Reproducibles

The following reproducibles are referenced and used with individual games. These reproducibles are also available in downloadable, printable format at www.mathsolutions.com/mathgamesreproducibles.

Game-Specific Reproducibles 187

continued

ADDITION TABLE 0–5

Reproducible 1

Copy the game board as needed to play the game (one game board for each game).

+	0	1	2	3	4	5
0	0	1	2	3	4	5
1	1	2	3	4	5	6
2	2	3	4	5	6	7
3	3	4	5	6	7	8
4	4	5	6	7	8	9
5	5	6	7	8	9	10

ADDITION TABLE 0–10

Reproducible 2

Copy the game board as needed to play the game (one game board for each game).

+	0	1	2	3	4	5	6	7	8	9	10
0	0	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10	11
2	2	3	4	5	6	7	8	9	10	11	12
3	3	4	5	6	7	8	9	10	11	12	13
4	4	5	6	7	8	9	10	11	12	13	14
5	5	6	7	8	9	10	11	12	13	14	15
6	6	7	8	9	10	11	12	13	14	15	16
7	7	8	9	10	11	12	13	14	15	16	17
8	8	9	10	11	12	13	14	15	16	17	18
9	9	10	11	12	13	14	15	16	17	18	19
10	10	11	12	13	14	15	16	17	18	19	20

MULTIPLICATION TABLE 1–6

Reproducible 3

Copy the game board as needed to play the game (one game board for each game).

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

MULTIPLICATION TABLE 0–10

Reproducible 4

Copy the game board as needed to play the game (one game board for each game).

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

ADDITION TIC-TAC-TOE GAME BOARD, COMPLETED

Reproducible 5

Copy the game board as needed to play the game (one game board for each game).

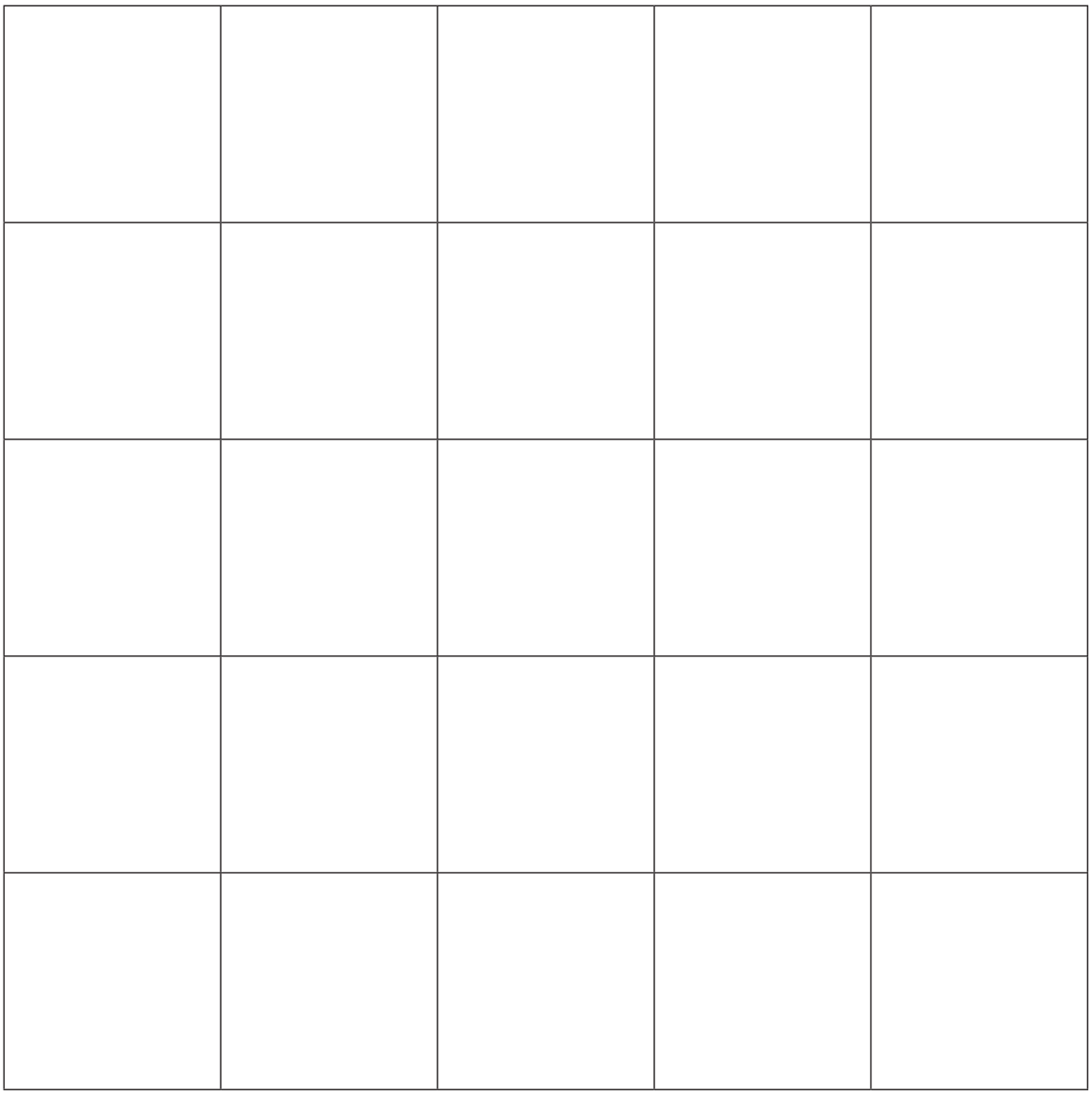
2	3	4	5	6
7	8	9	10	11
12	13	14	15	16
17	18	19	20	21
22	23	24	25	26

