| 40 + 16 | 15 + 6 | 10 + 4 | 30 + 12 | 20 + 8 |

*Questions?* **reckonmath.com**




Two ten-sided dice, and counters in two colors.

This game is a chance for you to get comfortable with one powerful way to multiply 7 times another factor: Changing the 7 into 5 + 2. **How to play:** Leave one die on the table with the 7 side facing up. On your turn, roll the other die. If you roll a zero, it means 10. Say a number sentence with your number times (5 + 2), and cover the square that says the same thing. If the answer is not available, it is the other player's turn. **Example:** If you roll an 8, it means 7 x 8. Since 7 is 5 plus 2, say "7 x 8 is the same as 5 x 8 + 2 x 8", and cover a 40 + 16 square. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

M

# Multiply by 7, with answer key

**7 x _____ is _____ / _____ x 7 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 1 x 7<br>7 | | | |
| 2 | | | | | | | 2 x 7<br>14 | | | |
| 3 | | | | | | | 3 x 7<br>21 | | | |
| 4 | | | | | | | 4 x 7<br>28 | | | |
| 5 | | | | | | | 5 x 7<br>35 | | | |
| 6 | | | | | | | 6 x 7<br>42 | | | |
| 7 | 7 x 1<br>7 | 7 x 2<br>14 | 7 x 3<br>21 | 7 x 4<br>28 | 7 x 5<br>35 | 7 x 6<br>42 | 7 x 7<br>49 | 7 x 8<br>56 | 7 x 9<br>63 | 7 x 10<br>70 |
| 8 | | | | | | | 8 x 7<br>56 | | | |
| 9 | | | | | | | 9 x 7<br>63 | | | |
| 10 | | | | | | | 10 x 7<br>70 | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 7 and the product, or say 7 times the number and the product. **Example:** If you roll an eight, say "8 times 7 is 56" or say "7 times 8 is 56". Put a counter on a space for that fact. If both spaces are occupied (8x7 AND 7x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.** **Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

Skill Builders: Previous multiplication games, Odd products (M)

CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 7, no answer key

**7 x _____ is _____ / _____ x 7 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 1 x 7 | | | |
| 2 | | | | | | | 2 x 7 | | | |
| 3 | | | | | | | 3 x 7 | | | |
| 4 | | | | | | | 4 x 7 | | | |
| 5 | | | | | | | 5 x 7 | | | |
| 6 | | | | | | | 6 x 7 | | | |
| 7 | 7 x 1 | 7 x 2 | 7 x 3 | 7 x 4 | 7 x 5 | 7 x 6 | 7 x 7 | 7 x 8 | 7 x 9 | 7 x 10 |
| 8 | | | | | | | 8 x 7 | | | |
| 9 | | | | | | | 9 x 7 | | | |
| 10 | | | | | | | 10 x 7 | | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 7 and the product, or say 7 times the number and the product. **Example:** If you roll an eight, say "8 times 7 is 56" or say "7 times 8 is 56". Put a counter on a space for that fact. If both spaces are occupied (8x7 AND 7x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.** **Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

Skill Builders: Multiply by 7, with answer key (M)

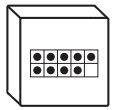
CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 7, larger factors

**7 x _____ is _____ / _____ x 7 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | 5 x 7 | | | |
| 6 | | | | | | | 6 x 7 | | | |
| 7 | | | | | 7 x 5 | 7 x 6 | 7 x 7 | 7 x 8 | 7 x 9 | 7 x 10 |
| 8 | | | | | | | 8 x 7 | | | |
| 9 | | | | | | | 9 x 7 | | | |
| 10 | | | | | | | 10 x 7 | | | |

*Questions?* **reckonmath.com**



A 5-10 frame die, and counters in two colors.

**How to play:** On your turn, roll the die. You can choose: Say the number times 7 and the product, or say 7 times the number and the product. **Example:** If you roll an eight, say "8 times 7 is 56" or say "7 times 8 is 56". Put a counter on a space for that fact. If both spaces are occupied (8x7 AND 7x8), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.** **Hint:** You can use other facts to help you find products if you don't remember them.

M



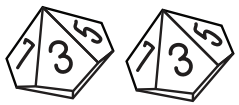
CCSS.MATH.CONTENT.3.OA.C.7

# Use addition to multiply: 8 = 4 + 4

**8 x _____ is the same as 4 x _____ + 4 x _____.**

| | | | | |
|---|---|---|---|---|
| 20 + 20 | 12 + 12 | 4 + 4 | 28 + 28 | 32 + 32 |
| 36 + 36 | 8 + 8 | 40 + 40 | 24 + 24 | 16 + 16 |
| 24 + 24 | 12 + 12 | **FREE SPACE** | 40 + 40 | 28 + 28 |
| 8 + 8 | 20 + 20 | 16 + 16 | 4 + 4 | 36 + 36 |
| 32 + 32 | 12 + 12 | 8 + 8 | 24 + 24 | 16 + 16 |

*Questions?* **reckonmath.com**



Two ten-sided dice, and counters in two colors.

This game is a chance for you to get comfortable with one powerful way to multiply 8 times another factor: Changing the 8 into 4 + 4. **How to play:** Leave one die on the table with the 8 side facing up. On your turn, roll the other die. If you roll a zero, it means 10. Say a number sentence with your number times (4 + 4), and cover the square that says the same thing. If the answer is not available, it is the other player's turn. **Example:** If you roll a 7, it means 8 x 7. Since 8 is 4 plus 4, say "8 x 7 is the same as 4 x 7 + 4 x 7", and cover a 28 + 28 square. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

M

# Use subtraction to multiply: 8 = 10 – 2

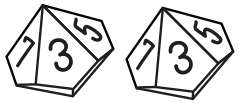
**8 x _____ is the same as 10 x _____ – 2 x _____.**

| | | | | |
|---|---|---|---|---|
| 50 – 10 | 30 – 6 | 10 – 2 | 70 – 14 | 80 – 16 |
| 90 – 18 | 20 – 4 | 100 – 20 | 60 – 12 | 40 – 8 |
| 60 – 12 | 30 – 6 | **FREE SPACE** | 100 – 20 | 70 – 14 |
| 20 – 4 | 50 – 10 | 40 – 8 | 10 – 2 | 90 – 18 |
| 80 – 16 | 30 – 6 | 20 – 4 | 60 – 12 | 40 – 8 |

Skill Builders: Distributive property of multiplication (M), Multiply by 10 games (M), Multiply by 2 games (M)

CCSS.MATH.CONTENT.3.OA.B.5

*Questions?* **reckonmath.com**



Two ten-sided dice, and counters in two colors.

This game is a chance for you to get comfortable with one powerful way to multiply 8 times another factor: Changing the 8 into 10 – 2. **How to play:** Leave one die on the table with the 8 side facing up. On your turn, roll the other die. If you roll a zero, it means 10. Say a number sentence with your number times (10 – 2), and cover the square that says the same thing. If the answer is not available, it is the other player's turn. **Example:** If you roll a 7, it means 8 x 7. Since 8 is 10 minus 2, say "8 x 7 is the same as 10 x 7 – 2 x 7", and cover a 70 – 14 square. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

M

# Multiply by 8, with answer key

**8 x _____ is _____ / _____ x 8 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | 1 x 8<br>8 | | |
| 2 | | | | | | | | 2 x 8<br>16 | | |
| 3 | | | | | | | | 3 x 8<br>24 | | |
| 4 | | | | | | | | 4 x 8<br>32 | | |
| 5 | | | | | | | | 5 x 8<br>40 | | |
| 6 | | | | | | | | 6 x 8<br>48 | | |
| 7 | | | | | | | | 7 x 8<br>56 | | |
| 8 | 8 x 1<br>8 | 8 x 2<br>16 | 8 x 3<br>24 | 8 x 4<br>32 | 8 x 5<br>40 | 8 x 6<br>48 | 8 x 7<br>56 | 8 x 8<br>64 | 8 x 9<br>72 | 8 x 10<br>80 |
| 9 | | | | | | | | 9 x 8<br>72 | | |
| 10 | | | | | | | | 10 x 8<br>80 | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 8 and the product, or say 8 times the number and the product. **Example:** If you roll a five, say "5 times 8 is 40" or say "8 times 5 is 40". Put a counter on a space for that fact. If both spaces are occupied (5x8 AND 8x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

# Multiply by 8, no answer key

**8 x _____ is _____ / _____ x 8 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | 1 x 8 | | |
| 2 | | | | | | | | 2 x 8 | | |
| 3 | | | | | | | | 3 x 8 | | |
| 4 | | | | | | | | 4 x 8 | | |
| 5 | | | | | | | | 5 x 8 | | |
| 6 | | | | | | | | 6 x 8 | | |
| 7 | | | | | | | | 7 x 8 | | |
| 8 | 8 x 1 | 8 x 2 | 8 x 3 | 8 x 4 | 8 x 5 | 8 x 6 | 8 x 7 | 8 x 8 | 8 x 9 | 8 x 10 |
| 9 | | | | | | | | 9 x 8 | | |
| 10 | | | | | | | | 10 x 8 | | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 8 and the product, or say 8 times the number and the product. **Example:** If you roll a five, say "5 times 8 is 40" or say "8 times 5 is 40". Put a counter on a space for that fact. If both spaces are occupied (5x8 AND 8x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

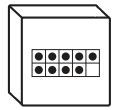
M

# Multiply by 8, larger factors

**8 x _____ is _____ / _____ x 8 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | 5 x 8 | | |
| 6 | | | | | | | | 6 x 8 | | |
| 7 | | | | | | | | 7 x 8 | | |
| 8 | | | | | 8 x 5 | 8 x 6 | 8 x 7 | 8 x 8 | 8 x 9 | 8 x 10 |
| 9 | | | | | | | | 9 x 8 | | |
| 10 | | | | | | | | 10 x 8 | | |

*Questions?* **reckonmath.com**



A 5-10 frame die, and counters in two colors.

**How to play:** On your turn, roll the die. You can choose: Say the number times 8 and the product, or say 8 times the number and the product. **Example:** If you roll a five, say "5 times 8 is 40" or say "8 times 5 is 40". Put a counter on a space for that fact. If both spaces are occupied (5x8 AND 8x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them.

M

# Use subtraction to multiply: 9 = 10 – 1

**9 x _____ is the same as 10 x _____ – 1 x _____.**

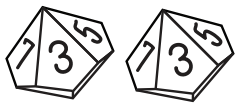
| | | | | |
|---|---|---|---|---|
| 50 – 5 | 30 – 3 | 10 – 1 | 70 – 7 | 80 – 8 |
| 90 – 9 | 20 – 2 | 100 – 10 | 60 – 6 | 40 – 4 |
| 60 – 6 | 30 – 3 | **FREE SPACE** | 100 – 10 | 70 – 7 |
| 20 – 2 | 50 – 5 | 40 – 4 | 10 – 1 | 90 – 9 |
| 80 – 8 | 30 – 3 | 20 – 2 | 60 – 6 | 40 – 4 |

Skill Builders: Distributive property of multiplication (M), Multiply by 10 games (M), A number multiplied by 1 is the same number (M)

CCSS.MATH.CONTENT.3.OA.B.5

*Questions?* **reckonmath.com**

M




Two ten-sided dice, and counters in two colors.

This game is a chance for you to get comfortable with one powerful way to multiply 9 times another factor: Changing the 9 into 10 – 1. **How to play:** Leave one die on the table with the 9 side facing up. On your turn, roll the other die. If you roll a zero, it means 10. Say a number sentence with your number times (10 – 1), and cover the square that says the same thing. If the answer is not available, it is the other player's turn. **Example:** If you roll a 6, it means 9 x 6. Since 9 is 10 minus 1, say "9 x 6 is the same as 10 x 6 – 1 x 6", and cover a 60 – 6 square. **The first player to get five in a row wins.** If the board fills and no one has five in a row, the player with more counters wins.

# Multiply by 9, with answer key

**9 x _____ is _____ / _____ x 9 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 1 x 9<br>9 | |
| 2 | | | | | | | | | 2 x 9<br>18 | |
| 3 | | | | | | | | | 3 x 9<br>27 | |
| 4 | | | | | | | | | 4 x 9<br>36 | |
| 5 | | | | | | | | | 5 x 9<br>45 | |
| 6 | | | | | | | | | 6 x 9<br>54 | |
| 7 | | | | | | | | | 7 x 9<br>63 | |
| 8 | | | | | | | | | 8 x 9<br>72 | |
| 9 | 9 x 1<br>9 | 9 x 2<br>18 | 9 x 3<br>27 | 9 x 4<br>36 | 9 x 5<br>45 | 9 x 6<br>54 | 9 x 7<br>63 | 9 x 8<br>72 | 9 x 9<br>81 | 9 x 10<br>90 |
| 10 | | | | | | | | | 10 x 9<br>90 | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 9 and the product, or say 9 times the number and the product. **Example:** If you roll a five, say "5 times 9 is 45" or say "9 times 5 is 45". Put a counter on a space for that fact. If both spaces are occupied (5x9 AND 9x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M

Skill Builders: Previous multiplication games, Odd products (M)

CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 9, no answer key

**9 x _____ is _____ / _____ x 9 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | 1 x 9 | |
| 2 | | | | | | | | | 2 x 9 | |
| 3 | | | | | | | | | 3 x 9 | |
| 4 | | | | | | | | | 4 x 9 | |
| 5 | | | | | | | | | 5 x 9 | |
| 6 | | | | | | | | | 6 x 9 | |
| 7 | | | | | | | | | 7 x 9 | |
| 8 | | | | | | | | | 8 x 9 | |
| 9 | 9 x 1 | 9 x 2 | 9 x 3 | 9 x 4 | 9 x 5 | 9 x 6 | 9 x 7 | 9 x 8 | 9 x 9 | 9 x 10 |
| 10 | | | | | | | | | 10 x 9 | |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die. If you roll a zero, it means 10. You can choose: Say the number times 9 and the product, or say 9 times the number and the product. **Example:** If you roll a five, say "5 times 9 is 45" or say "9 times 5 is 45". Put a counter on a space for that fact. If both spaces are occupied (5x9 AND 9x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them. **Variation:** Instead of rolling a die, use cards to make all the numbers come up.

