

Multiplication Cover Up with 2s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 5 and 6.
- Player A chooses the 6 and discards the 5.
- Player A places the 6 in the expression on the game board and multiplies (6×2).
- Player A covers a 12 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $12 = 6 \times 2$, $12 = 2 \times 6$, $6 \times 2 = 12$, or $2 \times 6 = 12$.

Multiplication Cover Up with 2s



Place
die
here

 $\times 2$

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

Choosing 5s or 10s (to 60)



Materials:

- Counters, in two different colors
- One 6-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to multiply the number by five (*die* x 5) or ten (*die* x 10).
- Player A puts the playing chip in the corresponding gray box: “*die* x 5” or “*die* x 10.”
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls a 4.
- Player A has two options: multiply 4 x 5 or multiply 4 x 10.
- Player A decides to multiply 4 x 5 and places the playing chip on “die x 5.”
- Player A chooses one of the 20s on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $4 \times 5 = 20$.

Choosing 5s or 10s (to 60)

6

30	25	15	40	40	60
60	5	10	25	30	10
10	30	30	40	50	25
15	60	20	15	5	50
20	10	20	40	5	50
50	60	25	20	50	15

Place the playing chip in the gray box to show your choice.

die x 5

die x 10

Choosing 5s or 10s (to 120)



Materials:

- Counters, in two different colors
- Two 6-sided dice
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the two dice and decides whether to multiply them by five (*die x 5*) or ten (*die x 10*).
- Player A puts the playing chip in the corresponding gray box: “*die x 5*” or “*die x 10*.”
- Player A can either
 - add the dice together, and then multiply the sum by five or ten; or
 - multiply each individual die by five or ten, and then add the partial products.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 6 and 2.
- Player A chooses to multiply by 10 and places the playing chip on “*die x 10*.”
- Player A chooses an option to
 - add the dice and multiply the sum by 10: $6 + 2 = 8$ and then $8 \times 10 = 80$; or
 - multiply each die by 10 and add the partial products: $(6 \times 10) + (2 \times 10) = 60 + 20 = 80$.
- Player A chooses one of the 80s on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $(6 + 2) \times 10 = 80$ or $(6 \times 10) + (2 \times 10) = 60 + 20 = 80$.

Choosing 5s or 10s (to 120)

70	110	90	20	80	40
35	70	30	45	35	30
110	55	100	60	15	10
20	25	40	25	100	45
50	120	90	50	40	25
80	100	70	10	60	35

Place the playing chip in the gray box to show your choice.

die x 5

die x 10

The Friendly Factor Game with 5s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 5) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3, 6, and 1.
- Player A chooses the 3 and 6 and places them on the expression.
- Player A multiplies $3 \times 5 \times 6$ by solving $3 \times (5 \times 6) = 3 \times 30 = 90$.
- Player A finds a 90 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $3 \times 5 \times 6 = 3 \times (5 \times 6) = 3 \times 30 = 90$.

The Friendly Factor Game with 5s



Place
die
here

 $\times 5 \times$

Place
die
here

5	20	75	90	30	15
30	100	40	50	20	60
100	10	15	45	120	10
20	75	150	25	60	90
180	60	25	50	40	30
125	30	60	80	120	150

Building Squares (6-Sided Dice)



Materials:

- Two 6-sided dice
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players A and B pick colors.
- Player A rolls both dice.
- Player A chooses one die to play and discards the other.
- Using the value of the die to determine the number of rows and columns, Player A draws a square array anywhere on the game board. The goal is to capture as much of the game board as possible.
- Player A labels the square array with the total number of small squares inside it.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- The player with the most small squares wins.

Example Turn:

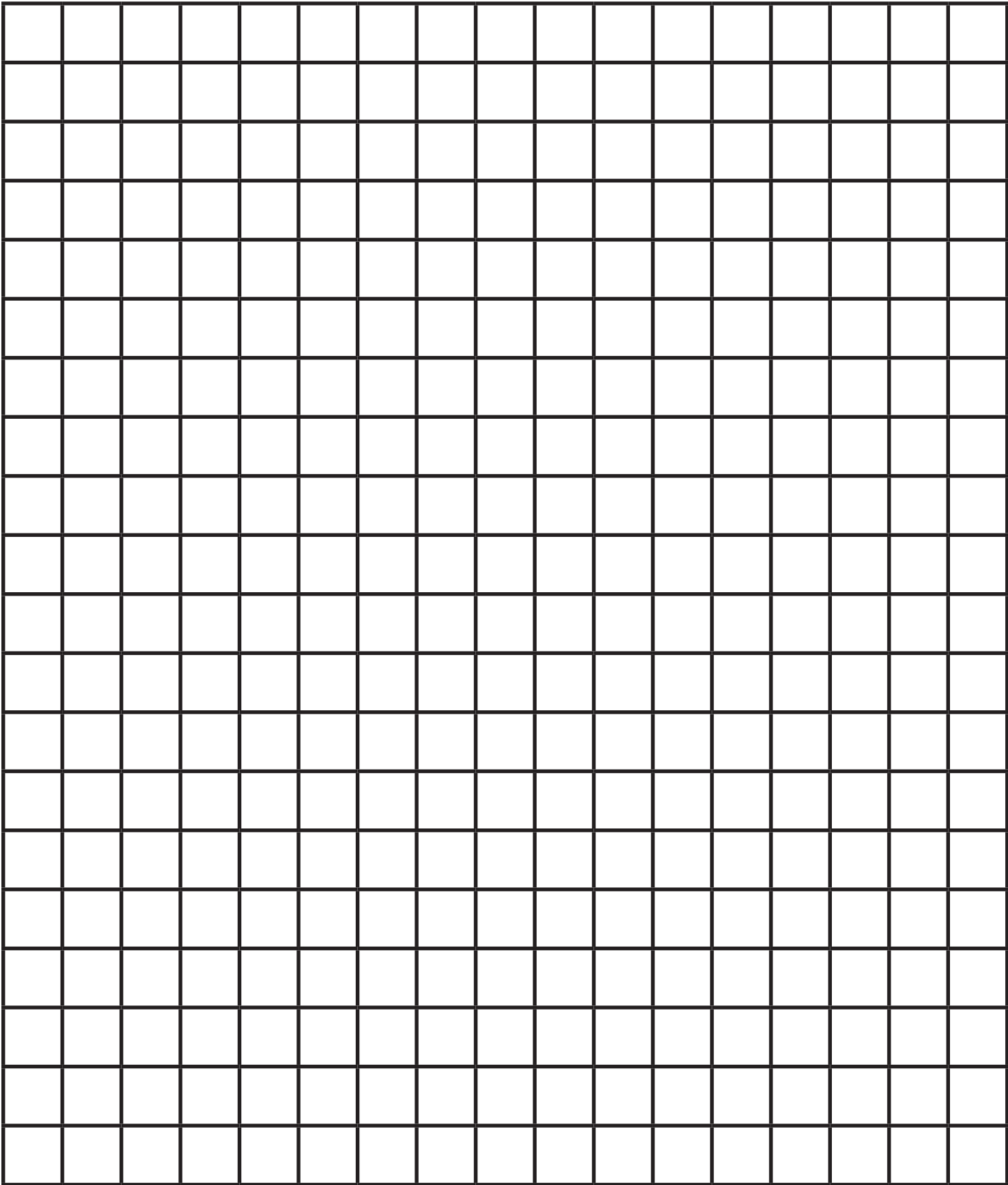
- Player A rolls a 4 and 2.
- Player A chooses the 4 and discards the 2.
- Player A uses their colored writing tool to draw an array on the game board with 4 rows and 4 columns.
- Player A writes 16 in the square array because $4 \times 4 = 16$.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $4 \times 4 = 16$ or $16 = 4 \times 4$.

Building Squares (6-Sided Dice)

6



Building Squares (10-Sided Dice)



Materials:

- Two 10-sided dice
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players A and B pick colors.
- Player A rolls both dice.
- Player A rolls both dice.
- Player A chooses one die to play and discards the other.
- Using the value of the die to determine the number of rows and columns, Player A draws a square array anywhere on the game board. The goal is to capture as much of the game board as possible.
- Player A labels the square array with the total number of small squares inside it.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- The player with the most small squares wins.

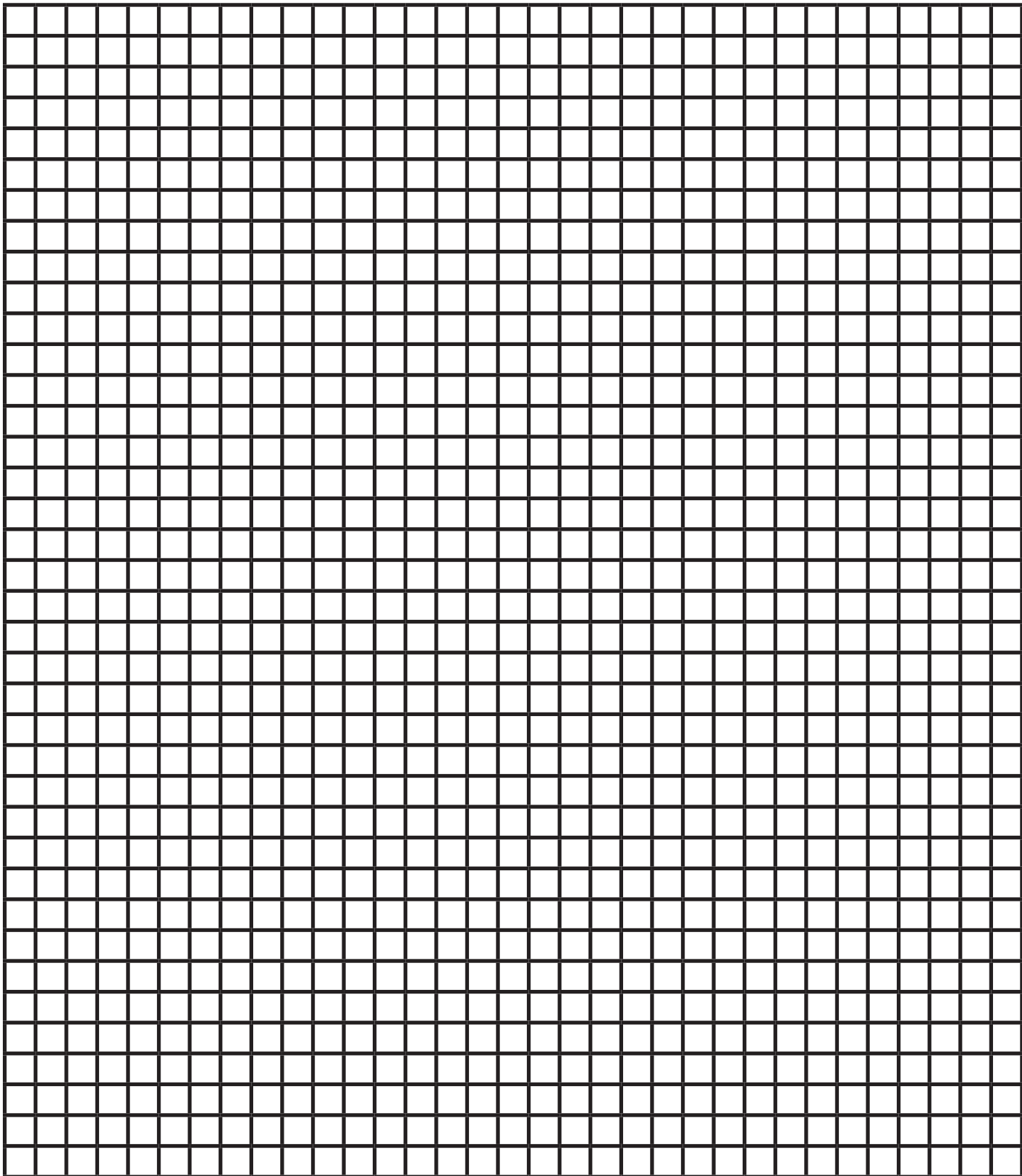
Example Turn:

- Player A rolls a 4 and 9.
- Player A chooses the 9 and discards the 4.
- Player A uses their colored writing tool to draw an array on the game board with 9 rows and 9 columns.
- Player A writes 81 in the square array because $9 \times 9 = 81$.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $9 \times 9 = 81$ or $81 = 9 \times 9$.

Building Squares (10-Sided Dice)



The Range Game with 2s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 2) in whatever order they choose.
- Player A finds a range on the game board that includes the product and places a counter on that space.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 4, 6, and 5.
- Player A chooses the 4 and 6 and places them on the expression.
- Player A multiplies $4 \times 2 \times 6$ by solving $(4 \times 6) \times 2 = 24 \times 2 = 48$.
- Player A covers a “41–50” space with a colored counter because 48 falls in the 41–50 range.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $4 \times 2 \times 6 = (4 \times 6) \times 2 = 48$.

The Range Game with 2s

6 6 6

Place die here $\times 2 \times$ Place die here

21–30	41–50	21–30	71–80	31–40	11–20	41–50
51–60	1–10	31–40	11–20	1–10	21–30	51–60
1–10	21–30	1–10	11–20	31–40	11–20	41–50
31–40	11–20	41–50	51–60	1–10	21–30	31–40
1–10	51–60	31–40	21–30	41–50	11–20	51–60
21–30	41–50	71–80	51–60	41–50	1–10	71–80
11–20	71–80	11–20	31–40	1–10	31–40	41–50

The Double Double Game

(6-Sided Dice)



Materials:

- Counters, in two different colors
- One 6-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to keep the number the same, to double it, or to double it and double again.
- Player A puts the playing chip in the corresponding gray box (“Identity Property,” “Double,” or “Double the Double”).
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls a 4.
- Player A has three options: play 4, double 4 and play 8, or double 4 to 8 and double again to play 16.
- Player A decides to double 4 and places the playing chip on “Double.”
- Player A chooses one of the 8s on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $4 + 4 = 8$ or $2 \times 4 = 8$. If the student double-doubled the die instead, they might write $4 \times 2 \times 2 = 16$ or $(4 \times 2) + (4 \times 2) = 16$.

The Double Double Game

(6-Sided Dice)

6

6	8	16	20	3	12
12	10	4	8	24	8
1	6	24	2	8	20
8	3	12	6	12	16
5	16	8	4	2	8
4	10	1	8	12	3

Place the playing chip in the box for the move you want to make.

Identity Property	Double	Double the Double
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The Double Double Game (10-Sided Dice)



Materials:

- Counters, in two different colors
- One 10-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to keep the number the same, to double it, or to double it and double again.
- Player A puts the playing chip in the corresponding gray box (“Identity Property,” “Double,” or “Double the Double”).
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls a 7.
- Player A has three options: play 7, double 7 and play 14, or double 7 to 14 and double again to play 28.
- Player A decides to double 7 and places the playing chip on “Double.”
- Player A chooses one of the 14s on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $7 + 7 = 14$ or $2 \times 7 = 14$. If the student double-doubled the die instead, they might write $7 \times 2 \times 2 = 28$ or $(7 \times 2) + (7 \times 2) = 28$.