1 2 3 4 5 6 7 8 9 10 11 12 13

ADDITION TIC-TAC-TOE GAME BOARD, BLANK

Reproducible 6

Copy the game board as needed to play the game (one game board for each game).



CLOSE TO 0 RECORDING SHEETS

Reproducible 7

Copy the recording sheet as needed to play the game
(each player should have one sheet for five rounds of play).

NAME _____

SCORE

ROUND 1: _____ − _____ = _____ _____

ROUND 2: _____ − _____ = _____ _____

ROUND 3: _____ − _____ = _____ _____

ROUND 4: _____ − _____ = _____ _____

ROUND 5: _____ − _____ = _____ _____

TOTAL SCORE _____

NAME _____

SCORE

ROUND 1: _____ − _____ = _____ _____

ROUND 2: _____ − _____ = _____ _____

ROUND 3: _____ − _____ = _____ _____

ROUND 4: _____ − _____ = _____ _____

ROUND 5: _____ − _____ = _____ _____

TOTAL SCORE _____

CLOSE TO 20 RECORDING SHEETS

Reproducible 8

Copy the recording sheet as needed to play the game
(each player should have one sheet for five rounds of play).

NAME _____

							SCORE
ROUND 1:	_____	+ _____	+ _____	=	_____		_____
ROUND 2:	_____	+ _____	+ _____	=	_____		_____
ROUND 3:	_____	+ _____	+ _____	=	_____		_____
ROUND 4:	_____	+ _____	+ _____	=	_____		_____
ROUND 5:	_____	+ _____	+ _____	=	_____		_____
					TOTAL SCORE		_____

NAME _____

							SCORE
ROUND 1:	_____	+ _____	+ _____	=	_____		_____
ROUND 2:	_____	+ _____	+ _____	=	_____		_____
ROUND 3:	_____	+ _____	+ _____	=	_____		_____
ROUND 4:	_____	+ _____	+ _____	=	_____		_____
ROUND 5:	_____	+ _____	+ _____	=	_____		_____
					TOTAL SCORE		_____

CLOSE TO 100 RECORDING SHEET

Reproducible 9

Copy the recording sheet as needed to play the game
(each player should have one sheet for five rounds of play).

NAME _____ DATE _____

								SCORE
ROUND 1:	_____	_____	+	_____	_____	=	_____	_____
ROUND 2:	_____	_____	+	_____	_____	=	_____	_____
ROUND 3:	_____	_____	+	_____	_____	=	_____	_____
ROUND 4:	_____	_____	+	_____	_____	=	_____	_____
ROUND 5:	_____	_____	+	_____	_____	=	_____	_____

TOTAL SCORE _____

Place a star by your best round. What was your strategy for this round?

_____

_____

_____

Was more skill or luck involved in this game? Explain.

_____

_____

_____

CLOSE TO 1,000 RECORDING SHEETS

Reproducible 10

Copy the recording sheet as needed to play the game
(each player should have one sheet for five rounds of play).