M



Skill Builders: Multiply by 9, with answer key (M)

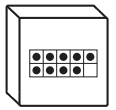
CCSS.MATH.CONTENT.3.OA.C.7

# Multiply by 9, larger factors

**9 x _____ is _____ / _____ x 9 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | 5 x 9 | |
| 6 | | | | | | | | | 6 x 9 | |
| 7 | | | | | | | | | 7 x 9 | |
| 8 | | | | | | | | | 8 x 9 | |
| 9 | | | | | 9 x 5 | 9 x 6 | 9 x 7 | 9 x 8 | 9 x 9 | 9 x 10 |
| 10 | | | | | | | | | 10 x 9 | |

*Questions?* **reckonmath.com**



A 5-10 frame die, and counters in two colors.

**How to play:** On your turn, roll the die. You can choose: Say the number times 9 and the product, or say 9 times the number and the product. **Example:** If you roll a five, say "5 times 9 is 45" or say "9 times 5 is 45". Put a counter on a space for that fact. If both spaces are occupied (5x9 AND 9x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins. Hint:** You can use other facts to help you find products if you don't remember them.

M

Skill Builders: Multiply by 9, with answer key (M)

CCSS.MATH.CONTENT.3.OA.C.7

# If you have to skip count, you don't know the fact

**I can solve _____ x _____ without skip counting.**

Skip counting (5, 10, 15, 20…) is good for learning what multiplication means.

But later on you will need to solve the facts without skip counting.

Maybe to find 7 x 3 = 21, you have to think "3, 6, 9, 12, 15, 18, 21."

If this is true for you, you know something very important.

You know how to skip count by 3s, and that is good knowledge.

You just don't know 7 x 3 = 21.

**Why is it important to be able to solve multiplication facts without skip counting?**

**1. Skip counting makes you make mistakes.** You get the wrong answer if you skip count the wrong number of times.

**2. Skip counting is distracting.** Suppose 7 x 3 comes up as part of a bigger question. When you stop and skip count, you lose focus on the bigger question. Losing focus makes it hard to think.

**3. You will need to solve multiplication facts without skip counting later.** In the future, problems will give you 21 and you will have to say it is 7 x 3. If you learn how to solve multiplication fact problems without skip counting now, you will be able to do this later.

**But aren't the new ways harder?**

The new ways might take time to learn, but learning them will help you understand the facts better. And that means that you will recall the facts better and feel more comfortable with math. It's worth it!



*Questions?* **reckonmath.com**

First, you or your partner reads the whole text out loud. Then the two of you talk together about what it means. If you aren't sure how to talk about a text with a partner, you can use this method: Put a check mark next to any line that makes sense right away. Now look at one of the other lines. Talk about the line with each other. Can the two of you figure out why it makes sense? If you can, put a check mark by it. If you can't, move on to another line. Keep doing this until you have tried to figure out every line. If any lines still don't have a check mark, ask someone else to help you understand why those lines make sense.

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiples of 2: Factors

**I am picking the number _____. That is the same as _____ x 2.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 x 2 | 4 x 2 | 7 x 2 | 9 x 2 | 7 x 2 | 6 x 2 | 2 x 2 |
| 10 x 2 | 1 x 2 | 5 x 2 | 8 x 2 | 2 x 2 | 6 x 2 | 10 x 2 |
| 8 x 2 | 9 x 2 | 5 x 2 | 1 x 2 | 4 x 2 | 7 x 2 | 3 x 2 |
| 9 x 2 | 8 x 2 | 1 x 2 | 7 x 2 | 10 x 2 | 5 x 2 | 2 x 2 |
| 6 x 2 | 3 x 2 | 4 x 2 | 6 x 2 | 9 x 2 | 8 x 2 | 4 x 2 |
| 3 x 2 | 1 x 2 | 10 x 2 | 5 x 2 | 7 x 2 | 2 x 2 | 9 x 2 |

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 2 as a factor. **Example:** If you choose the product 16, say "2 x 8 = 16" or "8 x 2 = 16". Then, cover 8 x 2.

**Note:** On this game board, the factor "2" always comes second, to make it easier for you to find the factor you are looking for.

**The first player to get four in a row wins.**

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

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiples of 3: Factors

**I am picking the number _____. That is the same as _____ x 3.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 x 3 | 10 x 3 | 5 x 3 | 2 x 3 | 8 x 3 | 2 x 3 | 6 x 3 |
| 5 x 3 | 6 x 3 | 8 x 3 | 3 x 3 | 1 x 3 | 10 x 3 | 8 x 3 |
| 9 x 3 | 2 x 3 | 10 x 3 | 6 x 3 | 9 x 3 | 5 x 3 | 9 x 3 |
| 4 x 3 | 8 x 3 | 3 x 3 | 5 x 3 | 2 x 3 | 3 x 3 | 4 x 3 |
| 3 x 3 | 1 x 3 | 7 x 3 | 10 x 3 | 7 x 3 | 1 x 3 | 9 x 3 |
| 1 x 3 | 9 x 3 | 4 x 3 | 4 x 3 | 6 x 3 | 7 x 3 | 6 x 3 |

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 3 as a factor. **Example:** If you choose the product 21, say "3 x 7 = 21" or "7 x 3 = 21". Then, cover 7 x 3.

**Note:** On this game board, the factor "3" always comes second, to make it easier for you to find the factor you are looking for.

**The first player to get four in a row wins.**

24, 12, 3, 15, 18, 27, 21, 30, 6, 9

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiples of 4: Factors

**I am picking the number _____. That is the same as _____ x 4.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 x 4 | 6 x 4 | 5 x 4 | 6 x 4 | 7 x 4 | 1 x 4 | 9 x 4 |
| 7 x 4 | 9 x 4 | 2 x 4 | 10 x 4 | 3 x 4 | 4 x 4 | 10 x 4 |
| 2 x 4 | 10 x 4 | 7 x 4 | 8 x 4 | 5 x 4 | 3 x 4 | 7 x 4 |
| 8 x 4 | 4 x 4 | 4 x 4 | 9 x 4 | 10 x 4 | 5 x 4 | 6 x 4 |
| 5 x 4 | 1 x 4 | 8 x 4 | 6 x 4 | 2 x 4 | 8 x 4 | 9 x 4 |
| 1 x 4 | 9 x 4 | 3 x 4 | 1 x 4 | 4 x 4 | 2 x 4 | 6 x 4 |

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 4 as a factor. **Example:** If you choose the product 28, say "4 x 7 = 28" or "7 x 4 = 28". Then, cover 7 x 4.

**Note:** On this game board, the factor "4" always comes second, to make it easier for you to find the factor you are looking for.

**The first player to get four in a row wins.**

8, 24, 16, 20, 32, 28, 36, 4, 40, 12

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiples of 5: Factors

**I am picking the number _____. That is the same as _____ x 5.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 x 5 | 10 x 5 | 4 x 5 | 9 x 5 | 3 x 5 | 1 x 5 | 8 x 5 |
| 6 x 5 | 2 x 5 | 7 x 5 | 5 x 5 | 10 x 5 | 9 x 5 | 3 x 5 |
| 1 x 5 | 8 x 5 | 4 x 5 | 7 x 5 | 6 x 5 | 2 x 5 | 5 x 5 |
| 9 x 5 | 1 x 5 | 6 x 5 | 4 x 5 | 2 x 5 | 7 x 5 | 3 x 5 |
| 10 x 5 | 6 x 5 | 8 x 5 | 10 x 5 | 5 x 5 | 1 x 5 | 4 x 5 |
| 9 x 5 | 3 x 5 | 7 x 5 | 2 x 5 | 6 x 5 | 7 x 5 | 8 x 5 |

*Questions?* **reckonmath.com**

M

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 5 as a factor. **Example:** If you choose the product 35, say "5 x 7 = 35" or "7 x 5 = 35". Then, cover 7 x 5.

**Note:** On this game board, the factor "5" always comes second, to make it easier for you to find the factor you are looking for.

**The first player to get four in a row wins.**

40, 45, 35, 50, 10, 5, 30, 20, 25, 15

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiples of 6: Factors

**I am picking the number _____. That is the same as _____ x 6.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 x 6 | 8 x 6 | 6 x 6 | 8 x 6 | 7 x 6 | 6 x 6 | 4 x 6 |
| 4 x 6 | 5 x 6 | 2 x 6 | 10 x 6 | 8 x 6 | 7 x 6 | 9 x 6 |
| 1 x 6 | 6 x 6 | 9 x 6 | 2 x 6 | 10 x 6 | 1 x 6 | 10 x 6 |
| 9 x 6 | 2 x 6 | 5 x 6 | 9 x 6 | 5 x 6 | 3 x 6 | 8 x 6 |
| 10 x 6 | 3 x 6 | 1 x 6 | 4 x 6 | 6 x 6 | 5 x 6 | 9 x 6 |
| 7 x 6 | 4 x 6 | 7 x 6 | 1 x 6 | 3 x 6 | 2 x 6 | 8 x 6 |

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 6 as a factor. **Example:** If you choose the product 42, say "6 x 7 = 42" or "7 x 6 = 42". Then, cover 7 x 6.

**Note:** On this game board, the factor "6" always comes second, to make it easier for you to find the factor you are looking for.

**The first player to get four in a row wins.**

6, 24, 48, 60, 12, 30, 54, 36, 42, 18

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiples of 7: Factors

**I am picking the number _____. That is the same as _____ x 7.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 x 7 | 4 x 7 | 5 x 7 | 3 x 7 | 7 x 7 | 10 x 7 | 9 x 7 |
| 8 x 7 | 6 x 7 | 2 x 7 | 9 x 7 | 4 x 7 | 4 x 7 | 8 x 7 |
| 5 x 7 | 2 x 7 | 10 x 7 | 1 x 7 | 5 x 7 | 7 x 7 | 2 x 7 |
| 10 x 7 | 7 x 7 | 6 x 7 | 9 x 7 | 10 x 7 | 3 x 7 | 5 x 7 |
| 1 x 7 | 1 x 7 | 8 x 7 | 6 x 7 | 2 x 7 | 6 x 7 | 9 x 7 |
| 9 x 7 | 7 x 7 | 4 x 7 | 3 x 7 | 8 x 7 | 1 x 7 | 6 x 7 |

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 7 as a factor. **Example:** If you choose the product 56, say "7 x 8 = 56" or "8 x 7 = 56". Then, cover 8 x 7.

**Note:** On this game board, the factor "7" always comes second, to make it easier for you to find the factor you are looking for.

**The first player to get four in a row wins.**

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

M

# Multiples of 8: Factors

**I am picking the number _____. That is the same as _____ x 8.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 x 8 | 1 x 8 | 3 x 8 | 8 x 8 | 9 x 8 | 6 x 8 | 3 x 8 |
| 8 x 8 | 3 x 8 | 2 x 8 | 5 x 8 | 4 x 8 | 10 x 8 | 5 x 8 |
| 9 x 8 | 4 x 8 | 9 x 8 | 6 x 8 | 5 x 8 | 1 x 8 | 7 x 8 |
| 5 x 8 | 10 x 8 | 7 x 8 | 3 x 8 | 10 x 8 | 2 x 8 | 4 x 8 |
| 6 x 8 | 1 x 8 | 4 x 8 | 8 x 8 | 1 x 8 | 9 x 8 | 9 x 8 |
| 2 x 8 | 6 x 8 | 10 x 8 | 2 x 8 | 7 x 8 | 8 x 8 | 6 x 8 |

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 8 as a factor. **Example:** If you choose the product 48, say "8 x 6 = 48" or "6 x 8 = 48". Then, cover 6 x 8.

**Note:** On this game board, the factor "8" always comes second, to make it easier for you to find the factor you are looking for.

**The first player to get four in a row wins.**

40, 64, 56, 48, 80, 24, 8, 72, 16, 32

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7



M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Multiples of 9: Factors

**I am picking the number _____. That is the same as _____ x 9.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 x 9 | 10 x 9 | 1 x 9 | 2 x 9 | 9 x 9 | 5 x 9 | 4 x 9 |
| 8 x 9 | 5 x 9 | 10 x 9 | 7 x 9 | 5 x 9 | 9 x 9 | 7 x 9 |
| 3 x 9 | 7 x 9 | 5 x 9 | 4 x 9 | 8 x 9 | 1 x 9 | 10 x 9 |
| 6 x 9 | 4 x 9 | 9 x 9 | 7 x 9 | 3 x 9 | 2 x 9 | 3 x 9 |
| 2 x 9 | 8 x 9 | 3 x 9 | 1 x 9 | 2 x 9 | 6 x 9 | 8 x 9 |
| 9 x 9 | 4 x 9 | 6 x 9 | 10 x 9 | 6 x 9 | 8 x 9 | 7 x 9 |

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 9 as a factor. **Example:** If you choose the product 63, say "9 x 7 = 63" or "7 x 9 = 63". Then, cover 7 x 9.