The Double Double Game

(10-Sided Dice)



4	28	16	32	20	9
18	24	12	36	14	4
10	7	32	16	5	20
18	16	24	12	1	3
12	2	40	16	5	36
6	24	20	8	14	10

Place the playing chip in the box for the move you want to make.

Identity Property	Double	Double the Double
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Multiplication Cover Up with 10s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 8 and 4.
- Player A chooses the 8 and discards the 4.
- Player A places the 8 in the expression on the game board and multiplies (8×10).
- Player A covers an 80 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $80 = 8 \times 10$, $80 = 10 \times 8$, $8 \times 10 = 80$, or $10 \times 8 = 80$.

Multiplication Cover Up with 10s



Place
die
here

$\times 10$

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

The Friendly Factor Game with 2s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 2) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3, 6, and 2.
- Player A chooses the 3 and 6 and places them on the expression.
- Player A multiplies $3 \times 6 \times 2$ by solving $(3 \times 2) \times 6 = 6 \times 6 = 36$.
- Player A finds a 36 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $(3 \times 2) \times 6 = 6 \times 6 = 36$.

The Friendly Factor Game with 2s



Place
die
here

 $\times 2 \times$

Place
die
here

2	24	72	48	60	20	40
24	30	36	12	16	24	18
2	10	40	32	50	60	2
72	36	48	6	8	40	32
6	12	8	10	4	16	18
12	24	30	20	42	6	50
8	4	18	10	72	60	48

Multiplication Cover Up with 3s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3 and 6.
- Player A chooses the 6 and discards the 3.
- Player A places the 6 in the expression on the game board and multiplies (6×3).
- Player A covers an 18 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $18 = 6 \times 3$, $18 = 3 \times 6$, $6 \times 3 = 18$, or $3 \times 6 = 18$.

Multiplication Cover Up with 3s



Place
die
here

x 3

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

Multiplication Cover Up with 6s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3 and 4.
- Player A chooses the 4 and discards the 3.
- Player A places the 4 in the expression on the game board and multiplies (6×4).
- Player A covers a 24 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $24 = 6 \times 4$, $24 = 4 \times 6$, $6 \times 4 = 24$, or $4 \times 6 = 24$.

Multiplication Cover Up with 6s



Place
die
here

$\times 6$

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

The Friendly Factor Game with 10s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 10) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 4, 6, and 5.
- Player A chooses the 4 and 6 and places them on the expression.
- Player A multiplies $4 \times 10 \times 6$ by solving $(6 \times 4) \times 10 = 24 \times 10 = 240$.
- Player A finds a 240 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $6 \times 4 \times 10 = 24 \times 10 = 240$.

The Friendly Factor Game with 10s



Place
die
here

x 10 x

Place
die
here

80	120	100	60	360	180
200	30	60	150	300	50
180	40	160	20	40	150
10	250	120	30	240	60
120	100	40	200	300	80
240	60	90	50	20	120

Multiplication Cover Up with 9s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 7 and 5.
- Player A chooses the 7 and discards the 5.
- Player A places the 7 in the expression on the game board and multiplies (7×9).
- Player A covers a 63 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $63 = 7 \times 9$, $63 = 9 \times 7$, $7 \times 9 = 63$, or $9 \times 7 = 63$.

Multiplication Cover Up with 9s



Place
die
here

$\times 9$

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

Building Near Squares

(6-Sided Dice)



Materials:

- Two 6-sided dice
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players A and B pick colors.
- Player A rolls both dice.
- Player A chooses one die to play and discards the other. The chosen die is one of Player A's two factors.
- Player A chooses whether to add one or subtract one to the die's value to make the other factor.
- Using these factors to determine the number of rows and columns, Player A draws a rectangular array anywhere on the game board. The goal is to capture as much of the game board as possible.
- Player A labels the array with the total number of squares inside it.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- The player with the most small squares wins.

Example Turn:

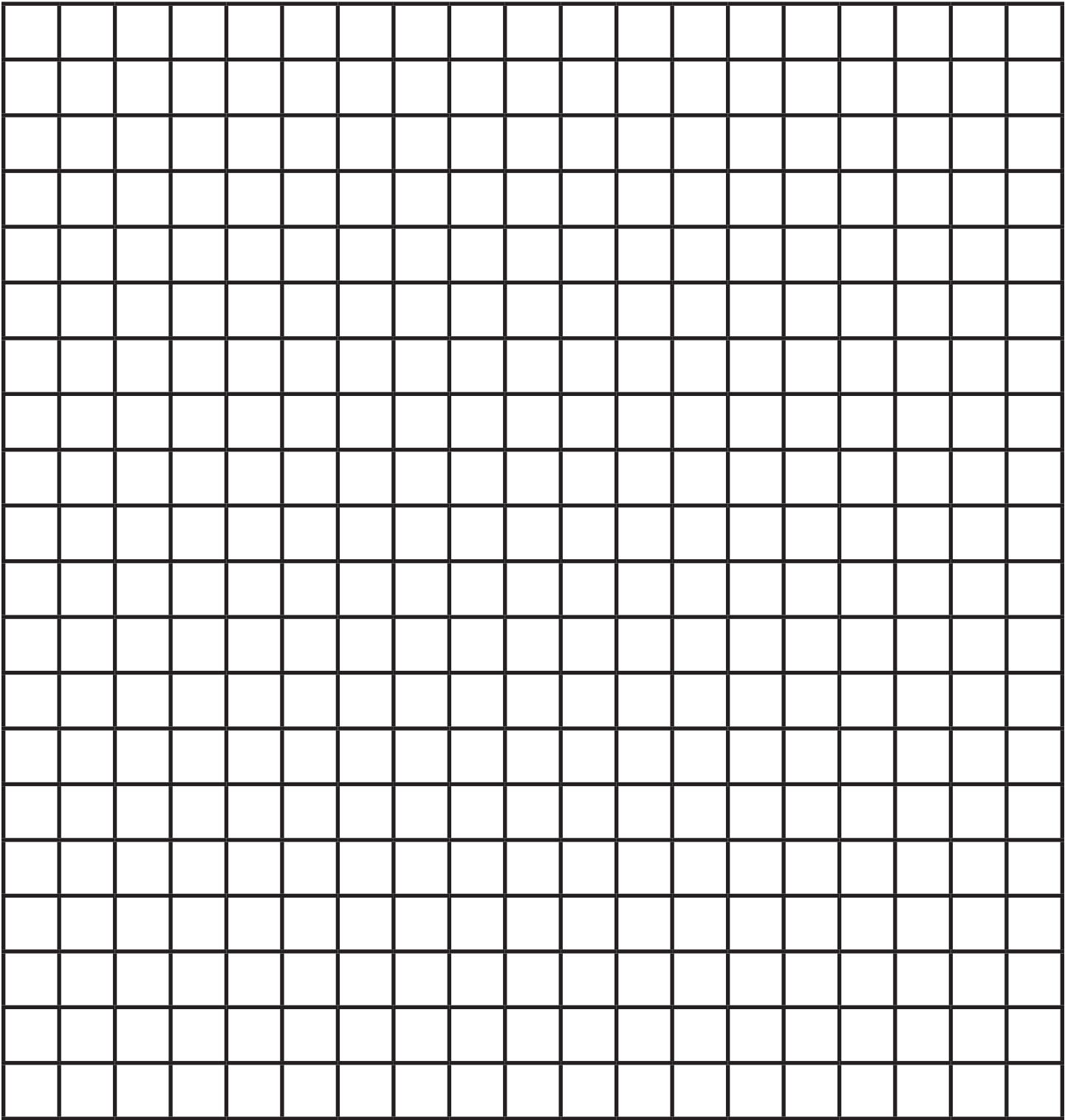
- Player A rolls a 4 and 6.
- Player A chooses the 6 and discards the 4.
- Player A chooses to add 1 to 6 to make the other factor: $6 + 1 = 7$.
- Player A multiplies 6×7 .
- Player A uses their colored writing tool to draw an array on the game board with 6 rows and 7 columns (or 7 rows and 6 columns).
- Player A writes 42 in the rectangular array because $6 \times 7 = 42$.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $7 \times 6 = 42$, $42 = 7 \times 6$, and so on.

Building Near Squares

(6-Sided Dice)



Building Near Squares (10-Sided Dice)



Materials:

- Two 10-sided dice
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players A and B pick colors.
- Player A rolls both dice.
- Player A chooses one die to play and discards the other. The chosen die is one of Player A's two factors.
- Player A chooses whether to add one or subtract one to the die's value to make the other factor.
- Using these factors to determine the number of rows and columns, Player A draws a rectangular array anywhere on the game board. The goal is to capture as much of the game board as possible.
- Player A labels the array with the total number of squares inside it.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- The player with the most small squares wins.

Example Turn:

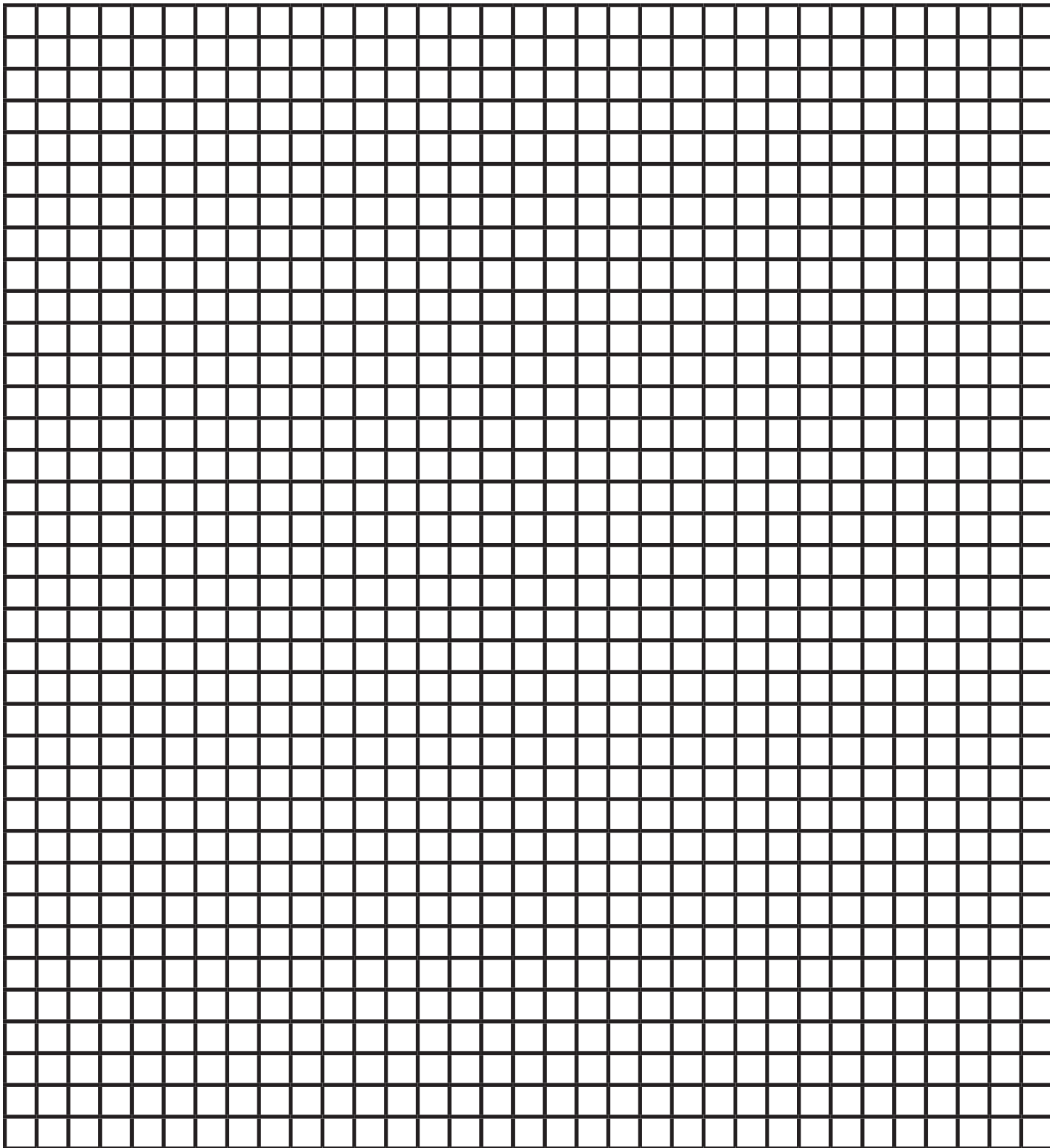
- Player A rolls a 9 and 6.
- Player A chooses the 9 and discards the 6.
- Player A chooses to add 1 to 9 to make the other factor: $9 + 1 = 10$.
- Player A multiplies 9×10 .
- Player A uses their colored writing tool to draw an array on the game board with 9 rows and 10 columns (or 10 rows and 9 columns).
- Player A writes 90 in the rectangular array because $9 \times 10 = 90$.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $9 \times 10 = 90$, $90 = 10 \times 9$, and so on.

Building Near Squares

(10-Sided Dice)



Triple Play (6-Sided Dice)



Materials:

- Counters, in two different colors
- One 6-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to multiply the value by 3, 6, or 9.
- Player A puts the playing chip in the corresponding gray box (“3 times greater,” “6 times greater,” or “9 times greater”).
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls a 4.
- Player A decides to multiply 4 by 6 and places the playing chip on “6 times greater.”
- Player A chooses one of the 24s on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $4 \times 6 = 24$, $6 \times 4 = 24$, $24 = 6 \times 4$, or $24 = 4 \times 6$.

Triple Play (6-Sided Dice)

6

24	3	18	30	36	12
12	9	12	15	6	27
6	15	36	24	12	3
45	27	12	54	30	18
54	18	3	45	9	24
9	36	24	27	6	15

Place the playing chip in the box for the move you want to make.

3 times greater	6 times greater	9 times greater
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Triple Play (10-Sided Dice)



Materials:

- Counters, in two different colors
- One 10-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to multiply the value by 3, 6, or 9.
- Player A puts the playing chip in the corresponding gray box (“3 times greater,” “6 times greater,” or “9 times greater”).
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls an 8.
- Player A decides to multiply 8 by 6 and places the playing chip on “6 times greater.”
- Player A chooses one of the 48s on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $8 \times 6 = 48$, $6 \times 8 = 48$, $48 = 6 \times 8$, or $48 = 8 \times 6$.

Triple Play (10-Sided Dice)



30	60	12	42	18	48
3	15	36	6	81	9
45	72	54	21	63	90
24	27	48	24	18	54
9	42	18	15	72	36
12	63	27	30	6	42

Place the playing chip in the box for the move you want to make.