NAME _____

SCORE

ROUND 1: _____ + _____ = _____ _____

ROUND 2: _____ + _____ = _____ _____

ROUND 3: _____ + _____ = _____ _____

ROUND 4: _____ + _____ = _____ _____

ROUND 5: _____ + _____ = _____ _____

TOTAL SCORE _____

NAME _____

SCORE

ROUND 1: _____ + _____ = _____ _____

ROUND 2: _____ + _____ = _____ _____

ROUND 3: _____ + _____ = _____ _____

ROUND 4: _____ + _____ = _____ _____

ROUND 5: _____ + _____ = _____ _____

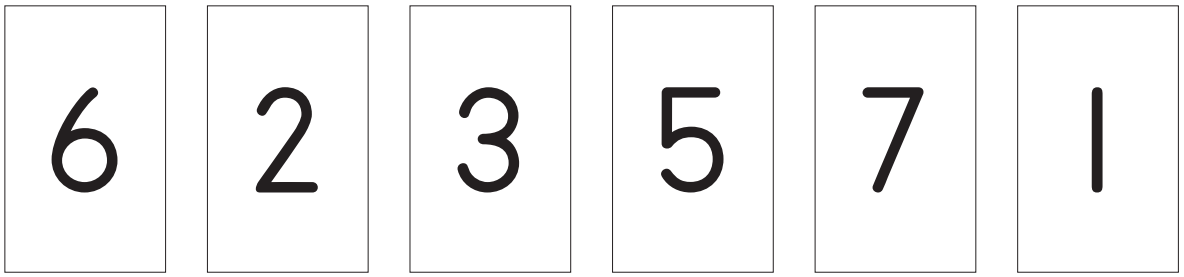
TOTAL SCORE _____

CLOSE TO 100 ASSESSMENT: JOE'S GAME

Reproducible 11

NAME _____ DATE _____

While playing *Close to 100,* Joe had the following cards:



He followed these rules:

1. Use any four of the cards to make two numbers. For example, a 6 and a 5 could make either 65 or 56. Try to make numbers that, when added, give you a total that is close to 100.
2. Write the two numbers and their total. For example: *42 + 56 = 98.*
3. Find the score. The score is the difference between the total and 100. For example, if your total is 98, your score is 2. If your total is 105, your score is 5.

What are some of the possible number sentences Joe could have made? What would his score be? Come up with three different options.

SCORE

1. _____ _____ + _____ _____ = _____ _____

2. _____ _____ + _____ _____ = _____ _____

3. _____ _____ + _____ _____ = _____ _____

Which of the three options is the best? _____

Why?

_____

_____

COMPARE (SHAKE AND SPILL) CHART **Reproducible 12**

Copy the chart as needed to play the game (one chart for each pair of players).

MORE RED	SAME	MORE YELLOW

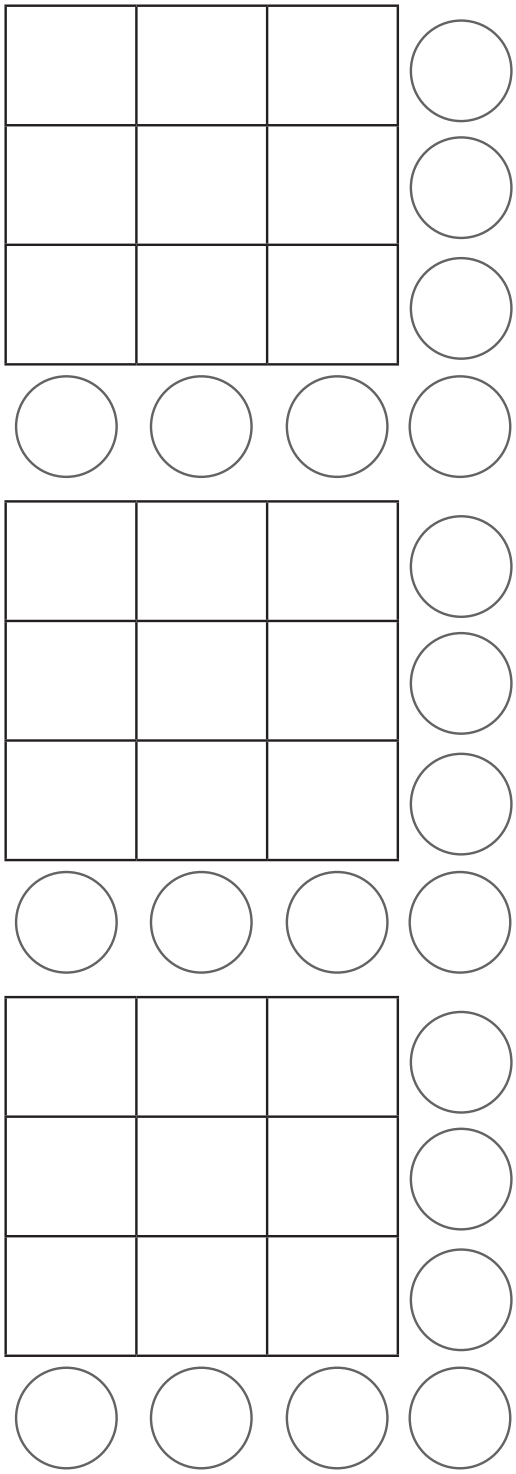
CROSS OUT SINGLES GAME BOARDS

Reproducible 13

Version 1 (3-by-3 Array)

Copy the game boards as needed to play the game (each pair should have one sheet for three rounds of play).