**Note:** On this game board, the factor "9" always comes second, to make it easier for you to find the factor you are looking for.

**The first player to get four in a row wins.**

63, 9, 90, 72, 54, 18, 27, 36, 45, 81

M

# Multiples of 10: Factors

**I am picking the number _____. That is the same as _____ x 10.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 x 10 | 8 x 10 | 1 x 10 | 4 x 10 | 7 x 10 | 2 x 10 | 4 x 10 |
| 1 x 10 | 4 x 10 | 7 x 10 | 10 x 10 | 8 x 10 | 7 x 10 | 9 x 10 |
| 5 x 10 | 6 x 10 | 9 x 10 | 5 x 10 | 2 x 10 | 3 x 10 | 1 x 10 |
| 7 x 10 | 10 x 10 | 2 x 10 | 1 x 10 | 4 x 10 | 8 x 10 | 10 x 10 |
| 3 x 10 | 3 x 10 | 6 x 10 | 3 x 10 | 9 x 10 | 6 x 10 | 2 x 10 |
| 2 x 10 | 8 x 10 | 5 x 10 | 10 x 10 | 6 x 10 | 5 x 10 | 7 x 10 |

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 10 as a factor.

**Example:** If you choose the product 70, say "10 x 7 = 70" or "7 x 10 = 70". Then, cover 7 x 10. **Note:** On this game board, the factor "10" always comes second, to make it easier for you to find the factor you are looking for. **The first player to get four in a row wins.**

90, 20, 30, 40, 80, 100, 10, 60, 50, 70

M

# 10 x 10 multiplication table

**I can locate the fact ___ x ___ = ____ on a multiplication table.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

*Questions?* **reckonmath.com**

Remember the words "factor" and "product"? In the equation 3 x 8 = 24, 3 and 8 are the factors and 24 is the product. In a multiplication table, products are in the squares. Factors are along the left and top edges. For example, the 24 from the equation 3 x 8 = 24 is printed on the square where the 3 row and the 8 column intersect. **Notice:** In this table, the products to the lower left are printed in small numerals. Why? Because they are the same as the products to the upper right. For example, 3 x 2 is the same as 2 x 3. So when you have learned the products printed in large numerals, you will actually know all the products.

M

Skill Builders: Learn the words "factor" and "product" (M)

CCSS.MATH.CONTENT.3.OA.D.9

# 3-D multiplication table

## The 5x3 bar is taller than the 4x2 bar because _____.

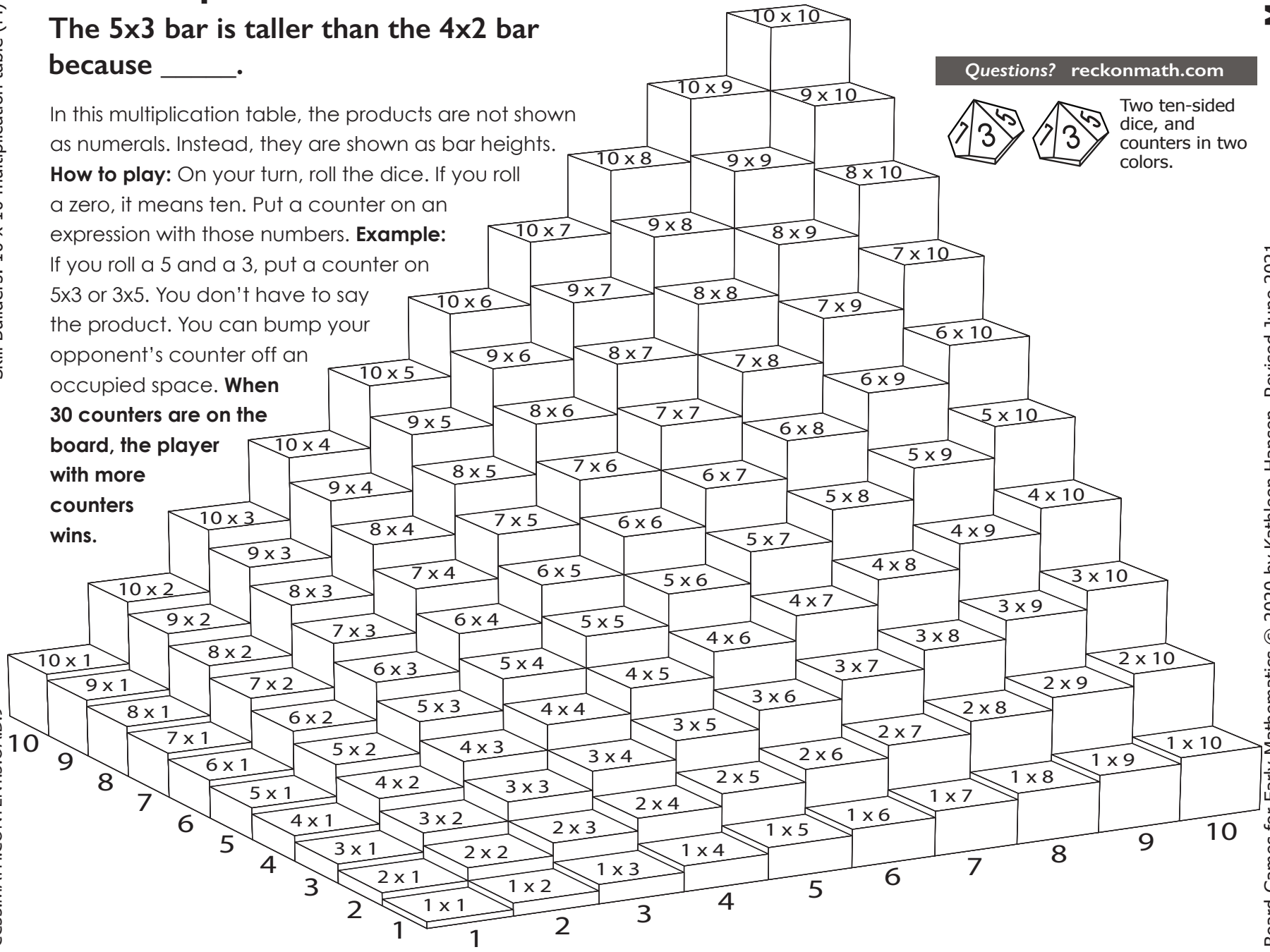
In this multiplication table, the products are not shown as numerals. Instead, they are shown as bar heights.

**How to play:** On your turn, roll the dice. If you roll a zero, it means ten. Put a counter on an expression with those numbers. **Example:** If you roll a 5 and a 3, put a counter on 5x3 or 3x5. You don't have to say the product. You can bump your opponent's counter off an occupied space. **When 30 counters are on the board, the player with more counters wins.**

*Questions?* **reckonmath.com**



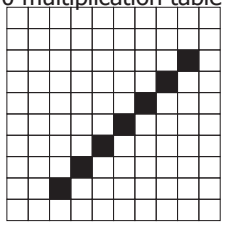
Two ten-sided dice, and counters in two colors.

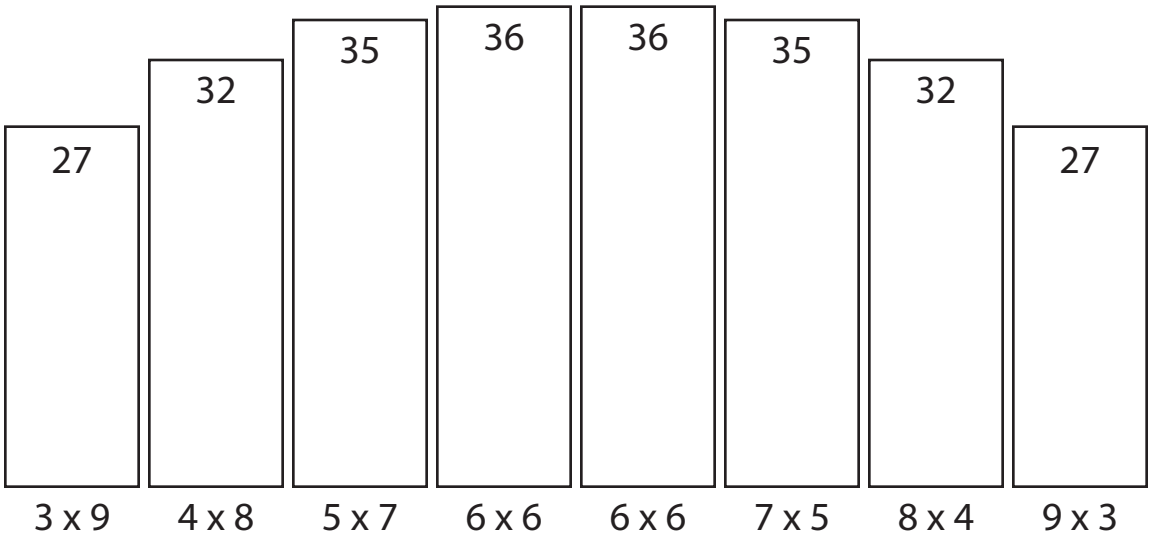


# Products of factors that add to 12, with answer key

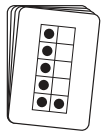
**_____ x _____ is a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 3-9 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 12. **Notice:** Factors closer to each other have larger products. **How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew a 4, you can say "4 times 8 is 32" and place a counter in the 4x8 bar. You can bump your opponent's counters off occupied bars. **When all the bars have a counter, the player with more counters wins.**

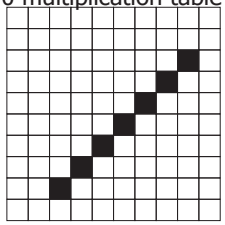
M

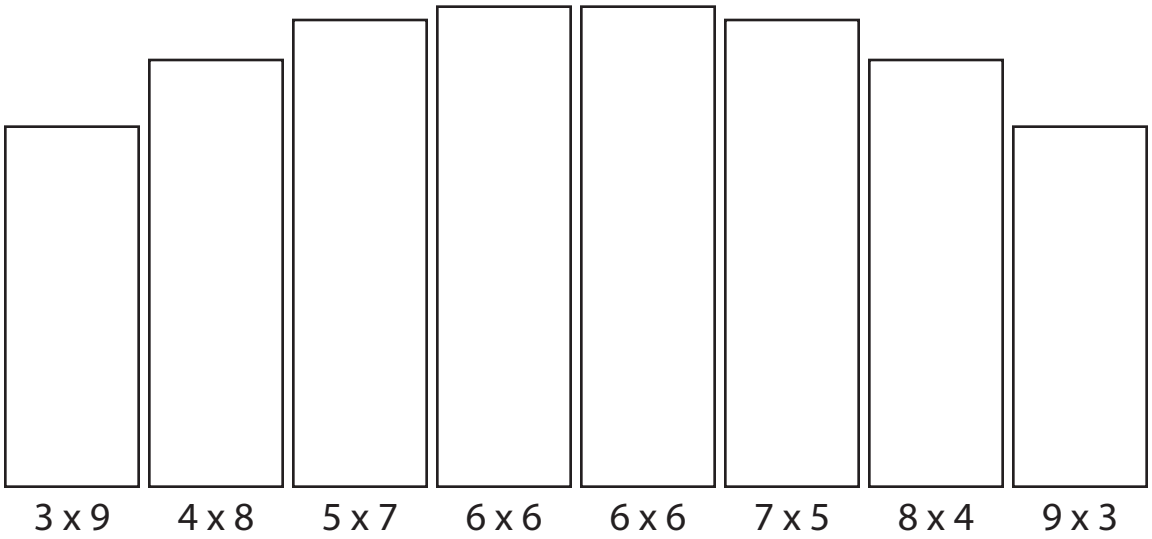
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Learn the words "factor" and "product" (M)

# Products of factors that add to 12, no answer key

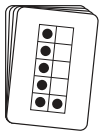
**_____ x _____ must be a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 3-9 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 12. When you can't remember a product, think about the product of a nearby bar.

**Hint:** Factors closer to each other have larger products.

**How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew a 4, you can say "4 times 8 is 32" and place a counter in the 4x8 bar. You can bump your opponent's counters off occupied bars.