3 times greater	6 times greater	9 times greater
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Multiplication Leapfrog

(Factors 1–6)



Materials:

- Counters, in two different colors
- Two playing chips (such as pennies, pebbles, or cubes)

Instructions:

- Players A and B pick colors.
- Player B places one playing chip on a factor box (one of the gray boxes at the bottom of the board).
- Player A places the other playing chip on a different factor box and then multiplies the two factors that are covered.
- Player A chooses a space on the game board that matches the product and covers that space with one of their colored counters.
- Player B moves one of the playing chips to cover a different factor and leaves the other playing chip where it is.
- Player B multiplies the two factors and covers the corresponding product on the game board.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player B covers factor box “4” with a playing chip.
- Player A covers factor box “3” with a playing chip.
- Player A multiplies 3×4 and covers a 12 on the game board with one of their colored counters.
- Play passes to Player B.
- Player B moves the playing chip from factor box “3” to factor box “5,” so the factors 4 and 5 are now covered.
- Player B multiplies 4×5 and covers a 20 on the game board with one of their colored counters.
- Play passes to Player A.

(OPTIONAL) Example Recording:

A student might record the first example turn as $12 = 4 \times 3$ or $4 \times 3 = 12$.

Multiplication Leapfrog

(Factors 1–6)

15	2	0	5	4	24
8	25	16	30	6	15
5	36	6	12	2	10
12	3	18	20	24	12
18	6	9	8	16	3
20	1	24	4	12	0

Place the playing chips on the factors you want to use.

0	1	2	3	4	5	6
---	---	---	---	---	---	---

Multiplication Leapfrog

(Factors 1–9)



Materials:

- Counters, in two different colors
- Two playing chips (such as pennies, pebbles, or cubes)

Instructions:

- Players A and B pick colors.
- Player B places one playing chip on a factor box (one of the gray boxes at the bottom of the board).
- Player A places the other playing chip on a different factor box and then multiplies the two factors that are covered.
- Player A chooses a space on the game board that matches the product and covers that space with one of their colored counters.
- Player B moves one of the playing chips to cover a different factor box and leaves the other playing chip where it is.
- Player B multiplies the two factors and covers the corresponding product on the game board.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player B covers factor box “4” with a playing chip.
- Player A covers factor box “8” with a playing chip.
- Player A multiplies 8×4 and covers 32 on the game board with one of their colored counters.
- Play passes to Player B.
- Player B moves the playing chip from factor box “4” to factor box “7,” so the factors 8 and 7 are now covered.
- Player B multiplies 8×7 and covers 56 on the game board with one of their colored counters.
- Play passes to Player A.

(OPTIONAL) Example Recording:

A student might record the first example turn as $4 \times 8 = 32$ or $32 = 8 \times 4$.

Multiplication Leapfrog

(Factors 1–9)

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

Place the playing chips on the factors you want to use.

1	2	3	4	5	6	7	8	9
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Multiplication Leapfrog

(Factors 3–9)



Materials:

- Counters, in two different colors
- Two playing chips (such as pennies, pebbles, or cubes)

Instructions:

- Players A and B pick colors.
- Player B places one playing chip on a factor box (one of the gray boxes at the bottom of the board).
- Player A places the other playing chip on a different factor box and then multiplies the two factors that are covered.
- Player A chooses a space on the game board that matches the product and covers that space with one of their colored counters.
- Player B moves one of the playing chips to cover a different factor box and leaves the other playing chip where it is.
- Player B multiplies the two factors and covers the corresponding product on the game board.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player B covers factor box “6” with a playing chip.
- Player A covers factor box “9” with a playing chip.
- Player A multiplies 6×9 and covers 54 on the game board with one of their colored counters.
- Play passes to Player B.
- Player B moves the playing chip from factor box “6” to factor box “5,” so the factors 9 and 5 are now covered.
- Player B multiplies 9×5 and covers 45 on the game board with one of their colored counters.
- Play passes to Player A.

(OPTIONAL) Example Recording:

A student might record the first example turn as $6 \times 9 = 54$ or $54 = 9 \times 6$.

Multiplication Leapfrog

(Factors 3–9)

45	28	15	24	54	21
56	48	63	64	42	40
72	35	81	49	24	36
16	9	18	27	63	35
36	25	20	28	48	12
54	42	30	72	32	56

Place the playing chips on the factors you want to use.

3	4	5	6	7	8	9
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The Friendly Factor Game with 4s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 4) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 5, 1, and 6.
- Player A chooses the 5 and 6 and places them on the expression.
- Player A multiplies $6 \times 4 \times 5$ by solving $6 \times (4 \times 5) = 6 \times 20 = 120$.
- Player A finds a 120 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $6 \times 4 \times 5 = (5 \times 4) \times 6 = 20 \times 6 = 120$.

The Friendly Factor Game with 4s



Place
die
here

 $\times 4 \times$

Place
die
here

32	16	48	72	8	24
60	8	144	80	120	40
16	12	96	24	16	48
4	20	60	48	40	12
96	72	20	24	32	36
24	48	80	64	48	100

The Double Double Double Game (6-Sided Dice)



Materials:

- Counters, in two different colors
- One 6-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to double the value, double-double it, or double it twice and double again.
- Player A puts the playing chip in the corresponding gray box (“Double,” “Double the Double,” or “Double the Double and Double Again”).
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls a 4.
- Player A has three options: double 4 and play 8; double 4 to 8 and double again to play 16; or double 4 to 8, double 8 to 16, and double 16 to play 32.
- Player A decides to double-double-double 4 and places the playing chip on “Double the Double and Double Again.”
- Player A chooses one of the 32s on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $4 \times 2 \times 2 \times 2 = 32$; as $4 \times 2 = 8$, $8 \times 2 = 16$, $16 \times 2 = 32$; as $4 \times 2 = 8$, $4 \times 4 = 16$, $4 \times 8 = 32$; or as $4 \times 8 = 32$.

The Double Double Double Game

(6-Sided Dice)

6

32	8	16	20	40	12
12	10	32	8	24	2
48	6	24	16	32	20
4	32	12	48	12	16
40	16	8	24	16	8
24	10	48	8	12	40

Place the playing chip in the box for the move you want to make.

Double (die x 2)	Double the Double (die x 4)	Double the Double and Double Again (die x 8)
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The Double Double Double Game (10-Sided Dice)



Materials:

- Counters, in two different colors
- One 10-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to double the value, double-double it, or double it twice and double again.
- Player A puts the playing chip in the corresponding gray box (“Double,” “Double the Double,” or “Double the Double and Double Again”).
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls a 9.
- Player A has three options: double 9 and play 18; double 9 to 18 and double again to play 36; or double 9 to 18, double 18 to 36, and double 36 to play 72.
- Player A decides to double-double-double 9 and places the playing chip on “Double the Double and Double Again.”
- Player A chooses one of the 72s on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $9 \times 2 \times 2 \times 2 = 72$; as $9 \times 2 = 18$, $18 \times 2 = 36$, $36 \times 2 = 72$; as $9 \times 2 = 18$, $9 \times 4 = 36$, $9 \times 8 = 72$; or as $9 \times 8 = 72$.

The Double Double Double Game

(10-Sided Dice)



80	18	56	10	64	24
4	12	72	36	8	48
20	28	32	16	20	16
6	48	40	24	32	14
28	64	36	72	48	80
18	56	16	32	12	2

Place the playing chip in the box for the move you want to make.

Double <i>(die x 2)</i>	Double the Double <i>(die x 4)</i>	Double the Double and Double Again <i>(die x 8)</i>
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The Range Game with 5s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 5) in whatever order they choose.
- Player A finds a range on the game board that includes the product and places a counter on that space.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 4, 2, and 3.
- Player A chooses the 2 and 3 and places them on the expression.
- Player A multiplies $2 \times 5 \times 3$ by solving $(2 \times 3) \times 5 = 6 \times 5 = 30$.
- Player A covers a “26–50” square with a colored counter because 30 falls in the 26–50 range.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $2 \times 5 \times 3 = (2 \times 3) \times 5 = 30$.

The Range Game with 5s

6 6 6

Place die here $\times 5 \times$ Place die here

26–50	101–125	76–100	51–75	101–125	1–25	26–50
126–150	1–25	26–50	126–150	26–50	76–100	26–50
76–100	176–200	51–75	101–125	1–25	51–75	1–25
1–25	101–150	126–150	26–50	76–100	26–50	176–200
26–50	51–75	1–25	51–75	101–125	51–75	126–150
101–125	126–150	76–100	126–150	176–200	1–25	76–100
176–200	26–50	101–125	51–75	26–50	51–75	76–100

Multiplication Cover Up with 7s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 1 and 6.
- Player A chooses the 6 and discards the 1.
- Player A places the 6 in the expression on the game board and multiplies (6×7).
- Player A covers a 42 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $42 = 6 \times 7$, $42 = 7 \times 6$, $6 \times 7 = 42$, or $7 \times 6 = 42$.

Multiplication Cover Up with 7s



Place
die
here

$\times 7$

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

Connect Three (6-Sided Dice)



Materials:

- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)
- Three 6-sided dice

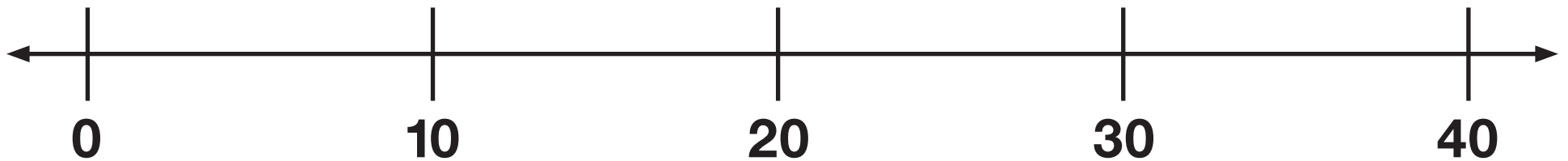
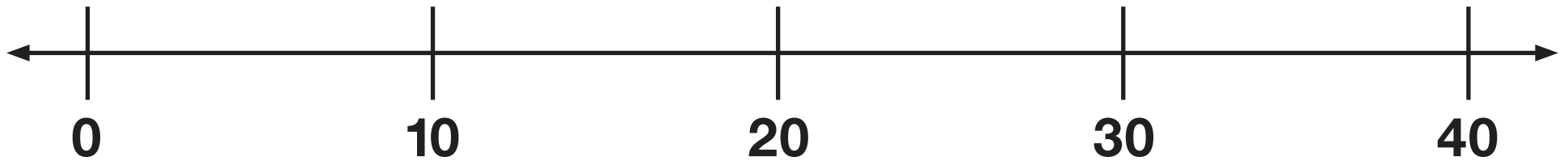
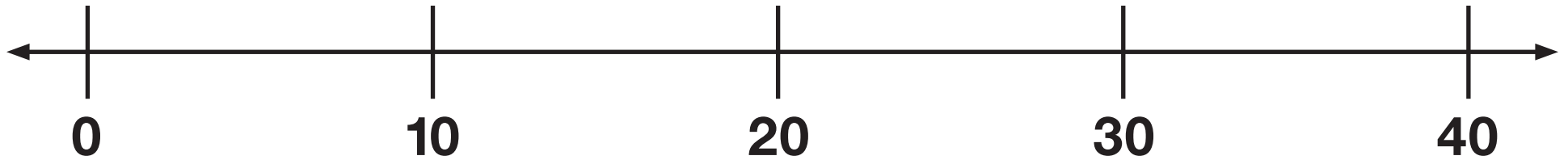
Instructions:

- Players A and B pick writing tools.
- Player A rolls three dice, chooses two dice to multiply, and figures out the product.
- Player A finds the product on the number line, marks it with a dot, and labels it.
- Players A and B alternate turns. The first player to get three consecutive products wins that round.
- Players play three rounds. The player who wins two out of three rounds wins the game.

Example Turn:

- Player A rolls 3, 4, and 6.
- Player A chooses to play 4 and 6 and multiplies: $4 \times 6 = 24$.
- Player A marks 24 on the number line in their color and labels it 24.
- Play passes to Player B.

Connect Three (6-Sided Dice)



Connect Three (10-Sided Dice)



Materials:

- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)
- Three 10-sided dice

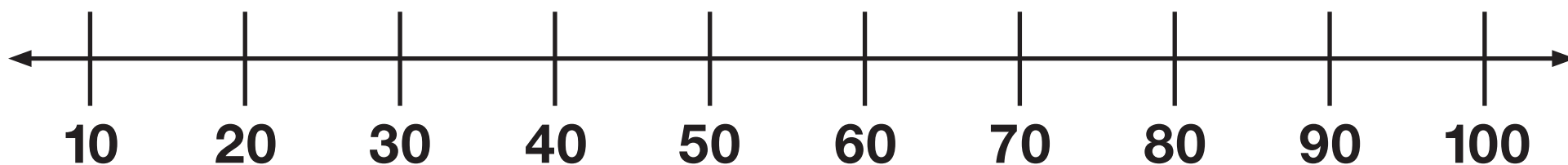
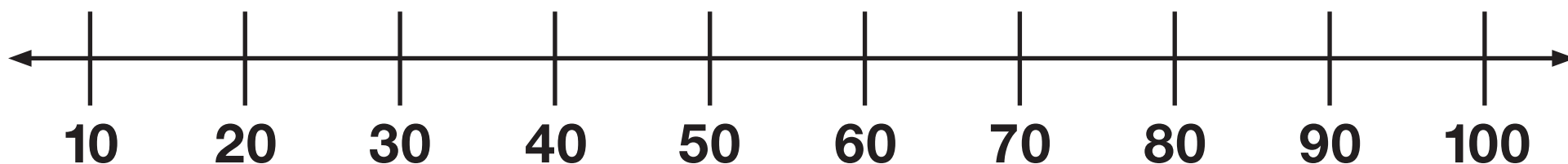
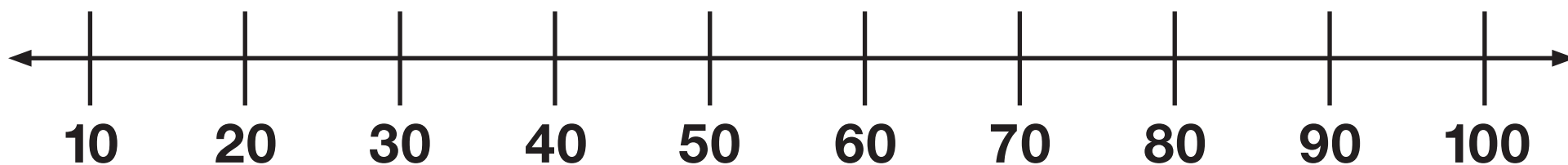
Instructions:

- Players A and B pick writing tools.
- Player A rolls three dice, chooses two dice to multiply, and figures out the product.
- Player A finds the product on the number line, marks it with a dot, and labels it.
- Players A and B alternate turns. The first player to get three consecutive products wins that round.
- Players play three rounds. The player who wins two out of three rounds wins the game.