NAME _____

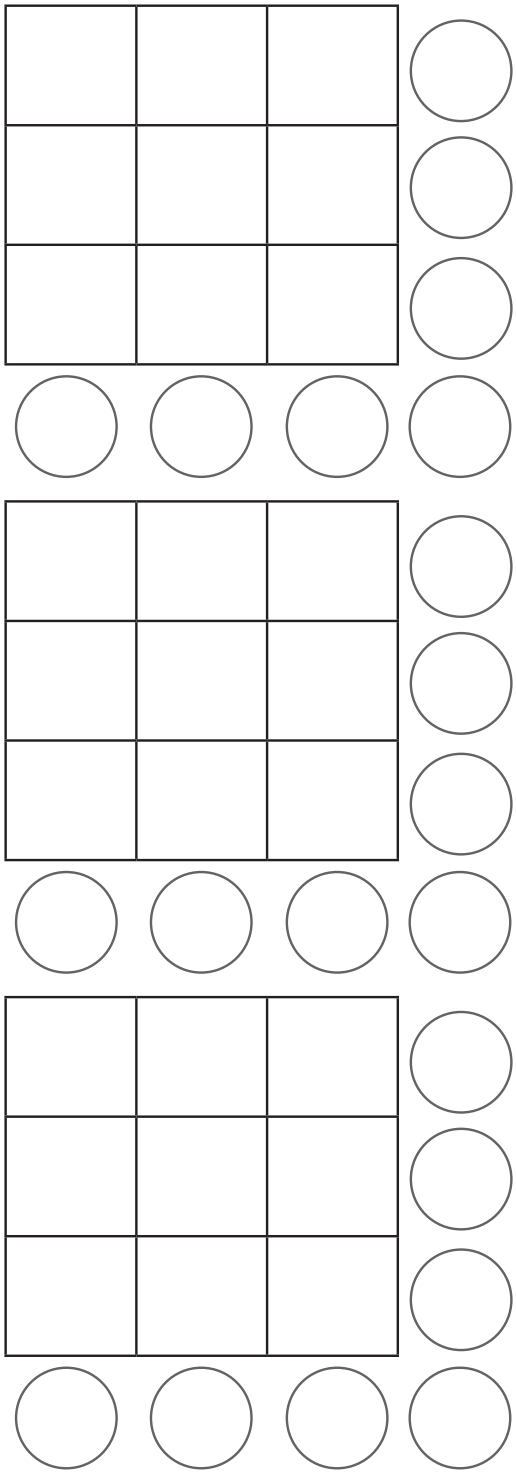


Score for Each Round

1 _____ **2** _____ **3** _____

Total _____

NAME _____



Score for Each Round

1 _____ **2** _____ **3** _____

Total _____

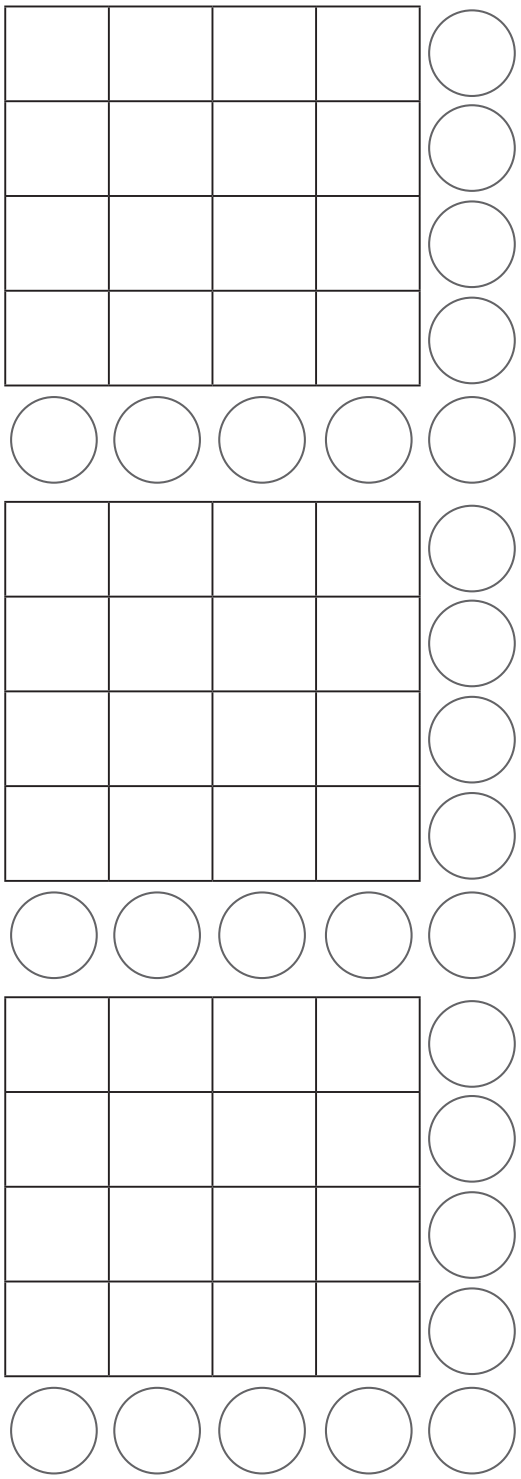
CROSS OUT SINGLES GAME BOARDS

Reproducible 14

Version 2 (4-by-4 Array)

Copy the game boards as needed to play the game (each pair should have one sheet for three rounds of play).