**When all the bars have a counter, the player with more counters wins.**

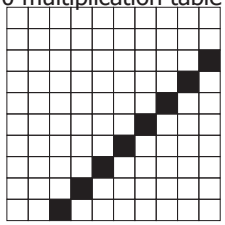
M

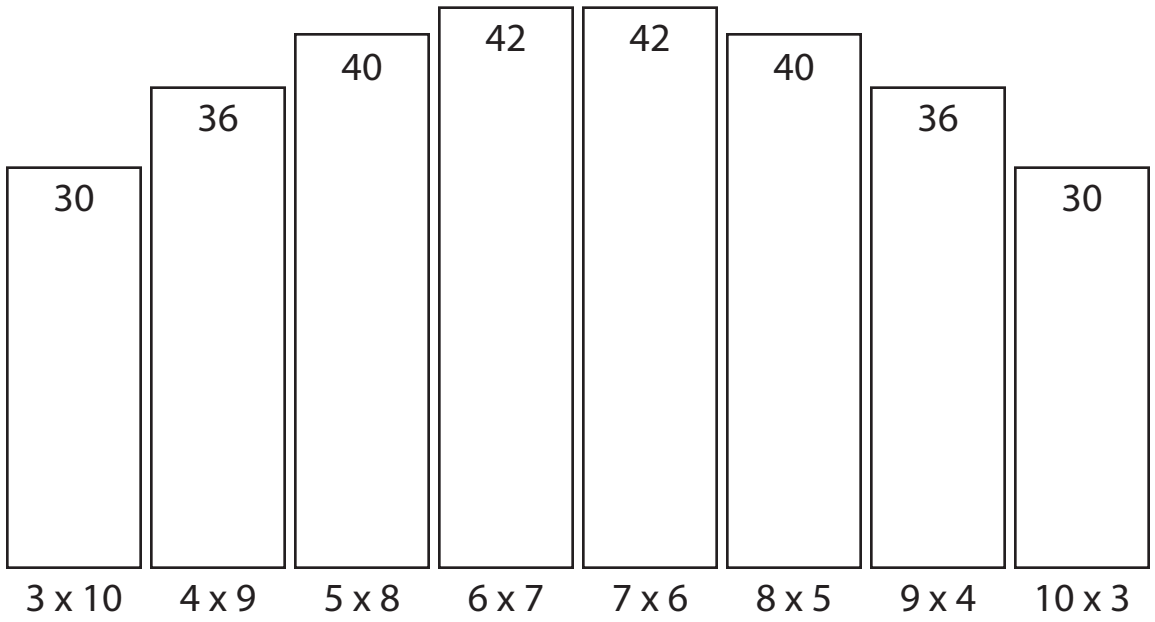
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Products of factors that add to 12, with answer key (M)

# Products of factors that add to 13, with answer key

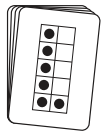
**_____ x _____ is a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 3-10 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 13. **Notice:** Factors closer to each other have larger products. **How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew a 6, you can say "6 times 7 is 42" and place a counter in the 6x7 bar. You can bump your opponent's counters off occupied bars. **When all the bars have a counter, the player with more counters wins**.

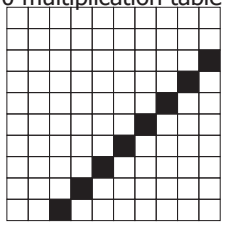
M

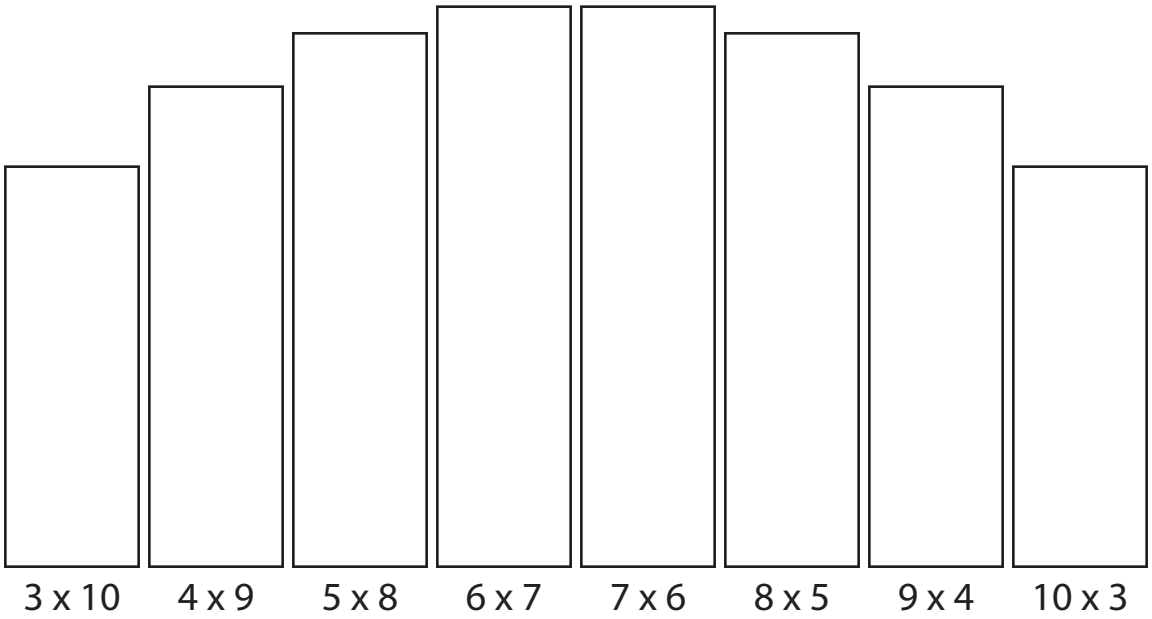
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Learn the words "factor" and "product" (M)

# Products of factors that add to 13, no answer key

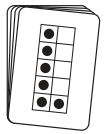
**_____ x _____ must be a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 3-10 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 13. When you can't remember a product, **think about the product of a nearby bar.**

**Hint:** Factors closer to each other have larger products.

**How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew a 6, you can say "6 times 7 is 42" and place a counter in the 6x7 bar. You can bump your opponent's counters off occupied bars.

**When all the bars have a counter, the player with more counters wins.**

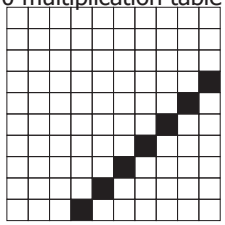
M

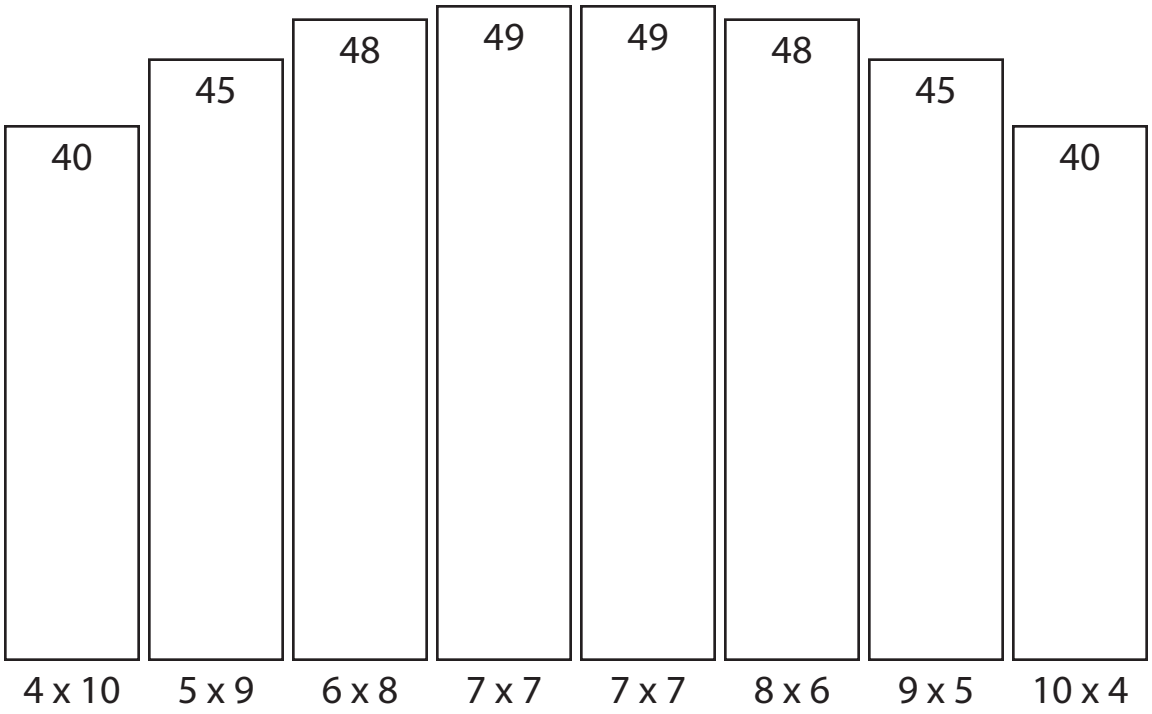
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Products of factors that add to 13, with answer key (M)

# Products of factors that add to 14, with answer key

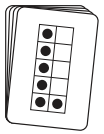
**_____ x _____ is a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 4-10 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 14. **Notice:** Factors closer to each other have larger products. **How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew an 8, you can say "6 times 8 is 48" and place a counter in the 6x8 bar. You can bump your opponent's counters off occupied bars. **When all the bars have a counter, the player with more counters wins.**

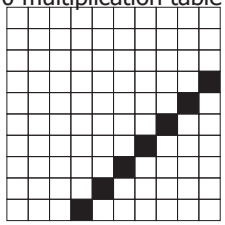
M

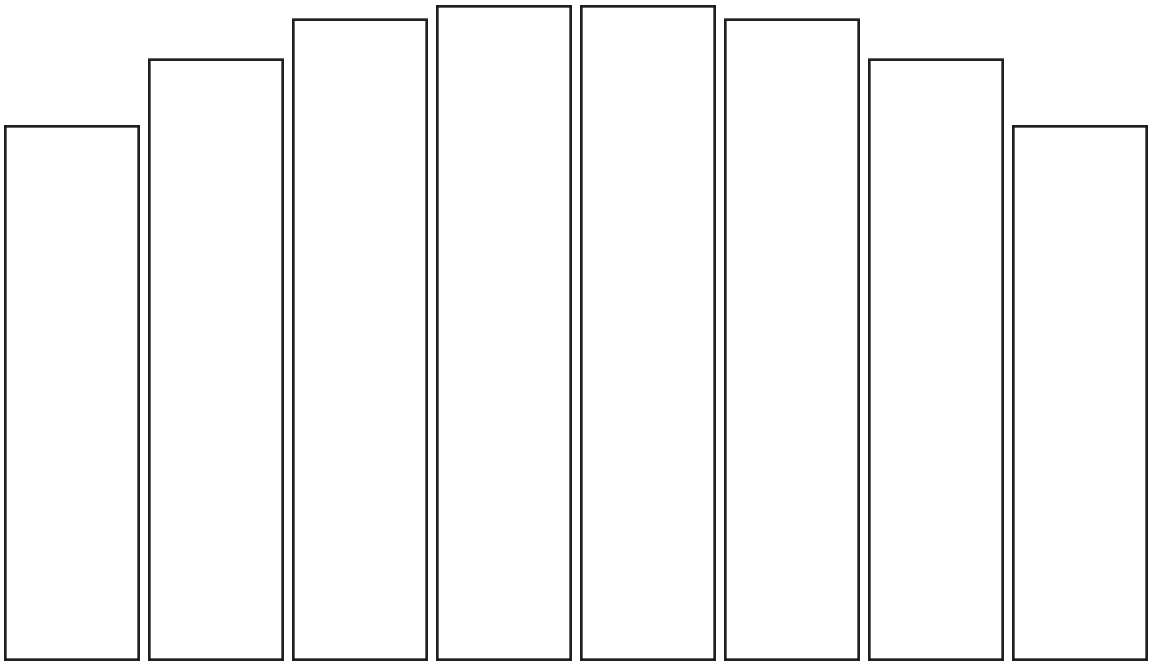
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Learn the words "factor" and "product" (M)

# Products of factors that add to 14, no answer key

**_____ x _____ must be a little [more / less] than _____ x _____.**

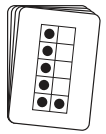
10x10 multiplication table





4 x 10 | 5 x 9 | 6 x 8 | 7 x 7 | 7 x 7 | 8 x 6 | 9 x 5 | 10 x 4

*Questions?* **reckonmath.com**



The 4-10 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 14. When you can't remember a product, **think about the product of a nearby bar.**

**Hint:** Factors closer to each other have larger products.

**How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew an 8, you can say "6 times 8 is 48" and place a counter in the 6x8 bar. You can bump your opponent's counters off occupied bars.

**When all the bars have a counter, the player with more counters wins.**

M

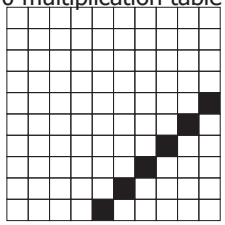


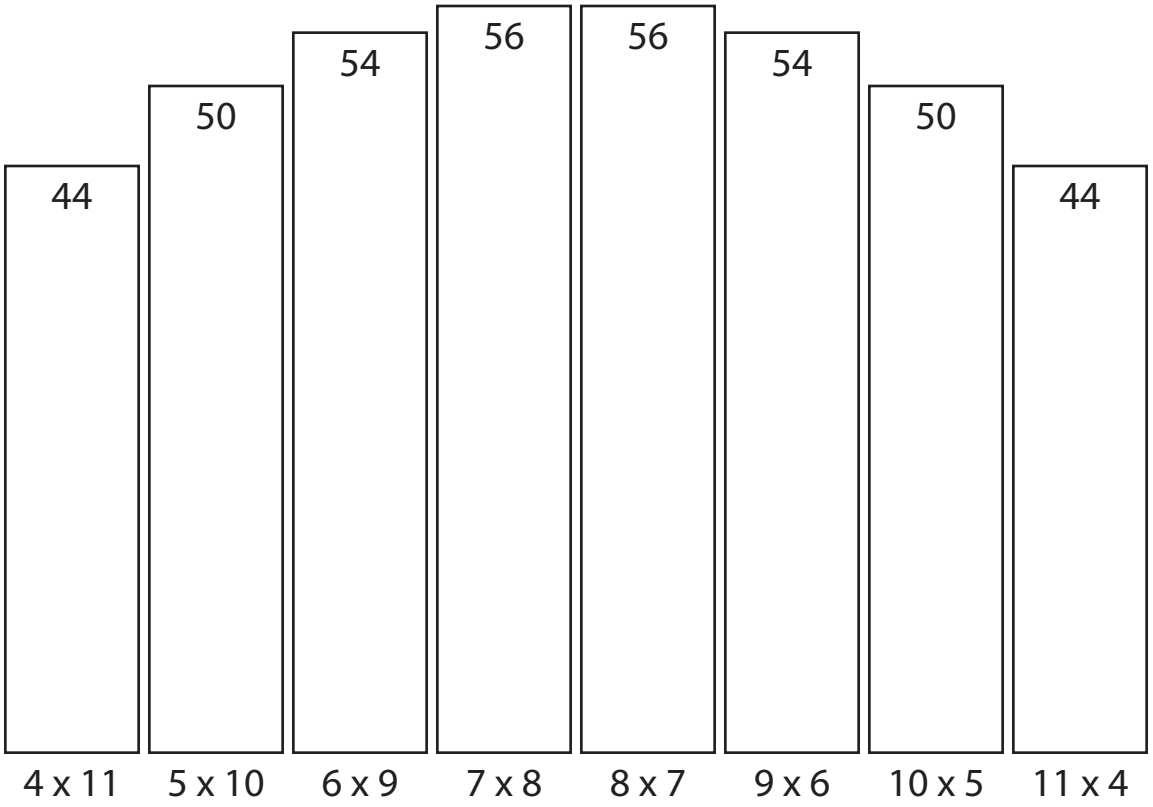
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Products of factors that add to 14, with answer key (M)