Example Turn:

- Player A rolls 8, 4, and 6.
- Player A chooses to play 8 and 6 and multiplies: $8 \times 6 = 48$.
- Player A marks 24 on the number line in their color and labels it 48.
- Play passes to Player B.

Connect Three (10-Sided Dice)



Multiplication Cover Up with 8s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 9 and 6.
- Player A chooses the 6 and discards the 9.
- Player A places the 6 in the expression on the board and multiplies (6×8).
- Player A covers a 48 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $48 = 6 \times 8$, $48 = 8 \times 6$, $6 \times 8 = 48$, or $8 \times 6 = 48$.

Multiplication Cover Up with 8s



Place
die
here

x 8

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

The Friendly Factor Game with 3s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 3) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 5, 6, and 2.
- Player A chooses the 2 and 5 and places them on the expression.
- Player A multiplies $2 \times 3 \times 5$ by solving $(2 \times 5) \times 3 = 10 \times 3 = 30$.
- Player A finds a 30 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $2 \times 3 \times 5 = (5 \times 2) \times 3 = 30$.

The Friendly Factor Game with 3s



Place
die
here

 $\times 3 \times$

Place
die
here

36	30	72	12	6	15
60	12	34	18	108	9
90	3	45	36	36	72
27	90	54	6	45	60
15	18	24	75	12	54
36	48	30	36	18	9

The Friendly Factor Game with 9s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 9) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 2, 6, and 3.
- Player A chooses the 6 and 2 and places them on the board.
- Player A multiplies $2 \times 9 \times 6$ by solving $2 \times (6 \times 9) = 2 \times 54 = 108$.
- Player A finds a 108 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $2 \times 9 \times 6 = (9 \times 6) \times 2 = 54 \times 2 = 108$.

The Friendly Factor Game with 9s



180	18	216	81	108	54
36	54	270	90	27	324
108	144	45	135	180	9
72	81	108	54	135	225
27	90	162	36	108	45
54	18	72	162	36	270

Squared Away (6-Sided Dice)



Materials:

- Counters, in two different colors
- One 6-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to square the value (multiply it by itself), to square the value and add one more group, or to square the value and subtract one group.
- Player A puts the playing chip in the corresponding gray box (“Square the die then subtract one group,” “Square the die,” or “Square the die then add one group”).
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls a 4.
- Player A decides whether to square the die (4×4), to square and add a group ($4 \times 4 + 4$), or to square and subtract a group ($4 \times 4 - 4$).
- Player A decides to square the 4 and subtract a group and places the playing chip on “Square the die then subtract one group.”
- Player A chooses one of the 12s on the game board because four 4s is 16, so three 4s is 12, or $4 \times 4 - 4 = 12$. Player A covers that 12 with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $4 \times 4 - 4 = 12$ or $3 \times 4 = 12$.

Squared Away (6-Sided Dice)

6

20	16	2	42	36	0
36	9	6	25	20	30
1	42	20	16	25	2
30	25	30	36	4	1
20	0	12	9	42	6
12	9	16	4	2	12

Place the playing chip in the box for the move you want to make.

Square the die then subtract one group (<i>die x die - die</i>)	Square the die (<i>die x die</i>)	Square the die then add one group (<i>die x die + die</i>)
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Squared Away (10-Sided Dice)



Materials:

- Counters, in two different colors
- One 10-sided die
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the die and chooses whether to square the value (multiply it by itself), to square the value and add one more group, or to square the value and subtract one group.
- Player A puts the playing chip in the corresponding gray box, (“Square the die then subtract one group,” “Square the die,” or “Square the die then add one group”).
- Player A applies this move to the number on the die.
- Player A chooses a space on the game board that matches the result and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls a 7.
- Player A decides whether to square the die (7×7), to square and add a group ($7 \times 7 + 7$), or to square and subtract a group ($7 \times 7 - 7$).
- Player A decides to square the 7 and subtract a group and places the playing chip on “Square the die then subtract one group.”
- Player A chooses one of the 42s on the game board because seven 7s is 49, so six 7s is 42, or $7 \times 7 - 7 = 42$. Player A covers that 42 with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $7 \times 7 - 7 = 42$ or $6 \times 7 = 42$.

Squared Away (10-Sided Dice)



6	42	12	2	64	90
56	20	64	72	30	4
1	49	56	25	9	16
90	100	36	72	20	42
42	6	12	81	16	2
30	0	110	56	20	72

Place the playing chip in the box for the move you want to make.

Square the die then subtract one group <i>(die x die - die)</i>	Square the die <i>(die x die)</i>	Square the die then add one group <i>(die x die + die)</i>
---	---	--

The Friendly Factor Game with 8s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 8) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 4, 5, and 6.
- Player A chooses the 4 and 5 and places them on the expression.
- Player A multiplies $4 \times 8 \times 5$ by solving $4 \times (8 \times 5) = 4 \times 40 = 160$.
- Player A finds a 160 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $(5 \times 8) \times 4 = 40 \times 4 = 160$.

The Friendly Factor Game with 8s



Place
die
here

 $\times 8 \times$

Place
die
here

144	288	160	96	80	48
120	160	24	192	240	32
40	64	120	96	48	240
72	200	48	32	16	40
24	8	128	80	192	96
64	48	72	96	32	144

The Friendly Factor Game with 7s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 7) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 5, 6, and 2.
- Player A chooses the 2 and 6 and places them on the expression.
- Player A multiplies $2 \times 7 \times 6$ by solving $2 \times (7 \times 6) = 2 \times 42 = 84$.
- Player A finds an 84 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $2 \times 7 \times 6 = (6 \times 7) \times 2 = 42 \times 2 = 84$.

The Friendly Factor Game with 7s



Place
die
here

 $\times 7 \times$

Place
die
here

112	14	105	84	56	140
42	56	28	70	42	14
35	84	105	140	63	28
7	42	126	84	210	35
21	175	252	21	168	84
210	70	168	126	28	42

Building Equations (6-Sided Dice)



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and discards the third die.
- Player A places the dice on the equation at the top of the game board to create a two-digit number. Player A chooses which two factors of that number to play.
- Player A finds two game board spaces that correspond to the two factors and places a colored counter on each one. If only one of the two factors is available, the player can cover that single factor.
- If Player A cannot create a two-digit number that has factors that are available on the game board, their turn is over and play passes to Player B.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3, 6, and 2.
- Player A chooses 3 and 6 to create the number 36 and discards the 2.
- Player A covers a 4 and a 9 on the game board with colored counters ($36 = 4 \times 9$).
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $36 = 9 \times 4$ or $4 \times 9 = 36$.

Building Equations (6-Sided Dice)



$$\square \square = ? \times ?$$

Place dice here

5	2	7	2	3	4	9
2	3	4	9	3	6	8
3	8	2	7	5	7	6
8	5	9	8	6	3	9
6	2	8	9	4	7	3
2	7	5	5	9	6	3
8	4	7	6	8	3	4

Building Equations (10-Sided Dice)



Materials:

- Counters, in two different colors
- Three 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and discards the third die.
(If player A rolls a 10, they can reroll that die if they choose.)
- Player A places the dice on the equation at the top of the game board to create a two-digit number. Player A chooses which two factors of that number to play.
- Player A finds two game board spaces that correspond to the two factors and places a colored counter on each one. If only one of the two factors is available, the player can cover that single factor.
- If Player A cannot create a two-digit number that has factors that are available on the game board, their turn is over and play passes to Player B.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 8, 7, and 2.
- Player A chooses 7 and 2 to create the number 72 and discards the 8.
- Player A covers an 8 and a 9 on the game board with colored counters ($72 = 8 \times 9$).
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $72 = 9 \times 8$ or $8 \times 9 = 72$.

Building Equations (10-Sided Dice)



$$\square \square = ? \times ?$$

Place dice here

3	4	7	5	6	4	6
6	3	2	9	3	9	8
2	8	4	7	5	7	2
7	5	9	6	8	3	9
6	3	8	7	4	7	5
2	9	5	2	9	6	3
8	4	7	3	8	7	4

Capturing Leftovers (6-Sided Dice)



Materials:

- Counters, in two different colors
- Two 6-sided dice
- A playing chip (such as a penny, pebble, or cube)

Instructions:

- Players A and B pick colors.
- Player A rolls the dice and chooses which order to put them in to create a two-digit number.
- Player A chooses a divisor from the gray boxes at the bottom of the game board and covers it with the playing chip.
- Player A divides the two-digit number by the divisor.
- Player A makes as many full groups of the divisor as possible and then covers the number of full groups with a colored counter on the Full Groups board.
- Player A figures out how many leftovers (remainders) there are and covers that number with a colored counter on the Leftovers board.
- Players A and B alternate turns until one player gets three spaces in a row (across, down, or diagonally) on BOTH boards.

Example Turn:

- Player A rolls 2 and 1.
- Player A decides to create the number 21.
- Player A decides to divide by 5 and covers the gray box with “5.”
- Player A divides 21 by 5 and finds they can make 4 full groups of 5, with 1 left over.
- Player A uses two colored counters to cover a 4 on the Full Groups board and a 1 on the Leftovers board.
- Play passes to Player B.

Capturing Leftovers (6-Sided Dice)



How many full groups?

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

How many left over?

3	4	0	8	1	2
5	1	6	5	0	3
4	2	3	2	4	7
0	5	4	5	3	6
2	7	3	6	1	2
6	1	0	4	5	9

Place the playing chip on the divisor you want to use.

2	3	4	5	6	7	8	9	10
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Capturing Rectangles (Mixed Practice)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Player A uses their colored pencil to draw a rectangle with their chosen area. The side lengths can be any whole numbers that fit on the gameboard.
- Player A labels the rectangle with its area and side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle with the area they chose. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 5.
- Player A chooses an area of 36 square units from the fifth row in the “Choose an Area” table.
- Player A considers whether to draw a 6×6 , 9×4 , 12×3 , or 18×2 rectangle on the grid. They choose 12×3 .
- Player A uses their colored pencil to draw a 12×3 rectangle.
- Player A labels the rectangle’s side lengths (3 and 12) and area (36).
- Play passes to player B.

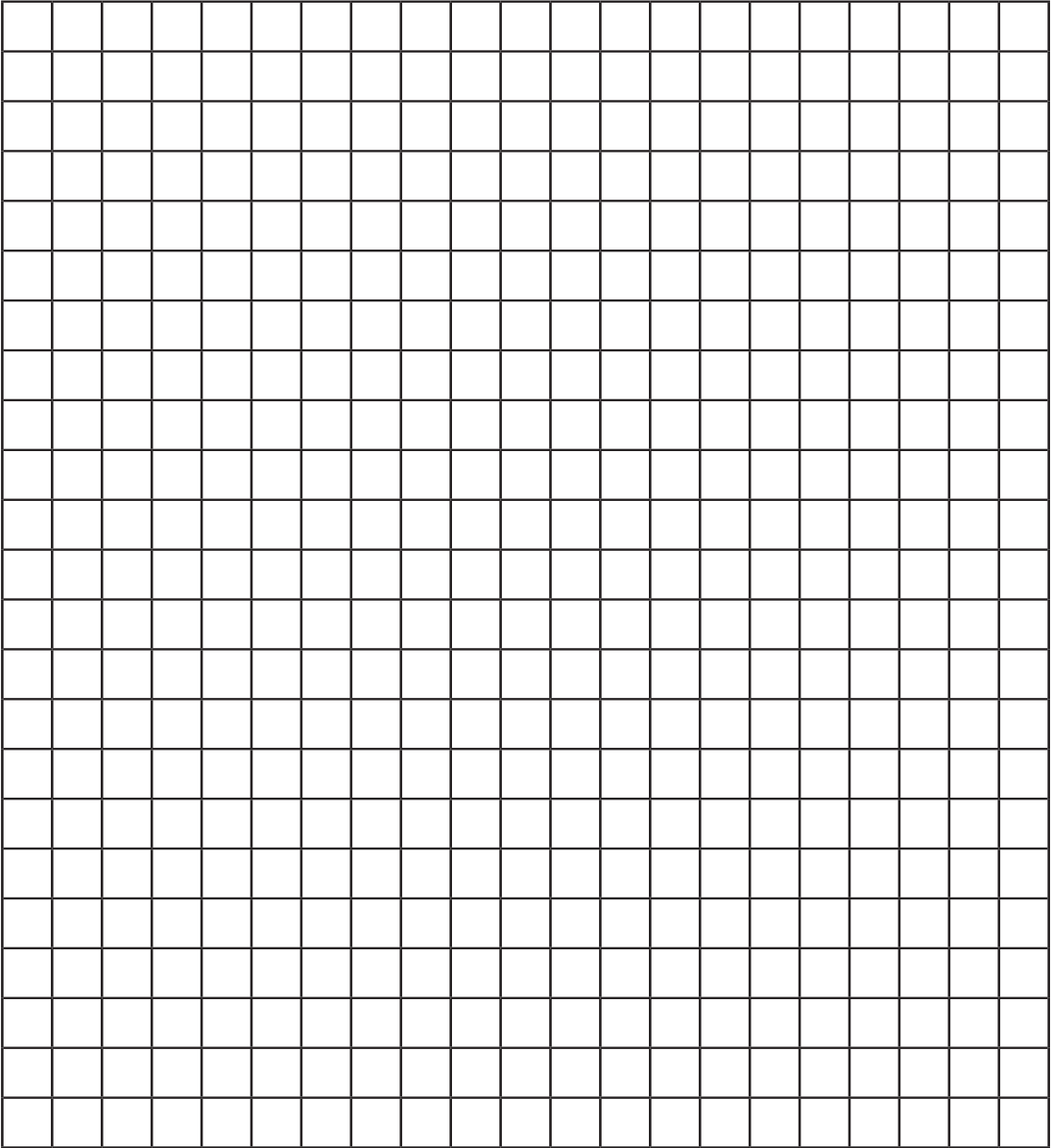
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (Mixed Practice)



Roll	Choose an Area (square units)		
	12	45	21
	24	60	42
	20	12	24
	36	28	60
	20	36	42
	60	18	48
	72	24	30
	30	18	21
	48	28	40
	72	40	36



Capturing Rectangles (with Side Lengths of 2)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 2. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 6.
- Player A chooses an area of 10 square units from the sixth row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 10 square units and one side length of 2 units must have another side length of 5 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 5 x 2 rectangle.
- Player A labels the rectangle’s side lengths (2 and 5) and area (10).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