NAME _____

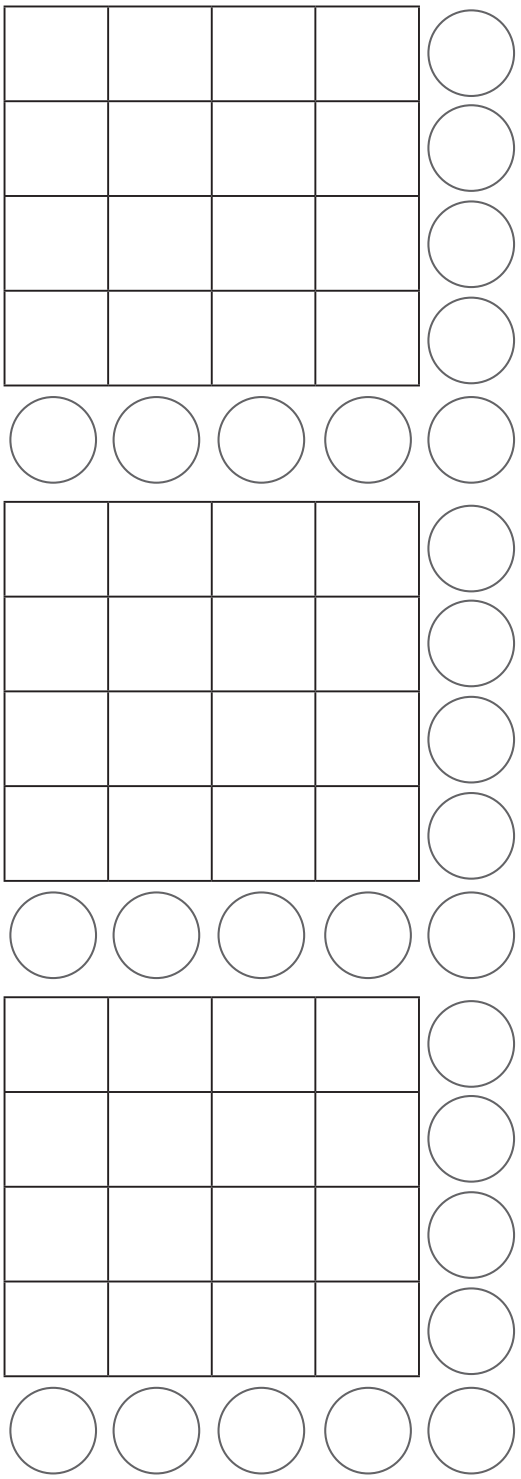


Score for Each Round

1 _____ **2** _____ **3** _____

Total _____

NAME _____



Score for Each Round

1 _____ **2** _____ **3** _____

Total _____

CROSS OUT SUMS GAME BOARD

Reproducible 15

VERSION 1 (BLACKOUT)

Copy the game board as needed to play the game (one game board for each game).

2	3	4	5	6
7	8	9	9	10
10	10	11	11	11
12	12	13	14	15
16	17	18	19	20

CROSS OUT SUMS GAME BOARD

Reproducible 16

VERSION 2 (TIC-TAC-TOE)

Copy the game board as needed to play the game (one game board for each game).

2	4	6	8	10
13	10	14	10	15
18	12	20	12	19
11	16	11	17	11
3	5	7	9	9

Reproducible 17

DIGIT PLACE (A SECRET NUMBER QUEST) RECORDING SHEET

Copy the recording sheet as needed to play the game (one recording sheet per game).

Guess	Digit	Place

FIFTEEN-NUMBER CROSS-OUT RECORDING SHEET

Reproducible 18

Copy the recording sheet as needed to play the game (each pair should have one sheet for three games).

Player 1 / Game 1

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 2 / Game 1

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 1 / Game 2

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 2 / Game 2

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 1 / Game 3

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 2 / Game 3

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

TWENTY-NUMBER CROSS-OUT RECORDING SHEET

Reproducible 19

Copy the recording sheet as needed to play the game (each pair should have one sheet for three games).

Player 1 / Game 1

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 1 / Game 2

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 1 / Game 3

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 2 / Game 1

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 2 / Game 2

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Player 2 / Game 3

5 5 5 5 5 ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

FINDING FACTORS GAME BOARD

VERSION 1 (NUMBERS 1–30)

Reproducible 20

Copy the game board as needed to play the game (one game board for each game).