# Products of factors that add to 15, with answer key

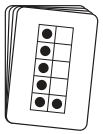
**_____ x _____ is a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 4-11 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 15. **Notice:** Factors closer to each other have larger products. **How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew a 7, you can say "7 times 8 is 56" and place a counter in the 7x8 bar. You can bump your opponent's counters off occupied bars. **When all the bars have a counter, the player with more counters wins.**

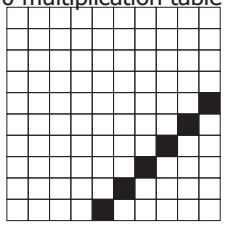
M

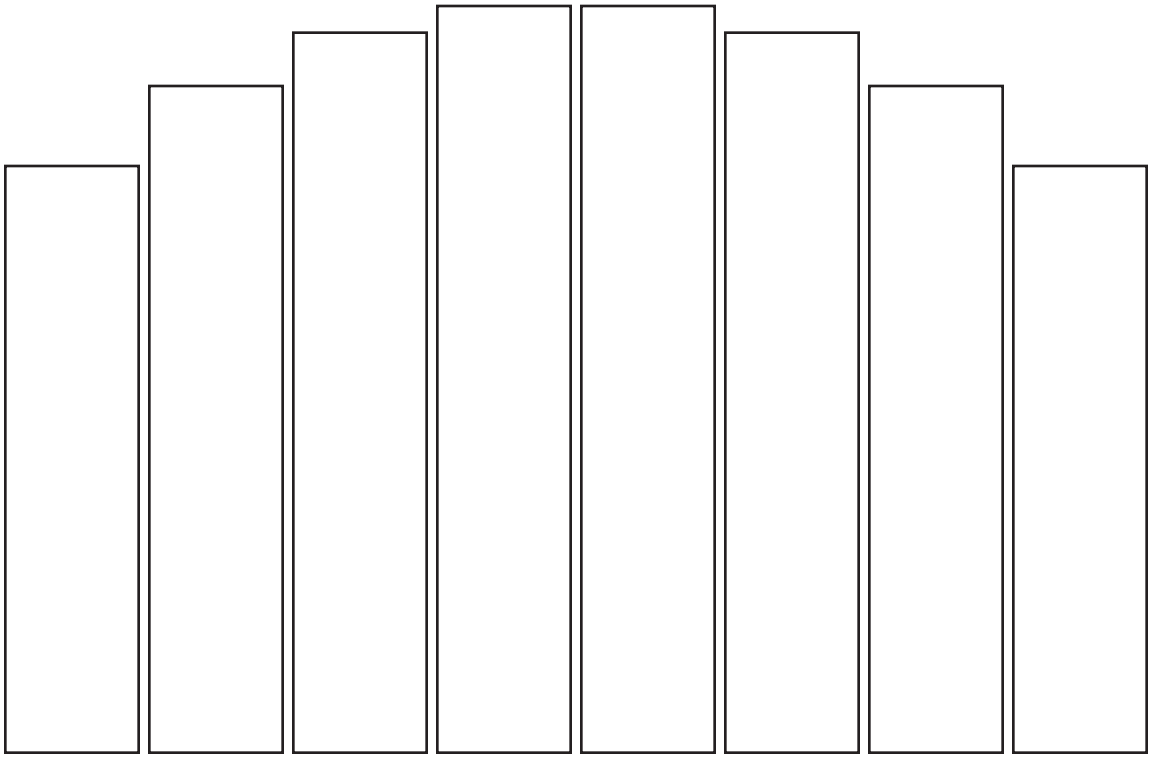
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Learn the words "factor" and "product" (M)

# Products of factors that add to 15, no answer key

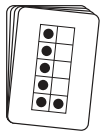
**_____ x _____ must be a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 4-11 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 15. When you can't remember a product, **think about the product of a nearby bar.**

**Hint:** Factors closer to each other have larger products.

**How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew a 7, you can say "7 times 8 is 56" and place a counter in the 7x8 bar. You can bump your opponent's counters off occupied bars.

**When all the bars have a counter, the player with more counters wins.**

M

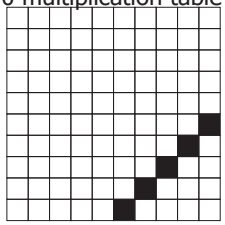


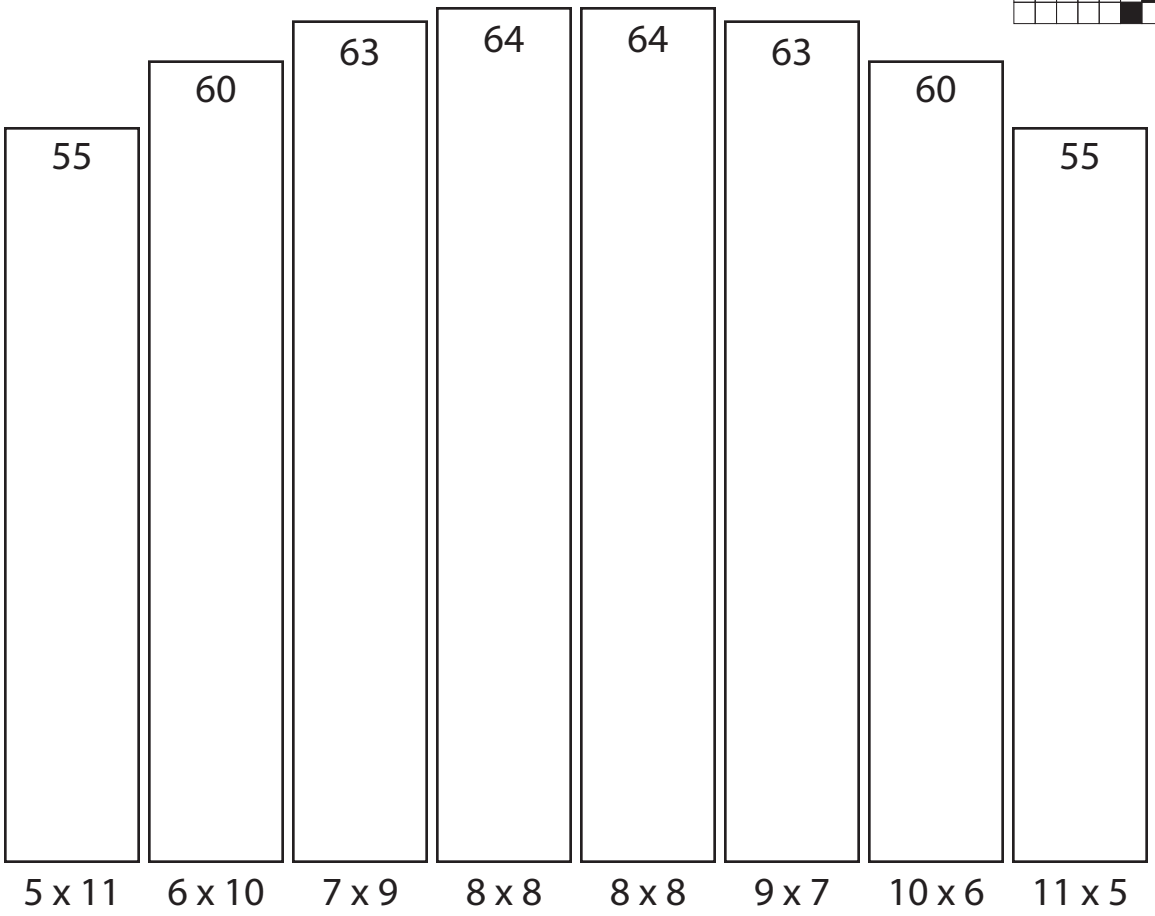
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Products of factors that add to 15, with answer key (M)

# Products of factors that add to 16, with answer key

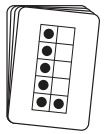
**_____ x _____ is a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 5-11 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 16. **Notice:** Factors closer to each other have larger products. **How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew a 9, you can say "7 times 9 is 63" and place a counter in the 7x9 bar. You can bump your opponent's counters off occupied bars. **When all the bars have a counter, the player with more counters wins.**

M

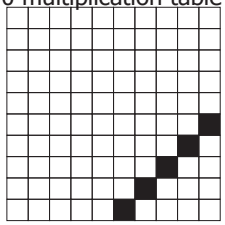
CCSS.MATH.CONTENT.3.OA.D.9

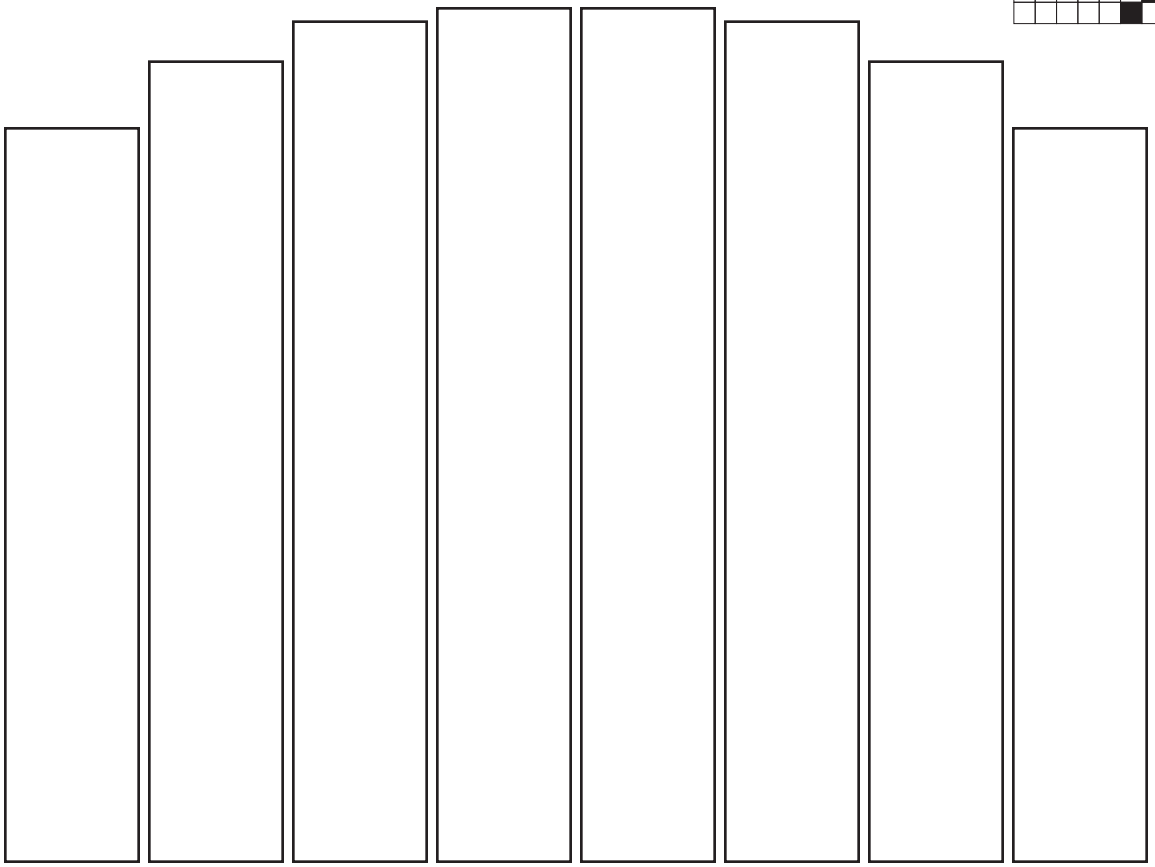
Skill Builders: 10 x 10 multiplication table (M), Learn the words "factor" and "product" (M)

# Products of factors that add to 16, no answer key

**_____ x _____ must be a little [more / less] than _____ x _____.**

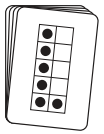
10x10 multiplication table





5 x 11 | 6 x 10 | 7 x 9 | 8 x 8 | 8 x 8 | 9 x 7 | 10 x 6 | 11 x 5

*Questions?* **reckonmath.com**



The 5-11 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 16. When you can't remember a product, **think about the product of a nearby bar**.

**Hint:** Factors closer to each other have larger products.

**How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew a 9, you can say "7 times 9 is 63" and place a counter in the 7x9 bar. You can bump your opponent's counters off occupied bars.