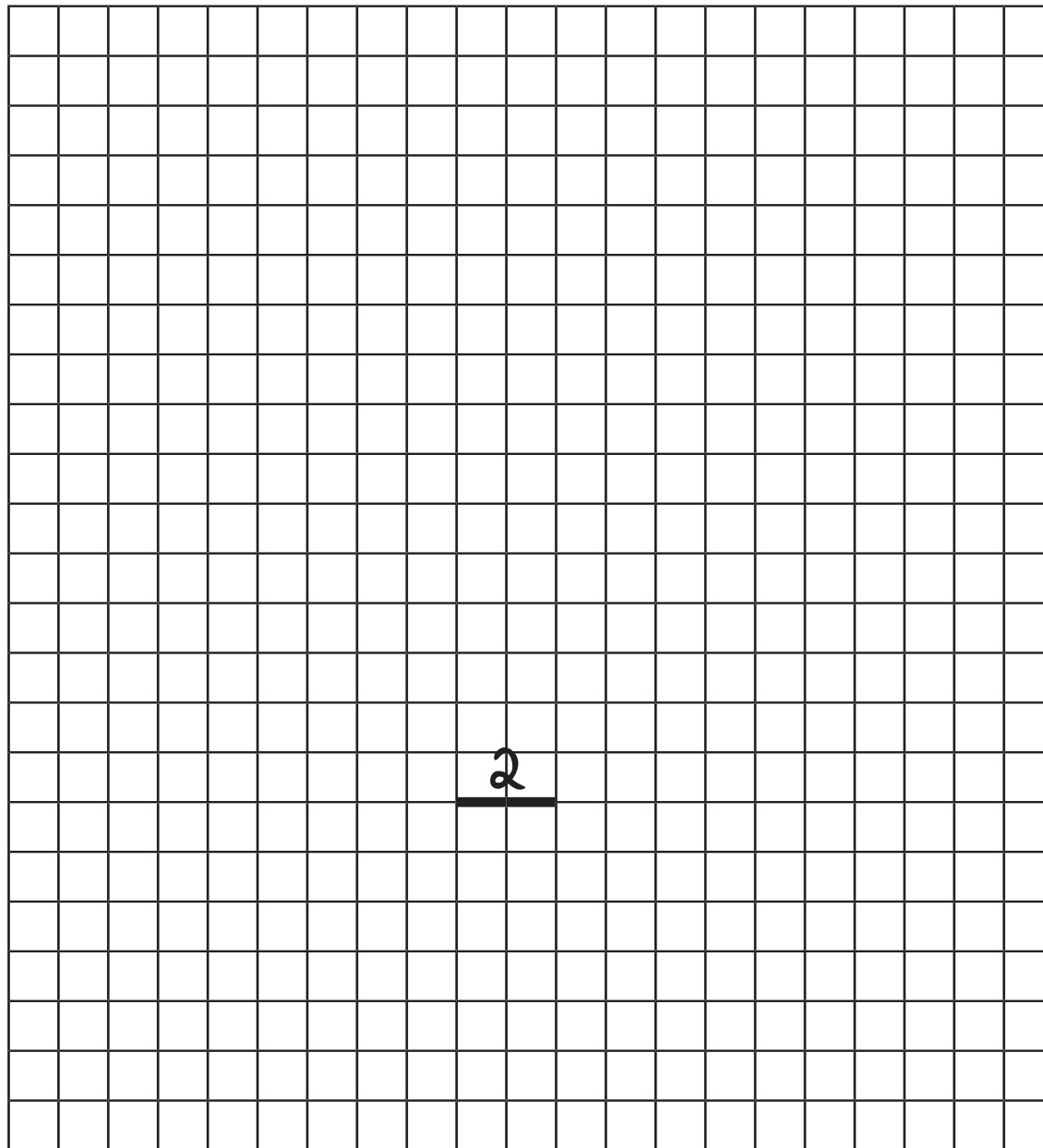
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 2)



Roll	Choose an Area (square units)		
	8	20	2
	14	6	12
	4	16	10
	10	20	4
	12	6	18
	16	2	10
	18	14	8
	12	6	16
	4	18	14
	20	8	2



Capturing Rectangles (with Side Lengths of 3)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 3. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 6.
- Player A chooses an area of 21 square units from the sixth row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 21 square units and one side length of 3 units must have another side length of 7 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 7 x 3 rectangle.
- Player A labels the rectangle’s side lengths (3 and 7) and area (21).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

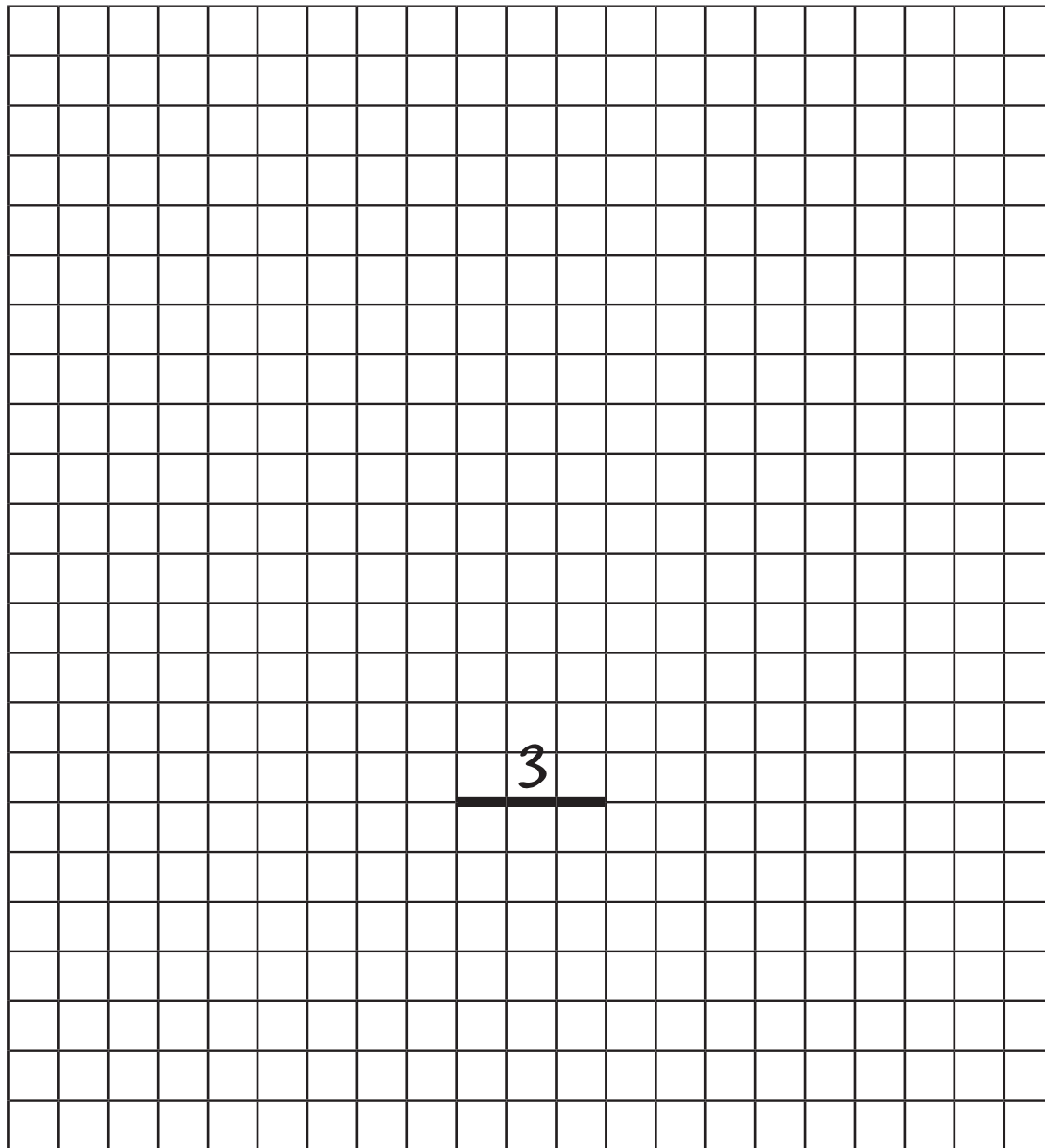
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 3)



Roll	Choose an Area (square units)		
	15	9	24
	27	12	18
	21	9	30
	6	27	12
	15	24	3
	3	21	18
	12	30	18
	6	24	9
	21	3	27
	30	15	6



Capturing Rectangles (with Side Lengths of 4)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 4. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 2.
- Player A chooses an area of 20 square units from the second row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 20 square units and one side length of 4 units must have another side length of 5 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 5 x 4 rectangle.
- Player A labels the rectangle’s side lengths (4 and 5) and area (20).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

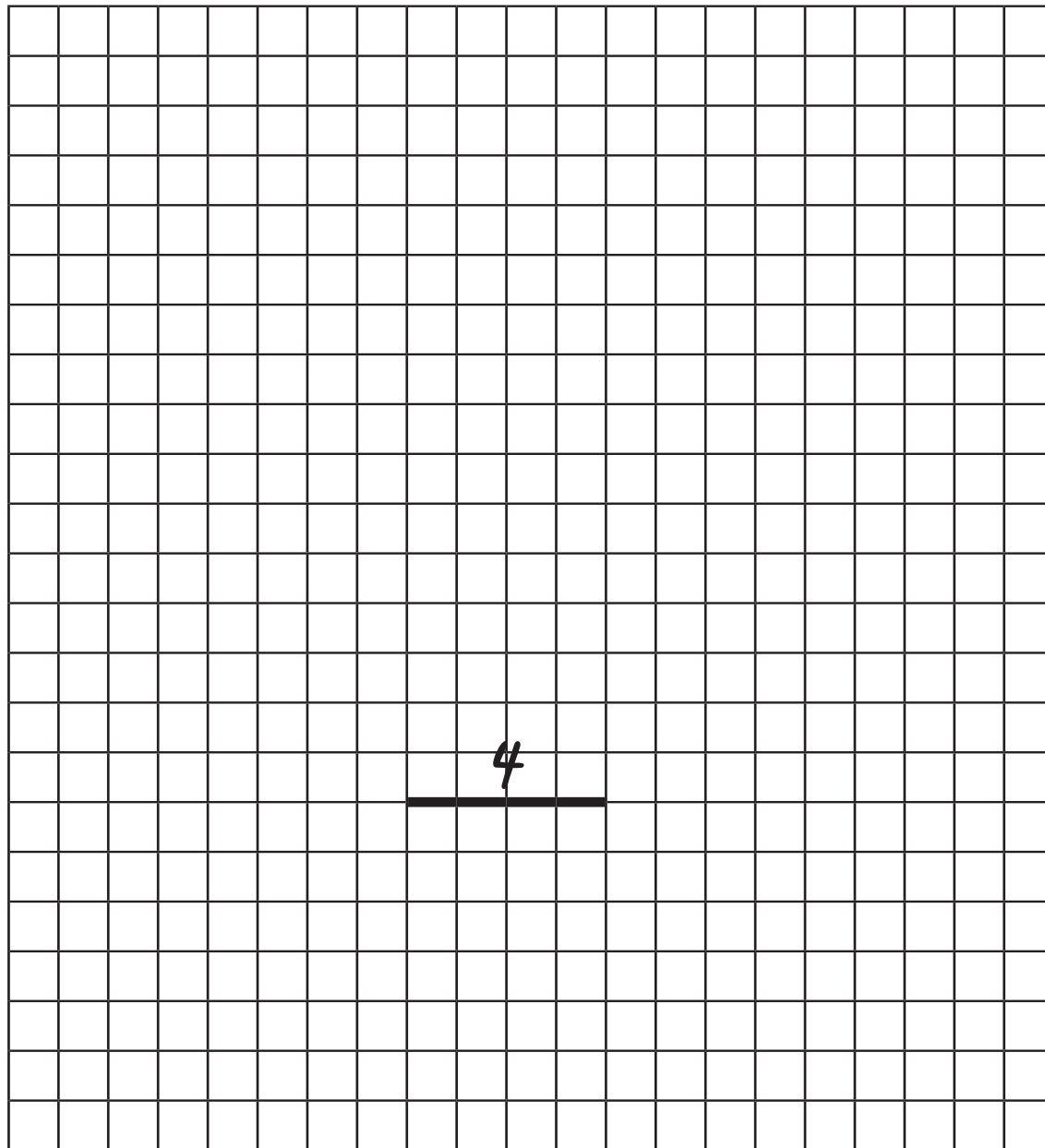
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 4)



Roll	Choose an Area (square units)		
	8	24	32
	36	12	20
	28	16	40
	4	36	20
	24	12	32
	12	40	8
	16	24	28
	36	8	20
	16	32	4
	28	4	40



Capturing Rectangles (with Side Lengths of 5)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 5. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 3.
- Player A chooses an area of 20 square units from the third row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 20 square units and one side length of 5 units must have another side length of 2 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 2 x 5 rectangle.
- Player A labels the rectangle’s side lengths (5 and 2) and area (20).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

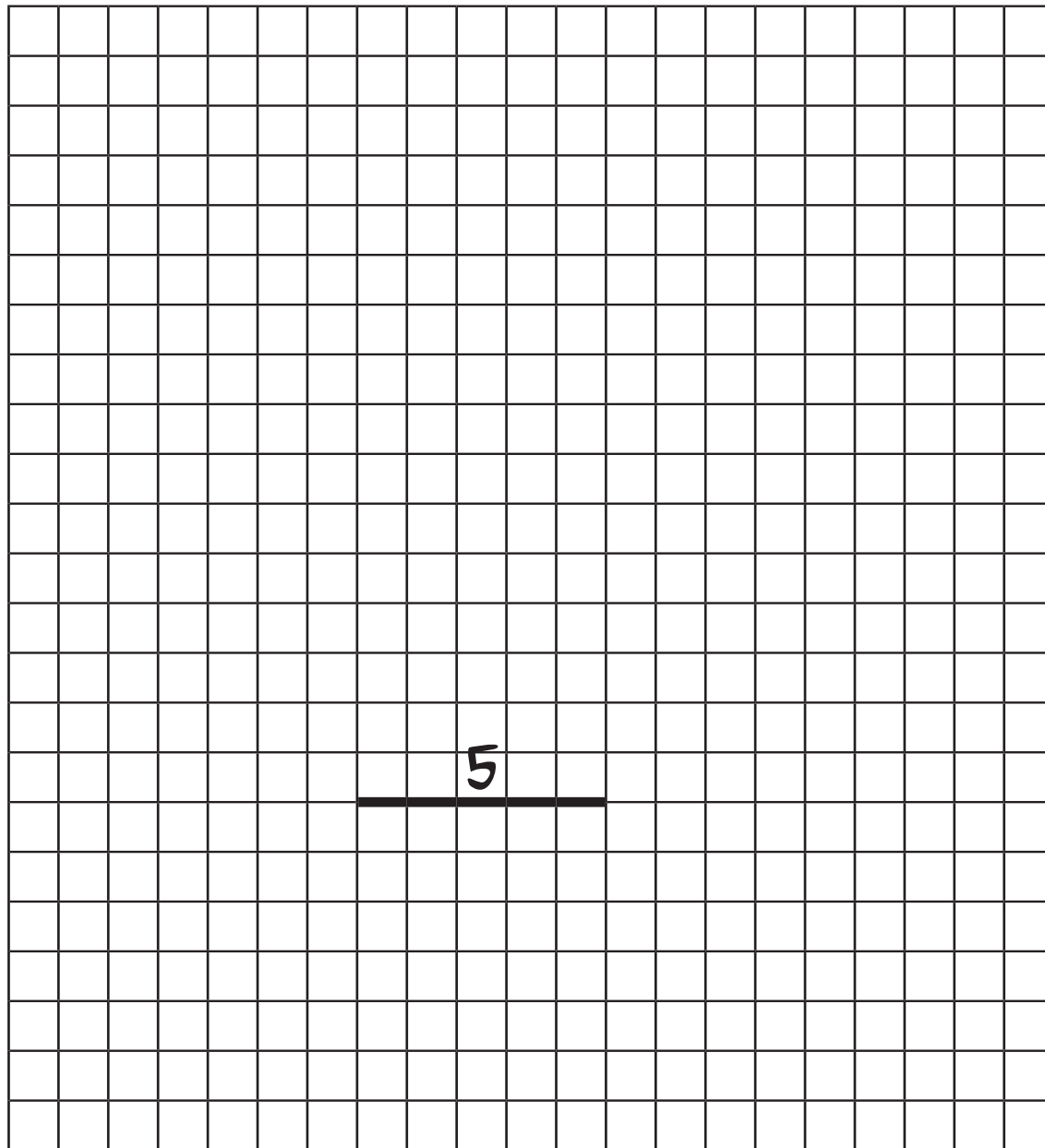
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 5)