Player 1's Color _____ Player 2's Color _____

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30

Player 1's Score _____ Player 2's Score _____

FINDING FACTORS GAME BOARD
VERSION 2 (NUMBERS 1–50)

Reproducible 21

Copy the game board as needed to play the game (one game board for each game).

Player 1's Color _____ Player 2's Color _____

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50

Player 1's Score _____ Player 2's Score _____

GREATER THAN, LESS THAN, EQUAL TO RECORDING SHEET Version 1 (Two Addends)

Reproducible 22

Copy the recording sheet as needed to play the game (one recording sheet per game).

	Player 1				Player 2			
Round 1	_____	+	_____	☐	_____	+	_____
Round 2	_____	+	_____	☐	_____	+	_____
Round 3	_____	+	_____	☐	_____	+	_____
Round 4	_____	+	_____	☐	_____	+	_____
Round 5	_____	+	_____	☐	_____	+	_____
Round 6	_____	+	_____	☐	_____	+	_____
Round 7	_____	+	_____	☐	_____	+	_____
Round 8	_____	+	_____	☐	_____	+	_____
Round 9	_____	+	_____	☐	_____	+	_____
Round 10	_____	+	_____	☐	_____	+	_____

Together we had: _____ equalities and _____ inequalities.

_____ greater than (>).

_____ less than (<).

GREATER THAN, LESS THAN, EQUAL TO RECORDING SHEET Version 2 (Three Addends)

Reproducible 23

Copy the recording sheet as needed to play the game (one recording sheet per game).

	Player 1					Player 2				
Round 1	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 2	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 3	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 4	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 5	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 6	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 7	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 8	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 9	_____	+ _____	+ _____			_____	+ _____	+ _____		
Round 10	_____	+ _____	+ _____			_____	+ _____	+ _____		

Together we had: _____ equalities and _____ inequalities.

_____ greater than (>).

_____ less than (<).

GREATER THAN, LESS THAN, EQUAL TO RECORDING SHEET Version 3 (Subtraction)

Reproducible 24

Copy the recording sheet as needed to play the game (one recording sheet per game).

	Player 1					Player 2			
Round 1	_____	−	_____	☐		_____	−	_____	
Round 2	_____	−	_____	☐		_____	−	_____	
Round 3	_____	−	_____	☐		_____	−	_____	
Round 4	_____	−	_____	☐		_____	−	_____	
Round 5	_____	−	_____	☐		_____	−	_____	
Round 6	_____	−	_____	☐		_____	−	_____	
Round 7	_____	−	_____	☐		_____	−	_____	
Round 8	_____	−	_____	☐		_____	−	_____	
Round 9	_____	−	_____	☐		_____	−	_____	
Round 10	_____	−	_____	☐		_____	−	_____	

Together we had: _____ equalities and _____ inequalities.

_____ greater than (>).

_____ less than (<).

GREATER THAN, LESS THAN, EQUAL TO RECORDING SHEET Version 4 (Multiplication)

Reproducible 25

Copy the recording sheet as needed to play the game (one recording sheet per game).

	Player 1				Player 2			
Round 1	_____	×	_____	□	_____	×	_____	
Round 2	_____	×	_____	□	_____	×	_____	
Round 3	_____	×	_____	□	_____	×	_____	
Round 4	_____	×	_____	□	_____	×	_____	
Round 5	_____	×	_____	□	_____	×	_____	
Round 6	_____	×	_____	□	_____	×	_____	
Round 7	_____	×	_____	□	_____	×	_____	
Round 8	_____	×	_____	□	_____	×	_____	
Round 9	_____	×	_____	□	_____	×	_____	
Round 10	_____	×	_____	□	_____	×	_____	

Together we had: _____ equalities and _____ inequalities.

_____ greater than (>).

_____ less than (<).

HOW CLOSE TO 0? GAME BOARD **Reproducible 26**

Copy the game board as needed to play the game (one game board per game for each pair of players).

	Player 1	Player 2
Round 1		
Round 2		
Round 3		
Round 4		
Round 5		
Round 6		
Round 7		

MORE! RECORDING SHEET

Reproducible 27

Copy this recording sheet as needed to play the game (each pair of players should have one sheet for two games).

Player 1_____

Player 2_____

	Player 1 (total number of cubes)	Player 2 (total number of cubes)	Difference
Game 1			
Game 2			
TOTAL			

ORDER UP 21! RECORDING SHEET

Reproducible 28

Copy the recording sheet as needed to play ten rounds of the game. Each player or team of two should have a copy.