**When all the bars have a counter, the player with more counters wins.**

M

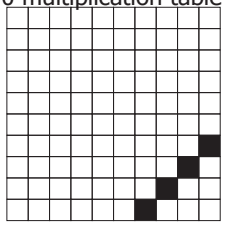


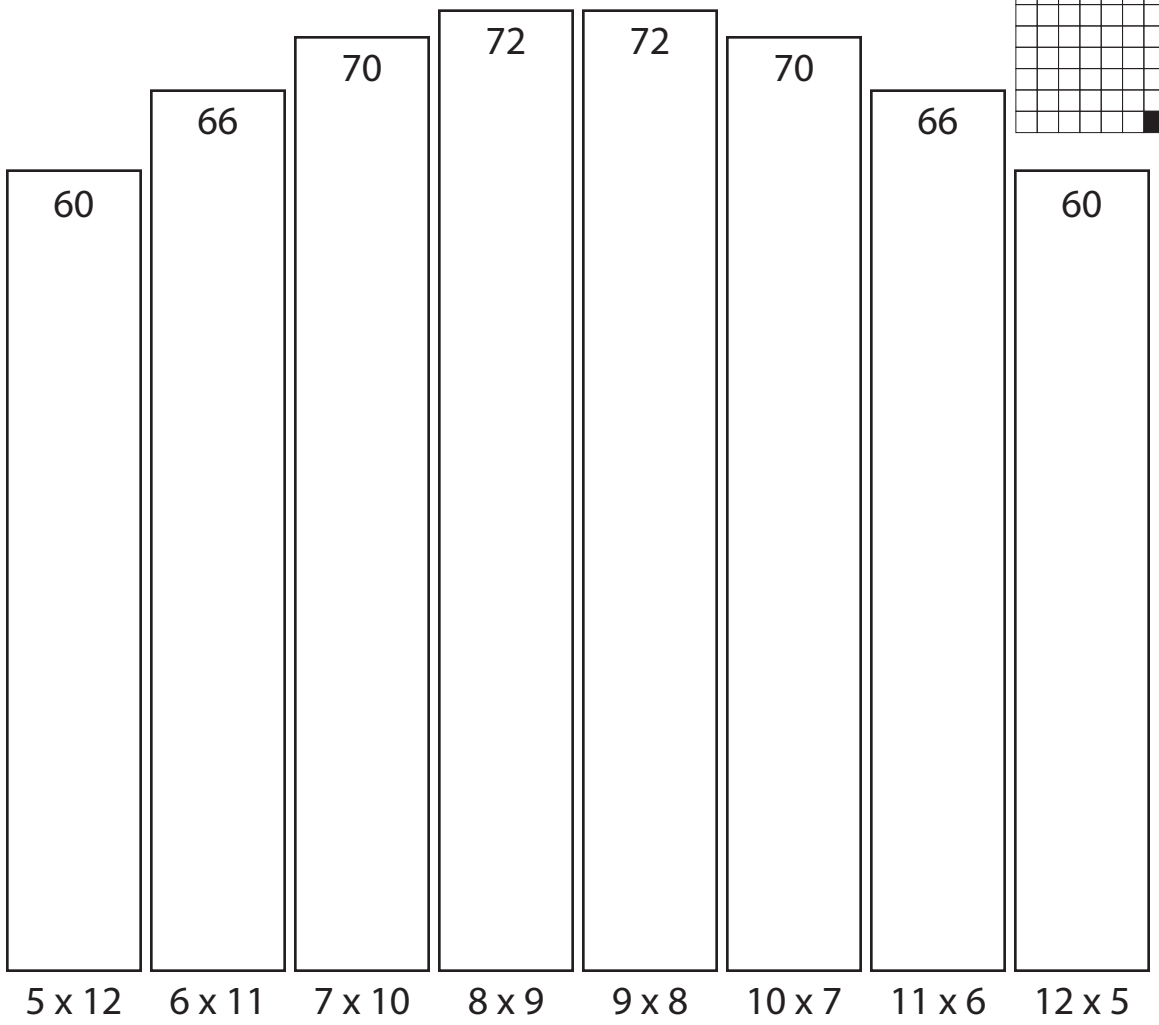
CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Products of factors that add to 16, with answer key (M)

# Products of factors that add to 17, with answer key

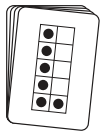
**_____ x _____ is a little [more / less] than _____ x _____.**

10x10 multiplication table






*Questions?* **reckonmath.com**



The 5-12 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 17. **Notice:** Factors closer to each other have larger products. **How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew an 8, you can say "8 times 9 is 72" and place a counter in the 8x9 bar. You can bump your opponent's counters off occupied bars. **When all the bars have a counter, the player with more counters wins.**

M

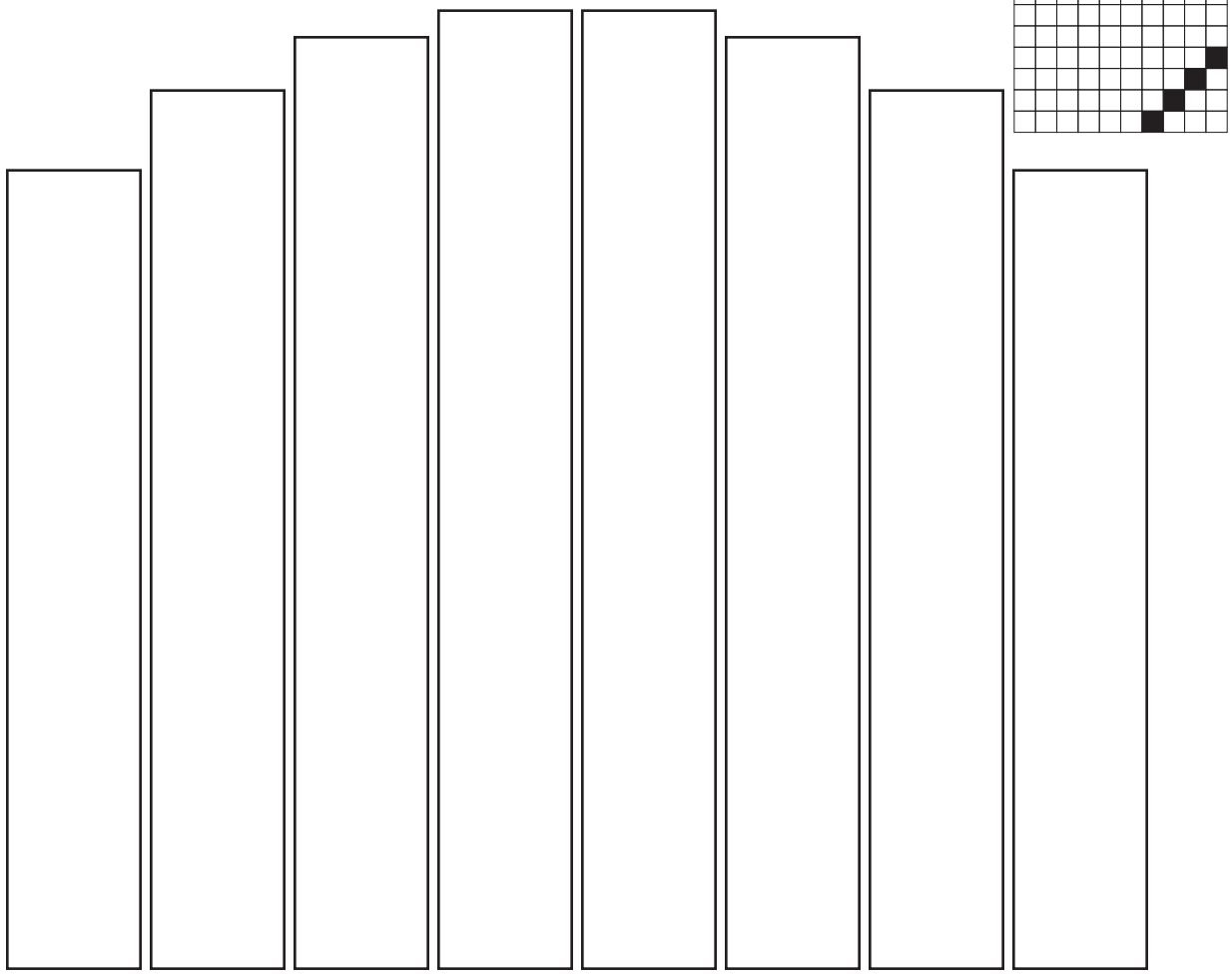
CCSS.MATH.CONTENT.3.OA.D.9

Skill Builders: 10 x 10 multiplication table (M), Learn the words "factor" and "product" (M)

# Products of factors that add to 17, no answer key

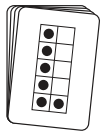
**_____ x _____ must be a little [more / less] than _____ x _____.**

10x10 multiplication table



5 x 12 | 6 x 11 | 7 x 10 | 8 x 9 | 9 x 8 | 10 x 7 | 11 x 6 | 12 x 5

*Questions?* **reckonmath.com**



The 5-12 cards from a deck of ten-frame cards, and counters in two colors.

In this game, the facts are from the multiplication table diagonal where the factors add to 17. When you can't remember a product, **think about the product of a nearby bar**.

**Hint:** Factors closer to each other have larger products.

**How to play:** On your turn, draw a card and place it face up. Find a bar with your number and say the fact. **Example:** If you drew an 8, you can say "8 times 9 is 72" and place a counter in the 8x9 bar. You can bump your opponent's counters off occupied bars.

**When all the bars have a counter, the player with more wins.**

M



CCSS.MATH.CONTENT.3.OA.D.9 Skill Builders: 10 x 10 multiplication table (M), Products of factors that add to 17, with answer key (M)

# Products of 3 and 4 on the multiplication table

**I rolled a _____, so I am solving _____ x _____. Nearby facts help.**


A ten-sided die, and counters in two colors.

*Questions?* reckonmath.com

| | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|
| 2 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 3 | 3 x 3 | ① 3 x 4 | 15 | ② 3 x 6 | ③ 3 x 7 | ④ 3 x 8 | ⑤ 3 x 9 | 30 |
| 4 | 4 x 3 | ⑥ 4 x 4 | 20 | ⑦ 4 x 6 | ⑧ 4 x 7 | ⑨ 4 x 8 | ⑩ 4 x 9 | 40 |
| 5 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |

If you already know the 2's, 5's, and 10's facts, this game will help you find products of 3 and 4. **How to play:** On your turn, roll the die. If you roll a zero, it means 10. Find the square that has your number in a circle. Say the product and cover the factors. If you don't know the product, think about nearby facts that you do know. **Example:** If you roll a two, you could find the square with a 2 in a circle, say "3 x 6 = 18" and cover 3 x 6. You can bump your opponent's counter off an occupied square. **When all the circled-number squares are filled, the player with more counters wins.**

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Products of 3 and 4 off the multiplication table

**I rolled a _____, so my fact is _____ x _____ = _____.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 32 | 36 | 21 | 24 | 12 | 24 | 32 |
| 21 | 24 | 12 | 27 | 16 | 18 | 27 |
| 16 | 12 | 36 | 32 | 21 | 24 | 28 |
| 27 | 18 | 28 | 12 | 24 | 12 | 36 |
| 24 | 16 | 32 | 28 | 36 | 21 | 32 |
| 28 | 24 | 18 | 24 | 27 | 16 | 24 |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

**How to play:** On your turn, roll the die and find that factor pair on the table below. Say the factor pair and the product, and cover the product. If you don't know the product right away, think about nearby facts that you do know. **Example:** If you roll a two, find that line, say "3 x 6 = 18," and cover an 18. **The first player to get four in a row wins.**

| Roll | Factor pair |
|---|---|
| 1 | 3 x 4 |
| 2 | 3 x 6 |
| 3 | 3 x 7 |
| 4 | 3 x 8 |
| 5 | 3 x 9 |
| 6 | 4 x 4 |
| 7 | 4 x 6 |
| 8 | 4 x 7 |
| 9 | 4 x 8 |
| 10 | 4 x 9 |

M

# Products of 6, 7, 8, 9 on the multiplication table

**I rolled a _____, so I am solving _____ x _____. Nearby facts help.**

| | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|
| 5 | 25 | 30 | 35 | 40 | 45 | 50 |
| 6 | 30 | ① 6 x 6 | ② 6 x 7 | ③ 6 x 8 | ④ 6 x 9 | 60 |
| 7 | 35 | 7 x 6 | ⑤ 7 x 7 | ⑥ 7 x 8 | ⑦ 7 x 9 | 70 |
| 8 | 40 | 8 x 6 | 8 x 7 | ⑧ 8 x 8 | ⑨ 8 x 9 | 80 |
| 9 | 45 | 9 x 6 | 9 x 7 | 9 x 8 | ⑩ 9 x 9 | 90 |
| 10 | 50 | 60 | 70 | 80 | 90 | 100 |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

For many people, the products in this game are the hardest ones to remember. But did you know there are only ten of them? **How to play:** On your turn, roll the die. If you roll a zero, it means 10. Find the square that has your number in a circle. Say the product and cover the factors. If you don't know the product, think about nearby facts that you do know. **Example:** If you roll a two, find the square with a 2 in a circle, and say "6 x 7 = 42." Then, cover 6 x 7. You can bump your opponent's counter off an occupied square. **When all the circled-number squares are filled, the player with more counters wins.**

M

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

# Products of 6, 7, 8, 9 off the multiplication table

**I rolled a _____, so my fact is _____ x _____ = _____.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 49 | 72 | 81 | 42 | 36 | 48 | 64 |
| 63 | 54 | 56 | 64 | 42 | 49 | 36 |
| 72 | 56 | 63 | 81 | 54 | 48 | 49 |
| 81 | 72 | 42 | 48 | 56 | 64 | 36 |
| 54 | 63 | 72 | 36 | 42 | 63 | 48 |
| 49 | 54 | 81 | 64 | 56 | 48 | 72 |

*Questions?* **reckonmath.com**


A ten-sided die, and counters in two colors.