Roll	Choose an Area (square units)		
	25	40	15
	50	5	35
	20	15	30
	20	35	45
	30	10	40
	15	45	30
	5	50	20
	40	5	35
	45	25	10
	10	25	50



Capturing Rectangles (with Side Lengths of 6)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 6. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 9.
- Player A chooses an area of 42 square units from the ninth row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 42 square units and one side length of 6 units must have another side length of 7 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 7 x 6 rectangle.
- Player A labels the rectangle’s side lengths (6 and 7) and area (42).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

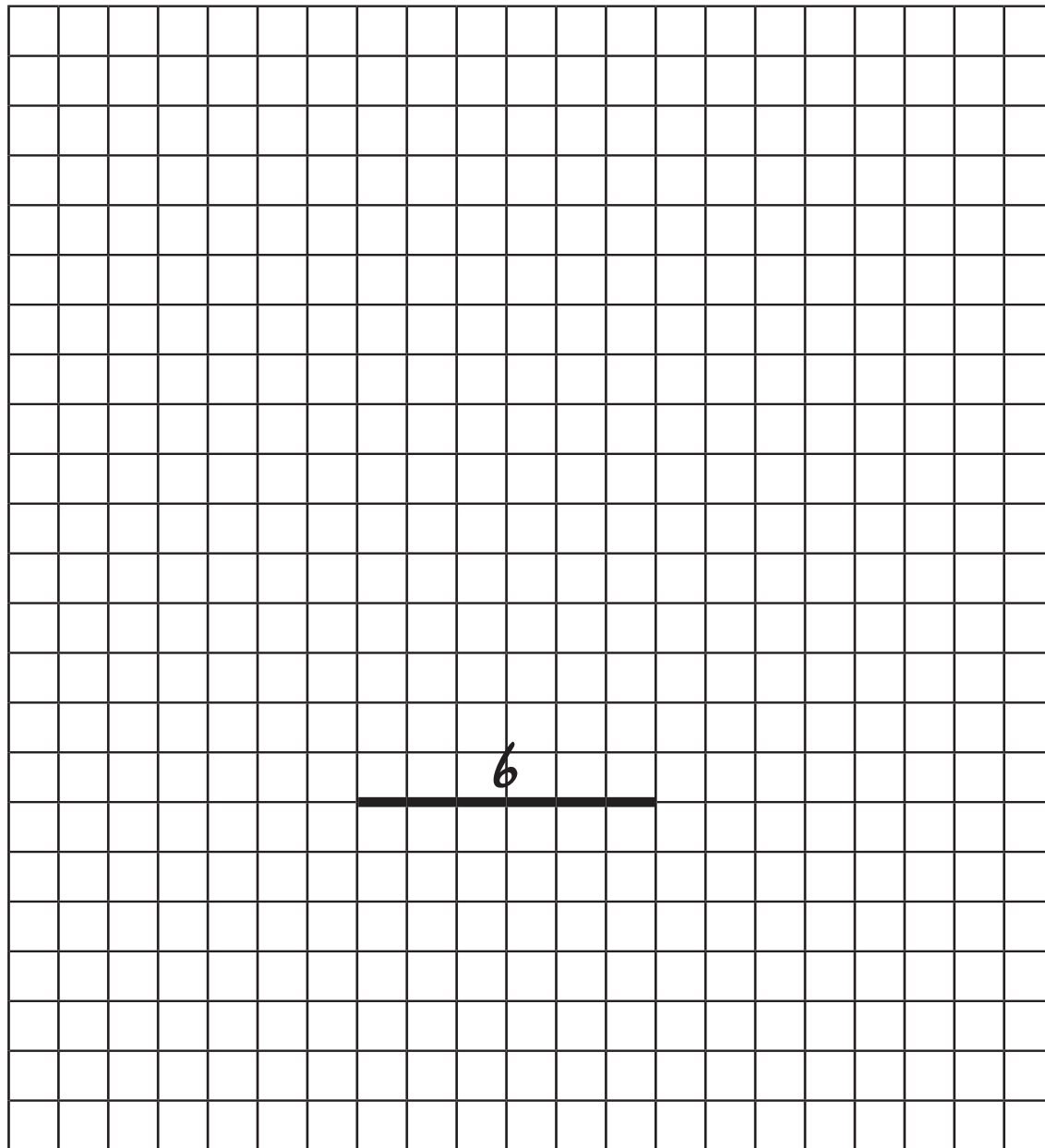
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 6)



Roll	Choose an Area (square units)		
	24	60	30
	6	30	54
	24	60	36
	12	18	48
	18	36	54
	18	42	12
	6	48	42
	24	48	60
	42	54	36
	12	30	6



Capturing Rectangles (with Side Lengths of 7)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 7. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 5.
- Player A chooses an area of 28 square units from the fifth row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 28 square units and one side length of 7 units must have another side length of 4 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 4 x 7 rectangle.
- Player A labels the rectangle’s side lengths (7 and 4) and area (28).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

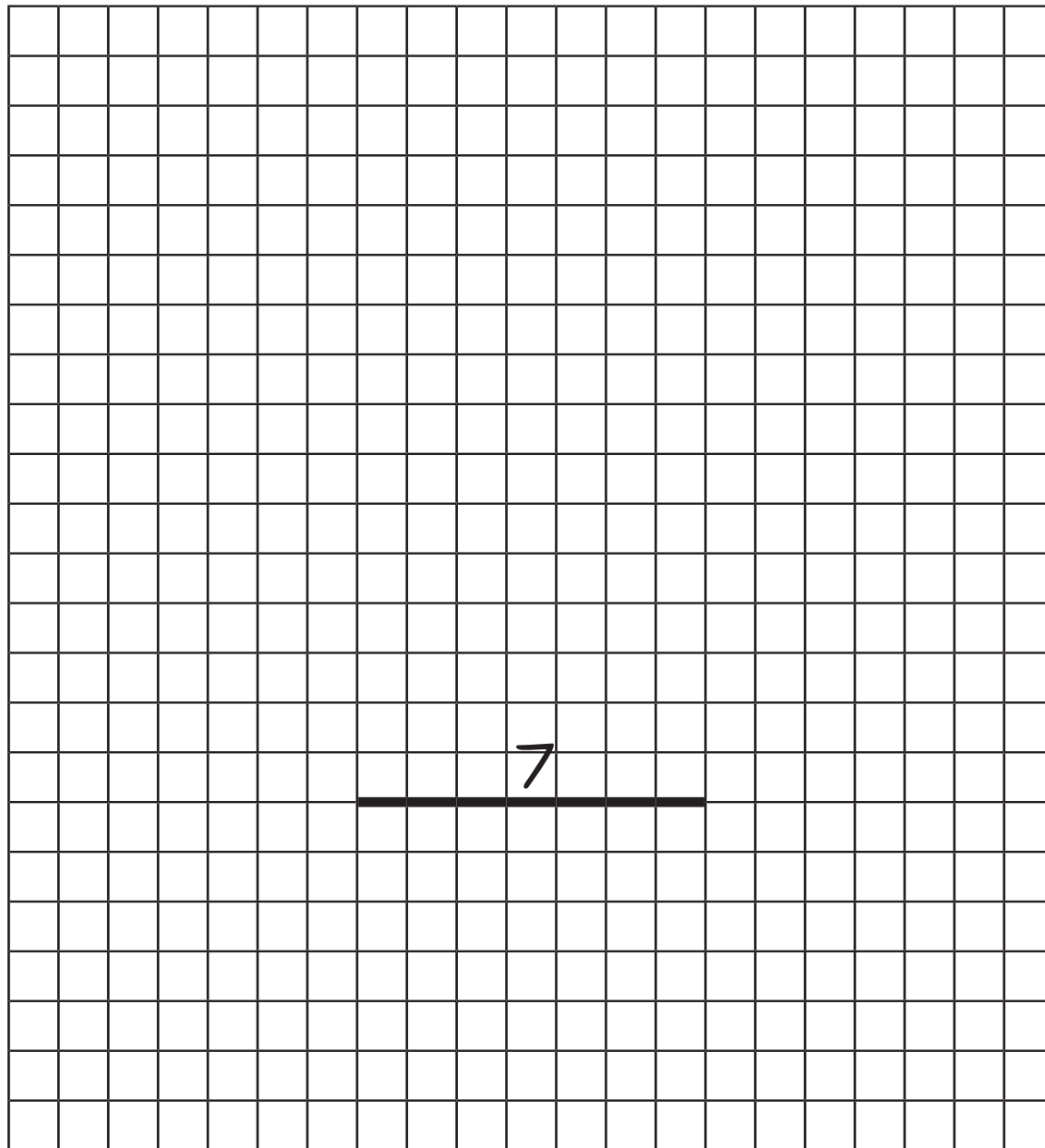
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 7)



Roll	Choose an Area (square units)		
	42	14	56
	21	70	21
	49	35	63
	63	7	42
	35	28	70
	14	56	28
	70	21	49
	28	14	35
	49	63	7
	42	7	56



Capturing Rectangles (with Side Lengths of 8)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 8. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 2.
- Player A chooses an area of 24 square units from the second row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 24 square units and one side length of 8 units must have another side length of 3 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 3 x 8 rectangle.
- Player A labels the rectangle’s side lengths (8 and 3) and area (24).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

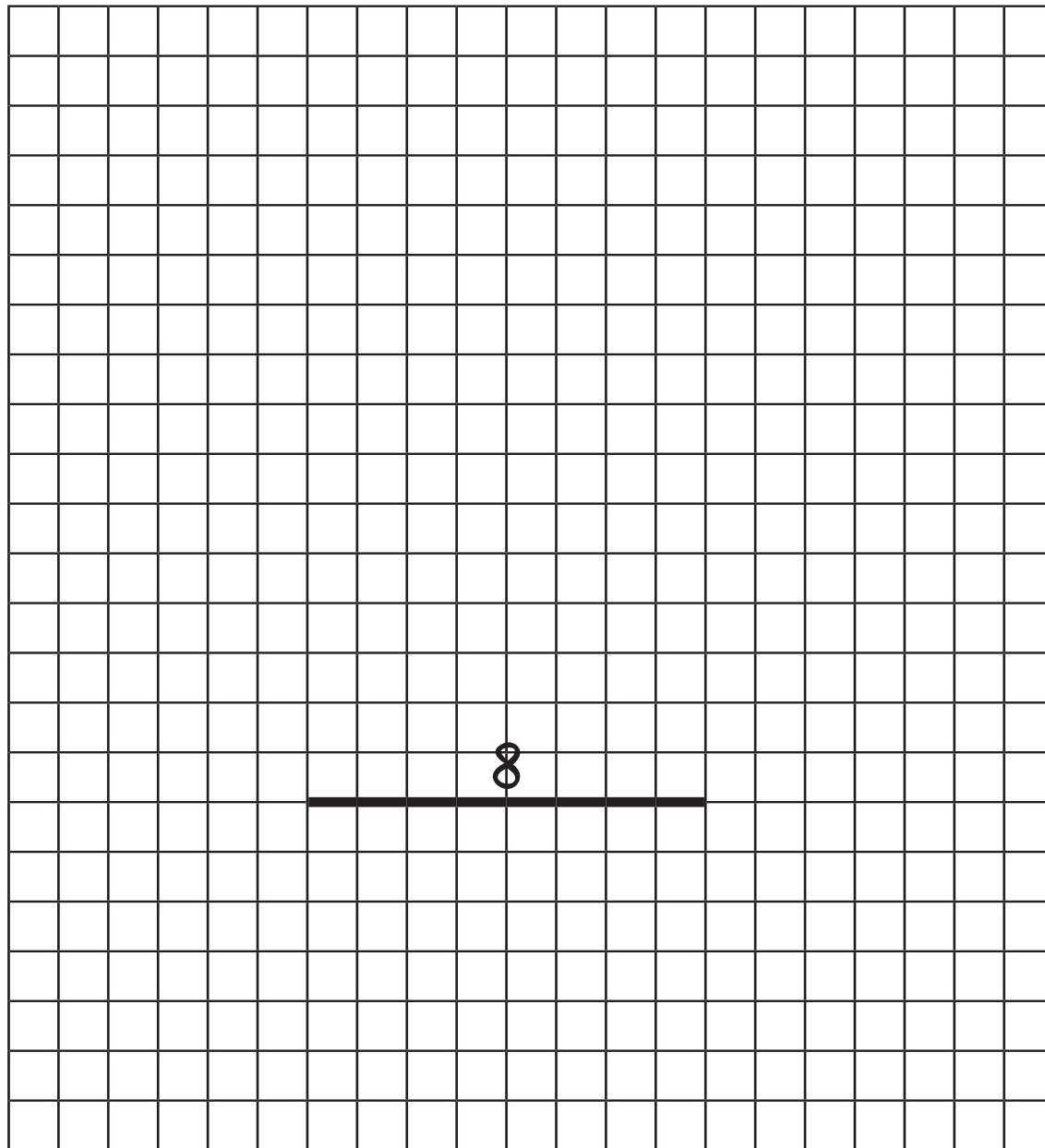
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 8)