Round	Equation	Score
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
	TOTAL	

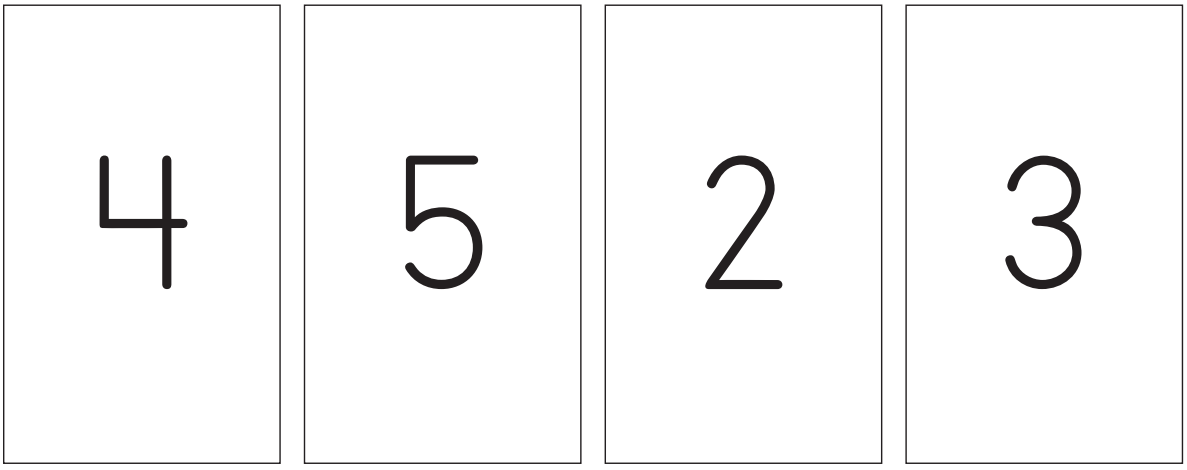
ORDER UP 21! ASSESSMENT

Reproducible 29

Name _____

Date _____

Blake and Jackson are playing the game *Order Up 21!* They drew the following cards:



Blake built this equation: $(4 \times 5) + 3 - 2$

Jackson built this equation: $4 + 2 + (5 \times 3)$

Both boys believe they have the best equation (the one that will yield them the lowest score—0 points) in the game of *Order Up 21!* Do you agree with Blake, Jackson, or both? Explain.

_____

_____

_____

If Blake and Jackson did not use parentheses in their equations, would it have affected their total? Explain.

_____

_____

_____

PATHWAYS GAME BOARD 1

Reproducible 30

Copy the game board as needed to play the game (one game board for each game).

81	54	63	36	72
28	18	32	81	24
48	64	21	16	56
12	9	42	49	27

3 4 6 7 8 9

PATHWAYS GAME BOARD 2

Reproducible 31

Copy the game board as needed to play the game (one game board for each game).

81	64	48	36	63
30	42	32	35	28
72	25	49	24	45
16	54	20	40	56

4 5 6 7 8 9

PATHWAYS GAME BOARD 3

Reproducible 32

Copy the game board as needed to play the game (one game board for each game).

54	28	42	72	63
77	36	16	99	64
49	32	44	81	121
56	48	66	88	24

4 6 7 8 9 11

PATHWAYS GAME BOARD 4

Reproducible 33

Copy the game board as needed to play the game (one game board for each game).

72	36	49	88	54
84	77	96	132	56
63	81	48	108	121
66	99	144	64	42

6 7 8 9 11 12

TIMES TEN GAME BOARD 1

Reproducible 34

Copy the game board as needed to play the game (one game board for each game).

90	450	300	810	200
180	630	540	350	250
240	150	210	270	360
420	280	160	490	120

3 4 5 6 7 9

TIMES TEN GAME BOARD 2

Reproducible 35

Copy the game board as needed to play the game (one game board for each game).

810	480	540	640	630
210	360	160	720	560
280	120	180	90	320
420	810	490	240	270

3 4 6 7 8 9

TIMES TEN GAME BOARD 3

Reproducible 36

Copy the game board as needed to play the game (one game board for each game).

560	400	200	640	160
720	250	490	240	450
300	420	320	350	280
810	640	480	360	630

4 5 6 7 8 9

TIMES TEN GAME BOARD 4

Reproducible 37

Copy the game board as needed to play the game (one game board for each game).

540	630	990	440	480
280	770	640	810	660
420	360	490	1210	880
720	160	320	560	240

4 6 7 8 9 11

ROLL 6 FOR 100 RECORDING SHEET

Reproducible 38

Copy the recording sheet as needed to play the game
(each player should have one sheet for four rounds of play).

Name _____

Equations: ROUND 1

Scoring

_____ had _____. _____ had _____.

_____ won because _____ is _____ closer to 100 than _____.

Equations: ROUND 2

Scoring

_____ had _____. _____ had _____.

_____ won because _____ is _____ closer to 100 than _____.

Equations: ROUND 3

Scoring

_____ had _____. _____ had _____.

_____ won because _____ is _____ closer to 100 than _____.

Equations: ROUND 4

Scoring

_____ had _____. _____ had _____.

_____ won because _____ is _____ closer to 100 than _____.

ROLL 6 FOR 100 ASSESSMENT

Reproducible 39

Name _____

Sam was playing a round of *Roll 6 for 100.* This is what he had recorded after five rounds:

6 + 5 + 1 + 3 + 5

When Sam rolls the die for a final time, what number should he hope for? Explain.