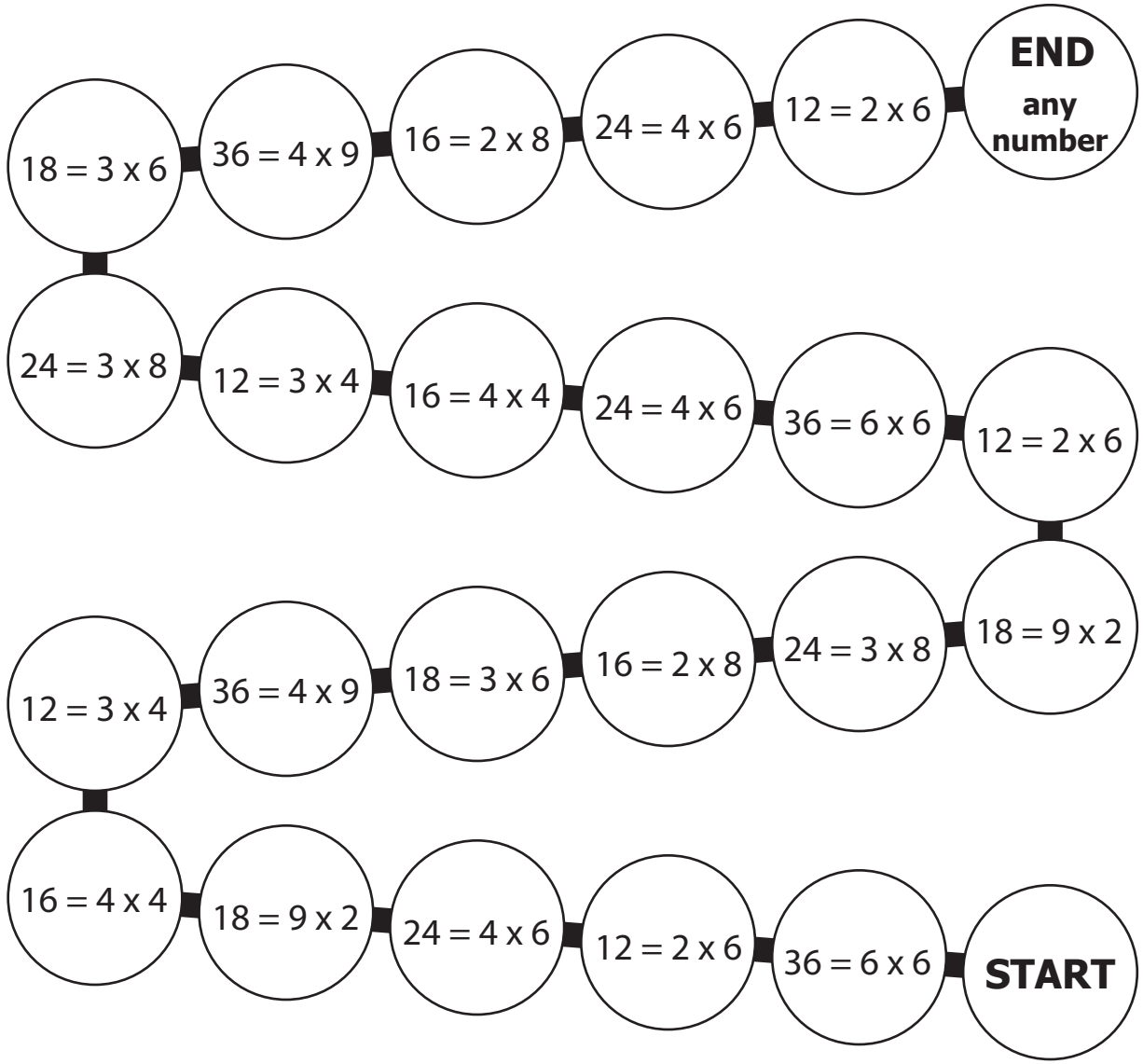
**How to play:** On your turn, roll the die and find that factor pair on the lookup table. Say the factor pair and the product, and cover the product. If you don't know the product right away, think about nearby facts that you do know. **Example:** If you roll a two, find that line, say "6 x 7 = 42," and cover a 42. **The first player to get four in a row wins.**

| Roll | Factor pair |
|---|---|
| 1 | 6 x 6 |
| 2 | 6 x 7 |
| 3 | 6 x 8 |
| 4 | 6 x 9 |
| 5 | 7 x 7 |
| 6 | 7 x 8 |
| 7 | 7 x 9 |
| 8 | 8 x 8 |
| 9 | 8 x 9 |
| 10 | 9 x 9 |

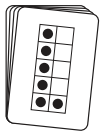
M

# Equivalent factor pairs, with answer key

**I drew _____, so I go to _____, and then I go to the next circle with the same amount.**




*Questions?* **reckonmath.com**



2 each of the 2, 3, 4, 6, 8, 9 cards from a deck of frame cards, and two counters.

This game shows you how numbers can be the products of more than one factor pair. For example, 36 is 6x6, and 36 is also 4x9.

**How to play:** Both players put a counter on START. On your turn, draw a card. Move your counter to the next circle that has your number as a factor. Now, jump to the next circle that has the same product as the circle you are on.

**Example:** If you are on START and you draw a 6, move to the next "36 = 6 x 6" circle, and then jump to the next "36 = 4 x 9" circle. You can land on the END circle by drawing a number that doesn't have any other circle to go to. **The first player to land on END wins.**

M

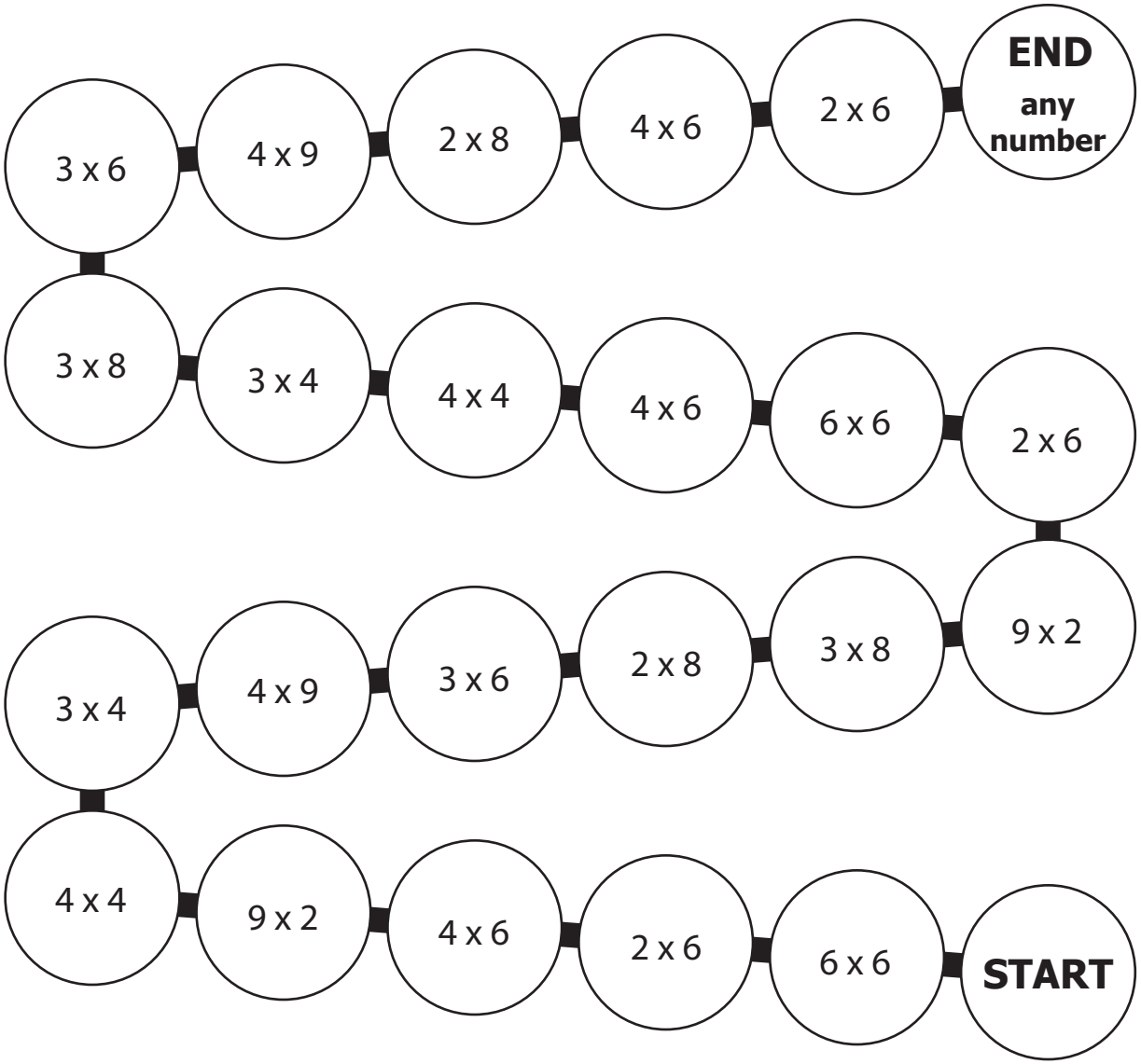


Skill Builders: Associative property of multiplication (M)

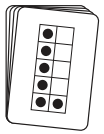
CCSS.MATH.CONTENT.3.OA.B.5

# Equivalent factor pairs, no answer key

**I drew _____, so I go to _____, and then I go to the next circle with the same amount.**




*Questions?* **reckonmath.com**



2 each of the 2, 3, 4, 6, 8, 9 cards from a deck of frame cards, and two counters.

This game helps you remember the products that have two different single-digit factor pairs. For example, 36 is 6x6, and 36 is also 4x9. **How to play:** Both players put a counter on START. On your turn, draw a card. Move your counter to the next circle that has your number as a factor. Now, jump to the next circle that has the same product as the circle you are on. **Example:** If you are on START and you draw a 6, move to the next "6 x 6". The next circle with the same product is 4x9, so jump to the next "4 x 9". You can land on the END circle by drawing a number that doesn't have any other circle to go to. **The first player to land on END wins.**

M

Skill Builders: Equivalent factor pairs, with answer key (M)

CCSS.MATH.CONTENT.3.OA.B.5

# Identify multiplication facts you can learn better

**I know this right now. / I could find the answer.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

*Questions?* **reckonmath.com**

Sometimes it's helpful to check how well you know single-digit multiplication facts. **What to do:** For each square with thick borders, ask yourself what is the number on the left side times the number on the top. If you know the answer pretty soon, **write a Y (for Yes)**. If it would take you a while to figure out the answer, **write an N (for No)**. **For this particular activity, try not to use patterns.** When you are done, you will have a chart of the facts you you know well and the facts you can still learn better. **Note:** You could fill in all the squares, but answers like 42 = 7x6 are just repeats of answers like 42 = 6x7, and you already know the 1s and 10s.

M

Skill Builders: Learn the words "factor" and "product" (M)

CCSS.MATH.CONTENT.3.OA.C.7

Skill Builders: Previous multiplication games

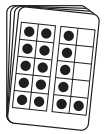
# Multiply by 11

**11 x _____ is _____ / _____ x 11 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | 1 x 11 | |
| 2 | | | | | | | | | | | 2 x 11 | |
| 3 | | | | | | | | | | | 3 x 11 | |
| 4 | | | | | | | | | | | 4 x 11 | |
| 5 | | | | | | | | | | | 5 x 11 | |
| 6 | | | | | | | | | | | 6 x 11 | |
| 7 | | | | | | | | | | | 7 x 11 | |
| 8 | | | | | | | | | | | 8 x 11 | |
| 9 | | | | | | | | | | | 9 x 11 | |
| 10 | | | | | | | | | | | 10 x 11 | |
| 11 | 11 x 1 | 11 x 2 | 11 x 3 | 11 x 4 | 11 x 5 | 11 x 6 | 11 x 7 | 11 x 8 | 11 x 9 | 11 x 10 | 11 x 11 | 11 x 12 |
| 12 | | | | | | | | | | | 12 x 11 | |

CCSS.MATH.CONTENT.3.OA.C.7

*Questions?* **reckonmath.com**



The 1-11 cards from a deck of double ten-frame cards, and counters in two colors.

**How to play:** On your turn, draw a card and place it face up so both players can see it. You can choose: Say the number times 11 and the product, or say 11 times the number and the product. **Example:** If you draw a seven, say "7 times 11 is 77" or say "11 times 7 is 77". Put a counter on a space for that fact. If both spaces are occupied (7x11 AND 11x7), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.**

M

# Multiply by 12

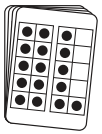
**12 x _____ is _____ / _____ x 12 is _____.**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | 1 x 12 |
| 2 | | | | | | | | | | | | 2 x 12 |
| 3 | | | | | | | | | | | | 3 x 12 |
| 4 | | | | | | | | | | | | 4 x 12 |
| 5 | | | | | | | | | | | | 5 x 12 |
| 6 | | | | | | | | | | | | 6 x 12 |
| 7 | | | | | | | | | | | | 7 x 12 |
| 8 | | | | | | | | | | | | 8 x 12 |
| 9 | | | | | | | | | | | | 9 x 12 |
| 10 | | | | | | | | | | | | 10 x 12 |
| 11 | | | | | | | | | | | | 11 x 12 |
| 12 | 12 x 1 | 12 x 2 | 12 x 3 | 12 x 4 | 12 x 5 | 12 x 6 | 12 x 7 | 12 x 8 | 12 x 9 | 12 x 10 | 12 x 11 | 12 x 12 |

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

*Questions?* **reckonmath.com**



The 1-12 cards from a deck of double ten-frame cards, and counters in two colors.