Roll	Choose an Area (square units)		
	48	32	80
	40	24	56
	40	32	72
	80	64	32
	24	16	56
	72	16	48
	48	24	40
	8	72	16
	64	8	64
	8	56	80



Capturing Rectangles (with Side Lengths of 9)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 9. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 10.
- Player A chooses an area of 45 square units from the tenth row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 45 square units and one side length of 9 units must have another side length of 5 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 5 x 9 rectangle.
- Player A labels the rectangle’s side lengths (9 and 5) and area (45).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

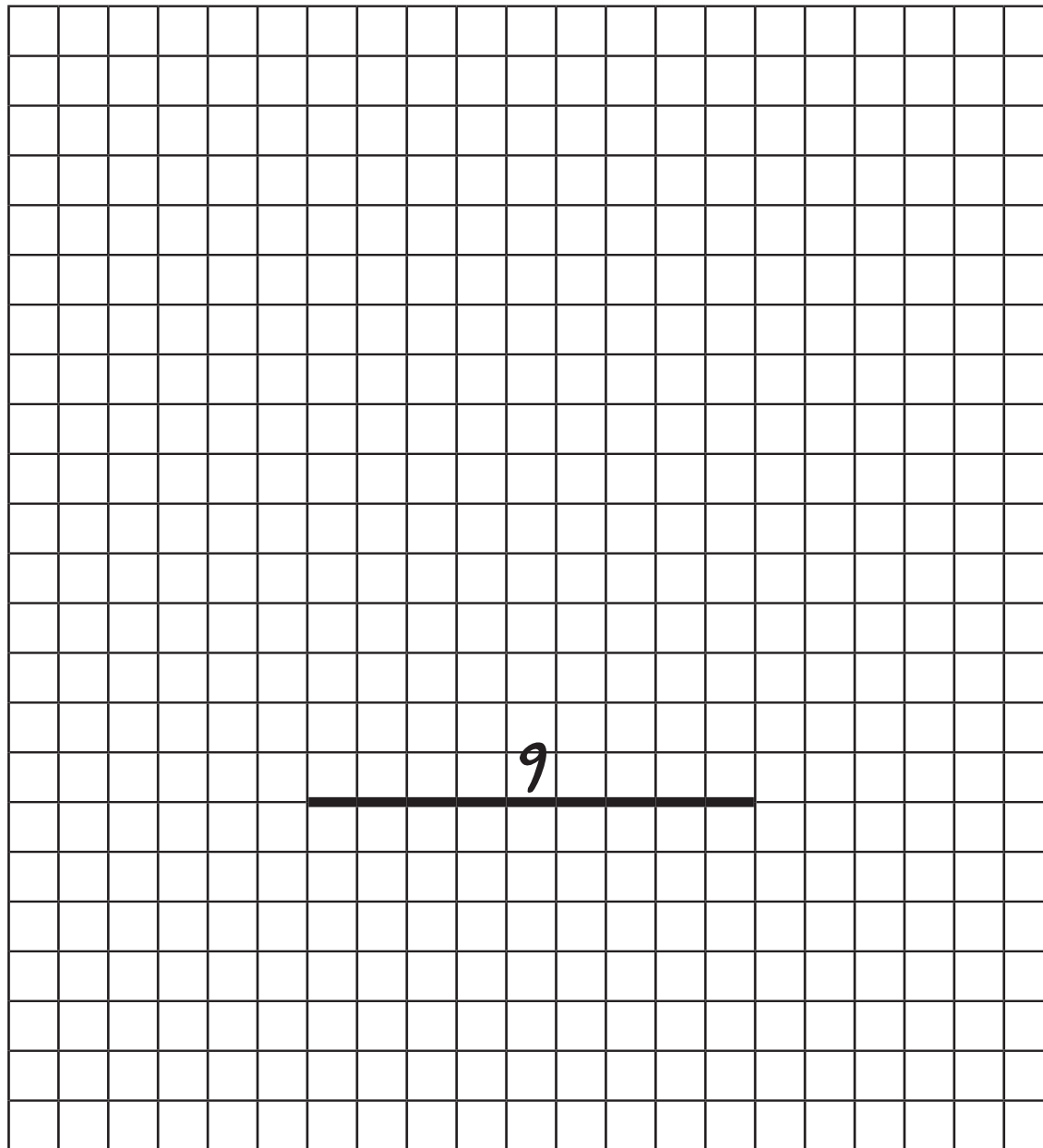
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 9)



Roll	Choose an Area (square units)		
	9	90	63
	81	45	36
	27	18	72
	72	54	90
	63	27	18
	9	36	81
	90	18	27
	45	36	54
	9	81	63
	54	72	45



Capturing Rectangles (with Side Lengths of 10)



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Building from the starter side length marked on the grid, Player A uses their colored pencil to draw a rectangle with their chosen area.
- Player A labels the rectangle with its area and remaining side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a rectangle that has at least one side length of 10. Player B’s rectangle can be anywhere on the board that’s uncaptured, and it may or may not connect to existing rectangles.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 9.
- Player A chooses an area of 70 square units from the ninth row in the “Choose an Area” table.
- Player A figures out the missing side length: a rectangle with an area of 70 square units and one side length of 10 units must have another side length of 7 units.
- Player A uses their colored pencil to complete the starter rectangle by drawing a 7 x 10 rectangle.
- Player A labels the rectangle’s side lengths (10 and 7) and area (70).
- Play passes to player B. For all remaining turns, Players A and B can use any uncaptured squares in the grid.

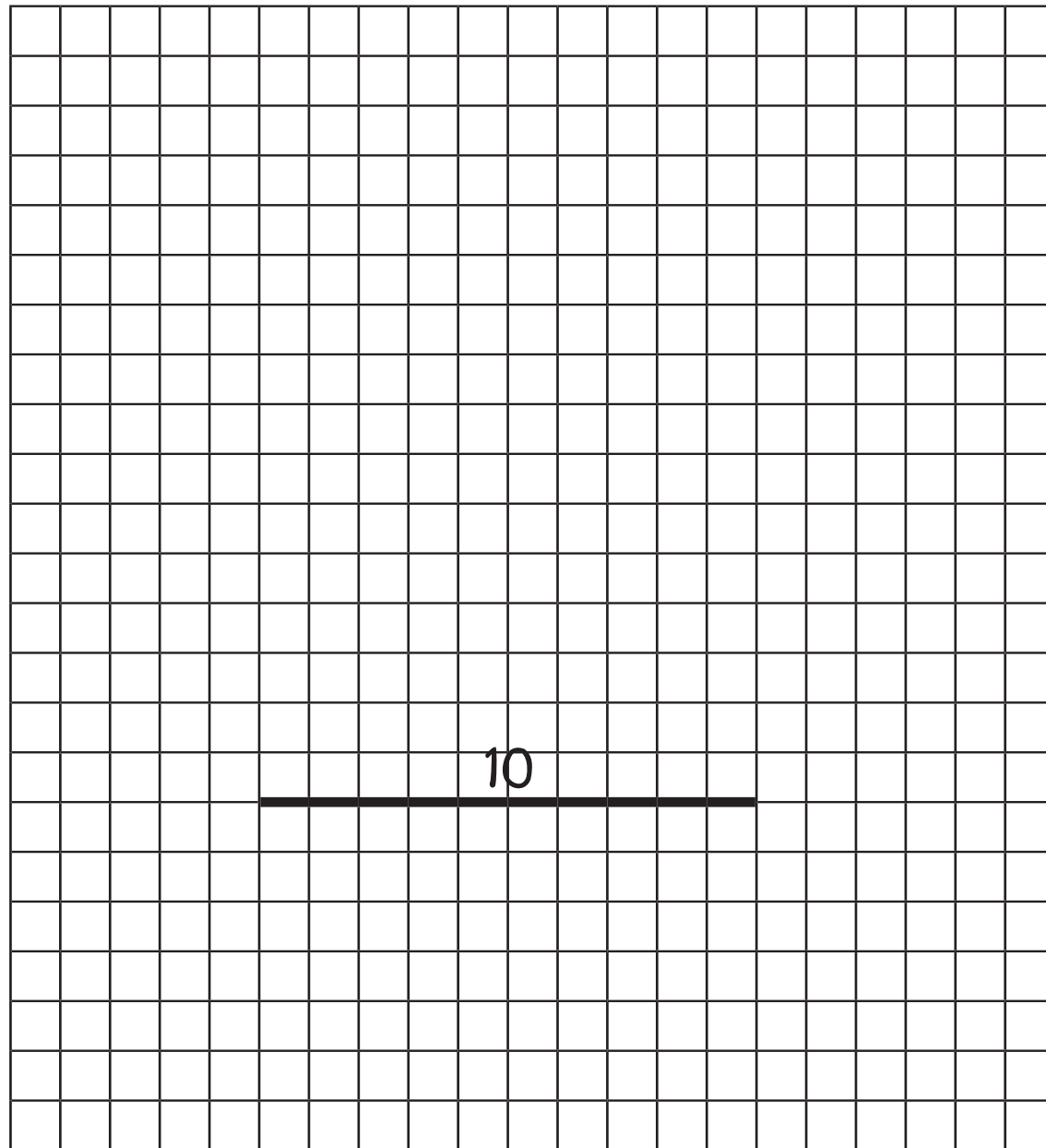
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new rectangle must connect to an existing rectangle. If a side length matches exactly, the player earns double the area of the new rectangle on that turn.

Capturing Rectangles (with Side Lengths of 10)



Roll	Choose an Area (square units)		
	60	30	90
	50	10	80
	10	100	60
	80	40	20
	70	60	100
	30	90	50
	40	10	80
	100	20	50
	20	70	90
	70	30	40



Capturing Square Rectangles



Materials:

- One 10-sided die
- Two different-colored writing tools (colored pencils, fine-tip markers, etc.)

Instructions:

- Players pick pencil colors and determine who will play first.
- Player A rolls the die.
- Player A looks at the “Choose an Area” table, finds the row that matches the roll of the die, and chooses one area to play from the three numbers in that row.
- Player A uses their colored pencil to create a square rectangle with the area they chose.
- Player A labels the square rectangle with its area and side lengths.
- Play passes to Player B, who rolls, chooses an area from the corresponding row in the table, and uses their colored pencil to create a square rectangle with that area. Player B’s square can be anywhere on the board that’s uncaptured, and it may or may not connect to existing squares.
- Players A and B alternate turns until there have been three consecutive rolls with no possible moves.
- Players add up the total gameboard area they’ve captured. The player with the most area overall wins.

Example Turn:

- Player A rolls 3.
- Player A chooses an area of 49 square units from the third row in the “Choose an Area” table.
- Player A figures out that the sides of a square with an area of 49 square units must each measure 7 units long.
- Player A uses their colored pencil to draw a 7 x 7 square.
- Player A labels the square’s side lengths (7 and 7) and area (49).
- Play passes to player B.

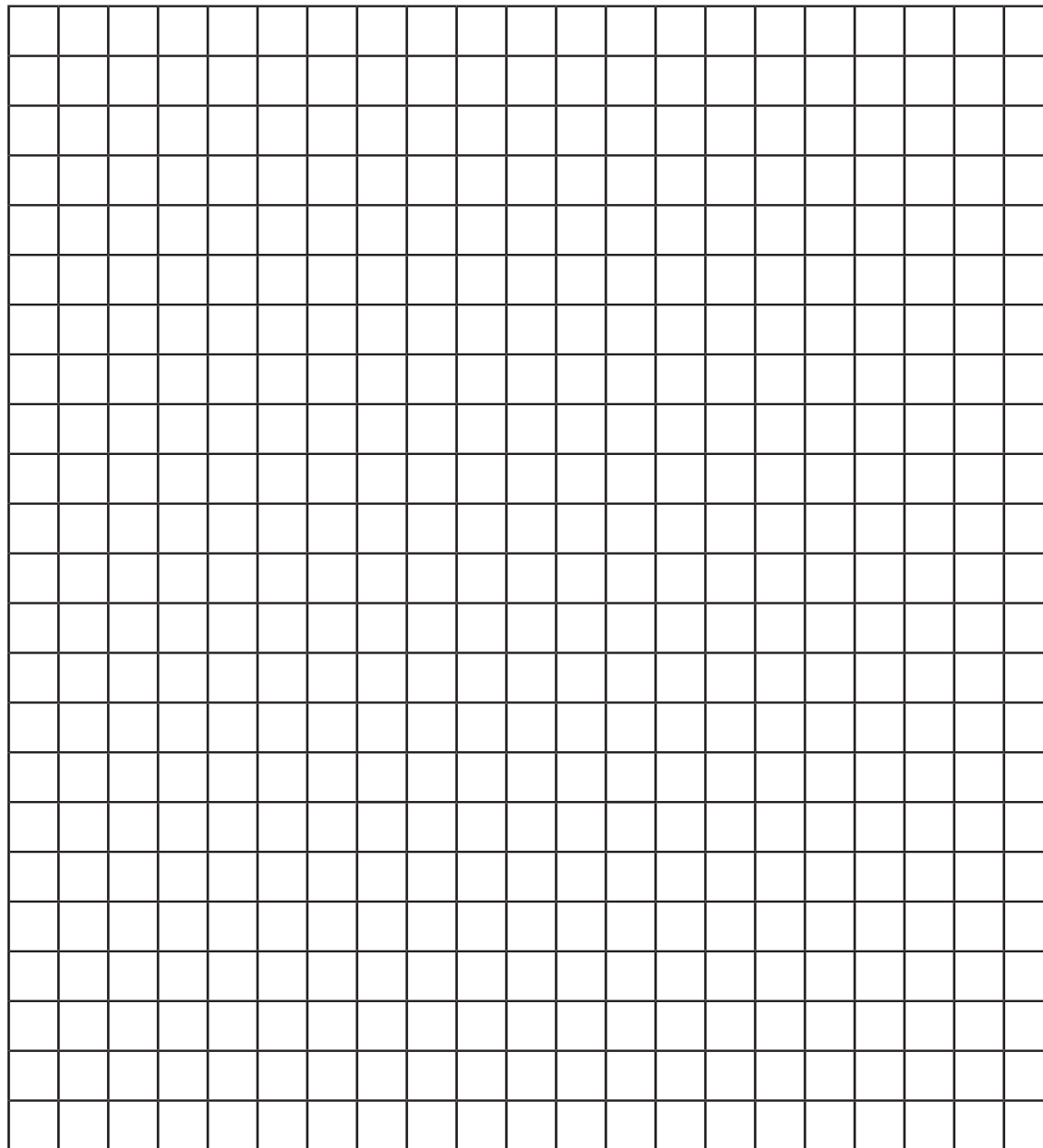
Variation:

- For an additional challenge, players can play a Scrabble®-style version, where each new square must connect to an existing square. If a side length matches exactly, the player earns double the area of the new square on that turn.