**How to play:** On your turn, draw a card and place it face up so both players can see it. You can choose: Say the number times 12 and the product, or say 12 times the number and the product. **Example:** If you draw a five, say "5 times 12 is 60" or say "12 times 5 is 60". Put a counter on a space for that fact. If both spaces are occupied (5x12 AND 12x5), you can bump your opponent's counter off one. **When all the spaces are filled, the player with more counters wins.**

M

# Multiples of 11: Factors

**I am picking the number _____. That is the same as _____ x 11.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 x 11 | 6 x 11 | 9 x 11 | 4 x 11 | 5 x 11 | 10 x 11 | 8 x 11 |
| 5 x 11 | 4 x 11 | 7 x 11 | 3 x 11 | 3 x 11 | 3 x 11 | 11 x 11 |
| 2 x 11 | 11 x 11 | 2 x 11 | 9 x 11 | 4 x 11 | 5 x 11 | 6 x 11 |
| 7 x 11 | 3 x 11 | 5 x 11 | 8 x 11 | 11 x 11 | 9 x 11 | 10 x 11 |
| 8 x 11 | 10 x 11 | 11 x 11 | 6 x 11 | 10 x 11 | 2 x 11 | 11 x 11 |
| 9 x 11 | 8 x 11 | 6 x 11 | 7 x 11 | 2 x 11 | 4 x 11 | 7 x 11 |

*Questions?* **reckonmath.com**

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 11 as a factor.
**Example:** If you choose the product 77, say "11 x 7 = 77" or "7 x 11 = 77". Then, cover 7 x 11. **Note:** On this game board, the factor "11" always comes second, to make it easier for you to find the factor you are looking for. **The first player to get four in a row wins.**

88, 66, 121,
110, 33, 44,
55, 77, 22, 99

Skill Builders: Previous multiplication games

CCSS.MATH.CONTENT.3.OA.C.7

M

Skill Builders: Previous multiplication games

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# Multiples of 12: Factors

**I am picking the number _____. That is the same as _____ x 12.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 x 12 | 4 x 12 | 3 x 12 | 10 x 12 | 12 x 12 | 5 x 12 | 4 x 12 |
| 9 x 12 | 11 x 12 | 4 x 12 | 5 x 12 | 8 x 12 | 9 x 12 | 6 x 12 |
| 12 x 12 | 5 x 12 | 6 x 12 | 11 x 12 | 3 x 12 | 12 x 12 | 11 x 12 |
| 8 x 12 | 6 x 12 | 7 x 12 | 4 x 12 | 5 x 12 | 3 x 12 | 8 x 12 |
| 10 x 12 | 12 x 12 | 11 x 12 | 9 x 12 | 7 x 12 | 10 x 12 | 11 x 12 |
| 3 x 12 | 8 x 12 | 9 x 12 | 10 x 12 | 6 x 12 | 7 x 12 | 9 x 12 |

*Questions?* **reckonmath.com**

M

Counters in two colors.

**How to play:** On your turn, choose any product on the list below. Say a multiplication problem that has that product and that has 12 as a factor.

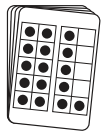
**Example:** If you choose the product 60, say "12 x 5 = 60" or "5 x 12 = 60". Then, cover 5 x 12. **Note:** On this game board, the factor "12" always comes second, to make it easier for you to find the factor you are looking for. **The first player to get four in a row wins.**

144, 36, 72, 108, 132, 96, 60, 48, 84, 120

# Make your own multiplication bump game

**I also want to learn my _____'s.**

*Questions?* **reckonmath.com**



Cards as needed.

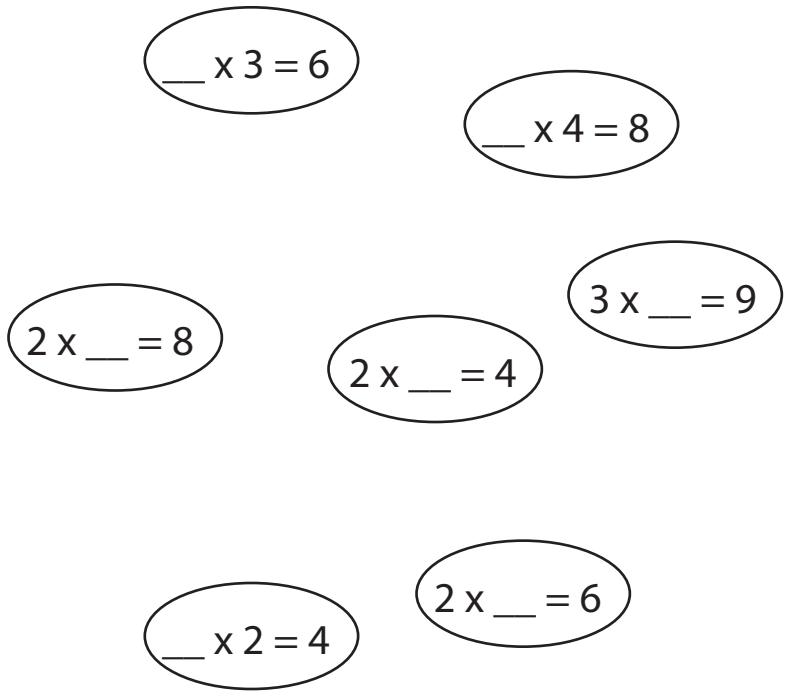
Would you like to learn the multiplication table for factors of 13 or more? It's easy to make up your own "bump" game for any factor you choose.

**Example:** If you want to know your 13s, and the only facts you still need to learn are 13x6, 13x7, 13x8, 13x9, 13x11, 13x12, and 13x13, then here is what you can do: Take or make cards with the numbers 6, 7, 8, 9, 11 and 13 on them, and draw a space for each one of those numbers. To play, draw a card, multiply the number you get by 13, and follow the other rules from the "Multiply by" games.

M

# Fill in the factors, products between 4 and 9

**_____ x _____ is _____.**

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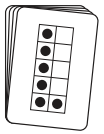


The 2, 3, 4 cards from a deck of ten-frame cards, and counters in two colors.

**How to play:** On your turn, draw a card. Then cover an oval where the number you drew makes the sentence true. **Example:** If you draw a 4, you can cover 2 x __ = 8. **This is not a bump game.** If all the ovals with the answer you need are covered, it is the other player's turn. **When the board is covered, the player with more ovals wins.**

M

# Fill in the factors, products between 10 and 18

**_____ x _____ is _____.**

__ x 9 = 18

__ x 7 = 14

3 x __ = 18

3 x __ = 12

__ x 4 = 12

2 x __ = 18

__ x 6 = 18

2 x __ = 14

__ x 5 = 15

__ x 5 = 10

2 x __ = 12

2 x __ = 16

__ x 4 = 16

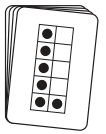
3 x __ = 15

2 x __ = 10

__ x 8 = 16

__x 6 = 12

*Questions?* **reckonmath.com**



The 2, 3, 4, 5, 6, 7, 8, 9 cards from a deck of ten-frame cards, and counters in two colors.

**How to play:** On your turn, draw a card. Then cover an oval where the number you drew makes the sentence true. **Example:** If you draw a 2, you can cover __ x 9 = 18. **This is not a bump game.** If all the ovals with the answer you need are covered, it's the other player's turn. **When the board is covered, the player with more ovals wins.**

M

CCSS.MATH.CONTENT.3.OA.A.4 Skill Builders: Multiply by __ games (M), Multiples of __: Factors games (M)

# Fill in the factors, products between 20 and 28

**_____ x _____ is _____.**

__ x 8 = 24

__ x 9 = 27

5 x __ = 25

4 x __ = 20

__ x 7 = 21

3 x __ = 21

__ x 5 = 20

__ x 7 = 28

3 x __ = 27

4 x __ = 24

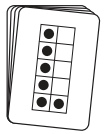
__ x 6 = 24

__ x 10 = 20

3 x __ = 24

4 x __ = 28

*Questions?* **reckonmath.com**



The 2, 3, 4, 5, 6, 7, 8, 9 cards from a deck of ten-frame cards, and counters in two colors.

**How to play:** On your turn, draw a card. Then cover an oval where the number you drew makes the sentence true. **Example:** If you draw a 9, you can cover __ x 9 = 27. **This is not a bump game.** If all the ovals with the answer you need are covered, it's the other player's turn. **When the board is covered, the player with more ovals wins.**

M



CCSS.MATH.CONTENT.3.OA.A.4 Skill Builders: Multiply by __ games (M), Multiples of __: Factors games (M)

# Fill in the factors, products between 30 and 36

_____ x _____ is _____.

5 x __ = 30

__ x 9 = 36

__ x 7 = 35

__ x 8 = 32

__ x 6 = 36

4 x __ = 32

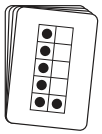
5 x __ = 35

4 x __ = 36

__ x 10 = 30

__ x 6 = 30

*Questions?* **reckonmath.com**



The 3, 4, 5, 6, 7, 8, 9 cards from a deck of ten-frame cards, and counters in two colors.

**How to play:** On your turn, draw a card. Then cover an oval where the number you drew makes the sentence true. **Example:** If you draw a 9, you can cover 4 x __ = 36. **This is not a bump game.** If all the ovals with the answer you need are covered, it's the other player's turn. **When the board is covered, the player with more ovals wins.**

M

# Fill in the factors, products between 40 and 56

**_____ x _____ is _____.**

__ x 8 = 56

5 x __ = 45

6 x __ = 54

__ x 7 = 42

__ x 9 = 54

6 x __ = 48

7 x __ = 56

__ x 10 = 40

5 x __ = 50

__ x 8 = 40

5 x __ = 40

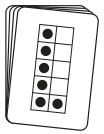
7 x __ = 49

__ x 8 = 48

6 x __ = 42

__ x 9 = 45

*Questions?* **reckonmath.com**



The 4, 5, 6, 7, 8, 9, 10 cards from a deck of ten-frame cards, and counters in two colors.

**How to play:** On your turn, draw a card. Then cover an oval where the number you drew makes the sentence true. **Example:** If you draw a 10, you can cover 5 x __ = 50. **This is not a bump game.** If all the ovals with the answer you need are covered, it's the other player's turn. **When the board is covered, the player with more ovals wins.**

M

# Fill in the factors, products between 63 and 81

**_____ x _____ is _____.**

__ x 9 = 81

7 x __ = 63

__ x 9 = 72

__ x 10 = 70

8 x __ = 64

8 x __ = 72

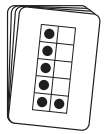
8 x __ = 80

__ x 9 = 63

CCSS.MATH.CONTENT.3.OA.A.4

Skill Builders: Multiply by __ games (M), Multiples of __: Factors games (M)

*Questions?* **reckonmath.com**



The 7, 8, 9, 10 cards from a deck of ten-frame cards, and counters in two colors.

**How to play:** On your turn, draw a card. Then cover an oval where the number you drew makes the sentence true. **Example:** If you draw a 10, you can cover 8 x __ = 80. **This is not a bump game.** If all the ovals with the answer you need are covered, it's the other player's turn. **When the board is covered, the player with more ovals wins.**

M

# Name factors 4, 6, 7, 8, 9 from their products

_____ is _____ x _____.

| | | | | | | |
|---|---|---|---|---|---|---|
| 28 = 4 x __ | 32 = 8 x __ | 48 = 8 x __ | 36 = 4 x __ | 32 = 4 x __ | 36 = 4 x __ | 63 = 9 x __ |
| 64 = 8 x __ | 63 = 9 x __ | 56 = 7 x __ | 54 = 6 x __ | 28 = 7 x __ | 49 = 7 x __ | 24 = 6 x __ |
| 42 = 7 x __ | 32 = 4 x __ | 72 = 9 x __ | 63 = 7 x __ | 56 = 8 x __ | 72 = 8 x __ | 63 = 7 x __ |
| 28 = 7 x __ | 54 = 9 x __ | 36 = 9 x __ | 72 = 9 x __ | 48 = 8 x __ | 56 = 7 x __ | 54 = 6 x __ |
| 24 = 4 x __ | 49 = 7 x __ | 42 = 6 x __ | 64 = 8 x __ | 54 = 9 x __ | 42 = 7 x __ | 48 = 6 x __ |
| 72 = 8 x __ | 48 = 6 x __ | 56 = 8 x __ | 32 = 8 x __ | 42 = 6 x __ | 36 = 9 x __ | 28 = 7 x __ |

CCSS.MATH.CONTENT.3.OA.A.4 Skill Builders: Previous multiplication games, 10 x 10 mutiplication table (M)

*Questions?* **reckonmath.com**

M

Counters in two colors.

This game is unusual, because the way you win is starting conversations. **How to play:** On your turn, look for a circle where you are not sure what the fact is and would like to learn a strategy for finding it. Put your counter on that circle and start a conversation: What strategies for finding that fact does your partner know? (If you are asked, tell strategies you know.) Write your partner's strategies down so you can practice using them later. Then it is your partner's turn. If you both know all the facts, you can still tell a strategy and put down a counter. Stop playing when you don't have any more to ask or say. **The player with more counters on the board wins.**