Capturing Square Rectangles



Roll	Choose an Area (square units)		
	25	100	4
	64	9	16
	81	1	49
	16	100	9
	36	4	64
	49	81	4
	1	36	25
	9	64	36
	100	16	49
	25	81	1



Collecting Quotients (Dividing by 2)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 2 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 5.
- Player A chooses 16 as their dividend from the fifth row on the “Choose a Dividend” table.
- Player A divides $16 \div 2$ to find a quotient of 8.
- Player A records $16 \div 2 = 8$ in the table in the equation column, as shown.
- Player A records an 8 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 2)



Roll	Choose a Dividend		
	12	2	18
	16	6	10
	4	14	12
	10	20	2
	6	16	8
	14	4	18
	8	20	4
	12	10	16
	18	6	2
	8	14	20

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$16 \div 2 = 8$	8	$12 \div 2 = 6$	6
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Dividing by 3)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 3 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 4.
- Player A chooses 12 as their dividend from the fourth row on the “Choose a Dividend” table.
- Player A divides $12 \div 3$ to find a quotient of 4.
- Player A records $12 \div 3 = 4$ in the table in the equation column, as shown.
- Player A records a 4 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 3)



Roll	Choose a Dividend		
	3	24	30
	21	6	15
	9	12	21
	12	18	30
	27	15	9
	6	12	27
	3	24	21
	30	18	9
	15	18	6
	3	24	27

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$12 \div 3 = 4$	4	$24 \div 3 = 8$	8
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Dividing by 4)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 4 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 7.
- Player A chooses 24 as their dividend from the seventh row on the “Choose a Dividend” table.
- Player A divides $24 \div 4$ to find a quotient of 6.
- Player A records $24 \div 4 = 6$ in the table in the equation column, as shown.
- Player A records a 6 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 4)



Roll	Choose a Dividend		
	20	12	36
	8	16	32
	40	4	24
	32	20	28
	4	36	8
	28	40	12
	8	24	16
	24	20	32
	36	4	28
	16	12	40

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$24 \div 4 = 6$	6	$36 \div 4 = 9$	9
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Dividing by 5)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 5 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 1.
- Player A chooses 15 as their dividend from the first row on the “Choose a Dividend” table.
- Player A divides $15 \div 5$ to find a quotient of 3.
- Player A records $15 \div 5 = 3$ in the table in the equation column, as shown.
- Player A records a 3 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 5)



Roll	Choose a Dividend		
	5	15	40
	50	20	35
	25	30	45
	20	10	50
	15	40	30
	10	45	30
	35	20	40
	5	50	25
	25	5	35
	45	15	10

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$15 \div 5 = 3$	3	$35 \div 5 = 7$	7
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Dividing by 6)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 6 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 4.
- Player A chooses 12 as their dividend from the fourth row on the “Choose a Dividend” table.
- Player A divides $12 \div 6$ to find a quotient of 2.
- Player A records $12 \div 6 = 2$ in the table in the equation column, as shown.
- Player A records a 2 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 6)



Roll	Choose a Dividend		
	36	12	54
	48	30	18
	24	60	42
	12	36	48
	54	24	30
	18	42	6
	12	48	36
	24	6	60
	42	54	18
	60	30	6

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$12 \div 6 = 2$	2	$24 \div 6 = 4$	4
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Dividing by 7)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 7 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 4.
- Player A chooses 70 as their dividend from the fourth row on the “Choose a Dividend” table.
- Player A divides $70 \div 7$ to find a quotient of 10.
- Player A records $70 \div 7 = 10$ in the table in the equation column, as shown.
- Player A records a 10 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 7)



Roll	Choose a Dividend		
	42	14	70
	21	7	42
	56	63	35
	70	28	49
	42	28	35
	7	21	56
	14	56	63
	35	21	49
	63	70	14
	28	49	7

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$70 \div 7 = 10$	10	$56 \div 7 = 8$	8
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Dividing by 8)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 8 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 6.
- Player A chooses 40 as their dividend from the sixth row on the “Choose a Dividend” table.
- Player A divides $40 \div 8$ to find a quotient of 5.
- Player A records $40 \div 8 = 5$ in the table in the equation column, as shown.
- Player A records a 5 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 8)



Roll	Choose a Dividend		
	80	32	56
	32	72	8
	64	16	24
	40	48	56
	16	48	80
	40	72	56
	32	8	64
	72	64	40
	24	80	16
	8	24	48

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$40 \div 8 = 5$	5	$16 \div 8 = 2$	2
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Dividing by 9)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 9 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 6.
- Player A chooses 72 as their dividend from the sixth row on the “Choose a Dividend” table.
- Player A divides $72 \div 9$ to find a quotient of 8.
- Player A records $72 \div 9 = 8$ in the table in the equation column, as shown.
- Player A records an 8 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 9)



Roll	Choose a Dividend		
	54	9	81
	18	45	63
	45	90	72
	9	27	54
	72	36	90
	81	72	45
	27	63	9
	54	36	18
	90	27	36
	18	63	81

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$72 \div 9 = 8$	8	$36 \div 9 = 4$	4
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Dividing by 10)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by 10 and solves for the quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 7.
- Player A chooses 80 as their dividend from the seventh row on the “Choose a Dividend” table.
- Player A divides $80 \div 10$ to find a quotient of 8.
- Player A records $80 \div 10 = 8$ in the table in the equation column, as shown.
- Player A records an 8 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Dividing by 10)



Roll	Choose a Dividend		
	70	60	10
	60	20	90
	100	30	90
	40	10	80
	90	50	70
	20	50	40
	80	30	100
	10	50	80
	100	20	30
	40	60	70

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$80 \div 10 = 8$	8	$10 \div 10 = 1$	1
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Mixed Practice)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A divides their dividend by any whole number that will yield a whole number quotient.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 4.
- Player A chooses 12 as their dividend from the fourth row on the “Choose a Dividend” table.
- Player A considers whether to divide 12 by 1, 2, 3, 4, 6, or 12. They decide to divide 12 by 1 so they can have a quotient of 12.
- Player A records $12 \div 1 = 12$ in the table in the equation column, as shown.
- Player A records a 12 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Mixed Practice)



Roll	Choose a Dividend		
	32	40	12
	42	16	36
	45	24	60
	48	20	12
	30	18	28
	36	40	48
	18	72	42
	60	48	36
	20	35	24
	24	16	54

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$12 \div 1 = 12$	12	$24 \div 3 = 8$	8
Total Quotients Collected		Total Quotients Collected	

Collecting Quotients (Squares)



Materials:

- One 10-sided die
- Pencil

Instructions:

- Players determine who will play first and put their names on the gameboard.
- Player A rolls the die.
- Player A looks at the “Choose a Dividend” table, finds the row that matches the roll of the die, and chooses one dividend to play from the three numbers in that row.
- Player A figures out what one number can be *both* divisor and quotient of their chosen dividend.
- Player A records the equation in the table, as shown in the example turn.
- Player A records the quotient of their equation in the gray column, as shown in the example turn.
- Players A and B alternate turns until they have each had ten rolls.
- After ten rolls, Players A and B add up their quotients and record the sum in the “Total Quotients Collected” row.
- The player with the closest total to 50 without going over, wins.

Example Turn:

- Player A rolls 3.
- Player A chooses 25 as their dividend from the third row on the “Choose a Dividend” table.
- Player A figures out that $25 \div 5 = 5$, so 5 can be *both* divisor and quotient of 25.
- Player A records $25 \div 5 = 5$ in the table in the equation column, as shown.
- Player A records a 5 in the quotient column, as shown.
- Play passes to Player B.

Variations:

- Players might choose a different goal number, besides 50. What’s most challenging?
- Players might decide dividends can only be played once. After each turn, they can X out the dividend they played or cover it with a chip to show it’s been played.

Collecting Quotients (Squares)



Roll	Choose a Dividend		
	16	25	81
	1	16	100
	36	1	25
	64	16	49
	81	100	9
	4	25	64
	9	36	49
	100	64	4
	36	4	9
	49	81	1

PLAYER A _____		PLAYER B _____	
Equation	Quotient	Equation	Quotient
$25 \div 5 = 5$	5	$81 \div 9 = 9$	9
Total Quotients Collected		Total Quotients Collected	

The Friendly Factor Game with 6s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 6) in whatever order they choose.
- Player A places a counter on a game board space that corresponds with the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3, 5, and 6.
- Player A chooses the 3 and 5 and places them on the expression.
- Player A multiplies $3 \times 6 \times 5$ by solving $3 \times (6 \times 5) = 3 \times 30 = 90$.
- Player A finds a 90 on the game board and covers it with a colored counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $3 \times (6 \times 5) = 3 \times 30 = 90$.

The Friendly Factor Game with 6s



Place die here

$\times 6 \times$

Place die here

12	144	108	24	72	60
36	18	180	36	18	96
90	30	120	48	60	36
120	72	54	180	90	24
36	216	72	12	108	150
48	144	24	6	30	72

Multiplication Cover Up with 4s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 6 and 8.
- Player A chooses the 6 and discards the 8.
- Player A places the 6 in the expression on the game board and multiplies (6×4).
- Player A covers a 24 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $24 = 6 \times 4$, $24 = 4 \times 6$, $6 \times 4 = 24$, or $4 \times 6 = 24$.

Multiplication Cover Up with 4s



Place
die
here

$\times 4$

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

Multiplication Cover Up with 5s



Materials:

- Counters, in two different colors
- Two 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls the dice.
- Player A chooses one die to play and discards the other.
- Player A places the die in the expression on the game board and multiplies.
- Player A places a counter on a game board space that corresponds to the product.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 2 and 6.
- Player A chooses the 6 and discards the 2.
- Player A places the 6 in the expression on the board and multiplies (6×5).
- Player A covers a 30 on the game board with a counter.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $30 = 6 \times 5$, $30 = 5 \times 6$, $6 \times 5 = 30$, or $5 \times 6 = 30$.

Multiplication Cover Up with 5s



Place
die
here

$\times 5$

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

The Range Game with 10s



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A chooses two dice to play and places them on the expression at the top of the game board.
- Player A multiplies all three factors (the two dice and 10) in whatever order they choose.
- Player A finds a range on the game board that includes the product and places a counter on that space.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 4, 2, and 3.
- Player A chooses the 2 and 3 and places them on the expression.
- Player A multiplies $2 \times 10 \times 3$ by solving $(2 \times 3) \times 10 = 6 \times 10 = 60$.
- Player A covers a “51–100” space with a colored counter because 60 falls in the 51–100 range.
- Play passes to Player B.

(OPTIONAL) Example Recording:

A student might record the example turn as $2 \times 10 \times 3 = (2 \times 3) \times 10 = 60$.

The Range Game with 10s

6 6 6

Place
die
here

x 10 x

Place
die
here

101–150	151–200	51–100	301–350	1–50	101–150	201–250
1–50	251–300	101–150	151–200	101–150	51–100	1–50
51–100	201–250	1–50	51–100	151–200	351–400	101–150
351–400	101–150	1–50	201–250	101–150	1–50	251–300
1–50	151–200	51–100	151–200	251–300	201–250	51–100
51–100	351–400	201–250	1–50	51–100	101–150	1–50
151–200	1–50	101–150	251–300	51–100	151–200	201–150

Rolling Factors to 36 (6-Sided Dice)



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A has two options:
 - Multiply two dice and discard the third.
 - Multiply all three dice.
- Player A chooses the space on the game board that matches the product of the dice and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3, 4, and 2.
 - **Option 1:** Player A chooses 3 and 4 and discards the 2.
Player A multiplies 3×4 and covers a 12 on the game board.
 - **Option 2:** Player A chooses to keep all three dice and multiply them.
Player A multiplies $3 \times 4 \times 2$ and covers a 24 on the game board.

(OPTIONAL) Example Recording:

A student might record Option 1 as $12 = 3 \times 4$, $12 = 4 \times 3$, $3 \times 4 = 12$, or $4 \times 3 = 12$.

A student might record Option 2 as $(3 \times 4) \times 2 = 24$, $3 \times (4 \times 2) = 24$, $(3 \times 2) \times 4 = 24$, and so on.

Rolling Factors to 36

(6-Sided Dice)



1	2	3	4	5	6
2	4	6	8	10	12
3	6	9	12	15	18
4	8	12	16	20	24
5	10	15	20	25	30
6	12	18	24	30	36

Rolling Factors to 90 (10-Sided Dice)



Materials:

- Counters, in two different colors
- Three 10-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A has two options:
 - Multiply two dice and discard the third.
 - Multiply all three dice.
- Player A chooses the space on the game board that matches the product of the dice and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3, 4, and 6.
 - **Option 1:** Player A chooses the 3 and 4 and discards the 6.
Player A multiplies 3×4 and covers a 12 on the game board.
 - **Option 2:** Player A chooses to keep all three dice and multiply them.
Player A multiplies $3 \times 4 \times 6$ and covers a 72 on the game board.

(OPTIONAL) Example Recording:

A student might record Option 1 as $12 = 3 \times 4$, $12 = 4 \times 3$, $3 \times 4 = 12$, or $4 \times 3 = 12$.

A student might record Option 2 as $(3 \times 4) \times 6 = 72$, $3 \times (4 \times 6) = 72$, $(3 \times 6) \times 4 = 72$, and so on.

Rolling Factors to 90

(10-Sided Dice)



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

Rolling Factors to 216

(6-Sided Dice)



Materials:

- Counters, in two different colors
- Three 6-sided dice

Instructions:

- Players A and B pick colors.
- Player A rolls all three dice.
- Player A has two options:
 - Multiply two dice and discard the third.
 - Multiply all three dice.
- Player A chooses the space on the game board that matches the product of the dice and covers that space with a colored counter.
- Players A and B alternate turns until one player gets four spaces in a row (across, down, or diagonally).

Example Turn:

- Player A rolls 3, 4, and 6.
 - **Option 1:** Player A chooses 3 and 4 and discards the 6.
Player A multiplies 3×4 and covers the 12 on the game board.
 - **Option 2:** Player A chooses to keep all three dice and multiply them.
Player A multiplies $3 \times 4 \times 6$ and covers the 72 on the game board.

(OPTIONAL) Example Recording:

A student might record Option 1 as $12 = 3 \times 4$, $12 = 4 \times 3$, $3 \times 4 = 12$, or $4 \times 3 = 12$.

A student might record Option 2 as $(3 \times 4) \times 6 = 72$, $3 \times (4 \times 6) = 72$, $(3 \times 6) \times 4 = 72$, and so on.

Rolling Factors to 216

(6-Sided Dice)



150	6	80	8	144	2
16	50	48	96	5	90
9	75	32	36	27	125
120	20	100	54	72	18
24	64	48	108	30	4
10	216	60	40	45	15
1	25	12	3	180	36