_____

_____

_____

_____

_____

ROLL 6 FOR 100 ASSESSMENT

Name _____

Sam was playing a round of *Roll 6 for 100.* This is what he had recorded after five rounds:

6 + 5 + 1 + 3 + 5

When Sam rolls the die for a final time, what number should he hope for? Explain.

_____

_____

_____

_____

_____

ROLL FOR $1.00 GAME BOARD

Reproducible 40

Copy this game board as needed to play the game, one copy per player.

Name _____

Roll	Dimes	Pennies	Running Total
1			
2			
3			
4			
5			
6			
7			

_____ is _____ away from $1.00.

ROLL FOR 1 RECORDING SHEETS

Reproducible 41

Copy this recording sheet as needed to play the game, one recording sheet per player.

Name _____

Roll	Dimes (one-tenth of $1.00)	Pennies (one-hundredth of $1.00)	Running Total
1			
2			
3			
4			
5			
6			
7			

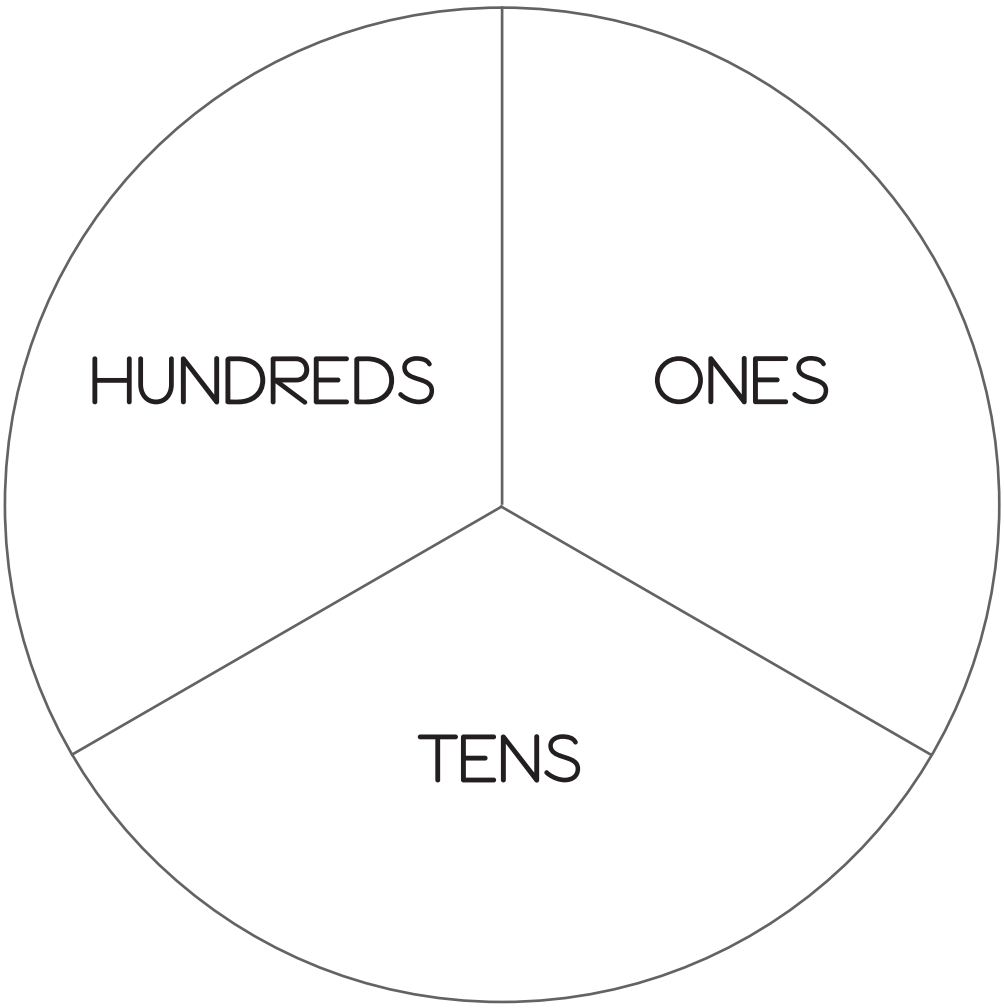
Name _____

Roll	Dimes (one-tenth of $1.00)	Pennies (one-hundredth of $1.00)	Running Total
1			
2			
3			
4			
5			
6			
7			

SPINNING SUMS AND DIFFERENCES Reproducible 42

PLACE VALUE SPINNER 1

Copy this spinner as needed to play the game, one spinner per pair of players.

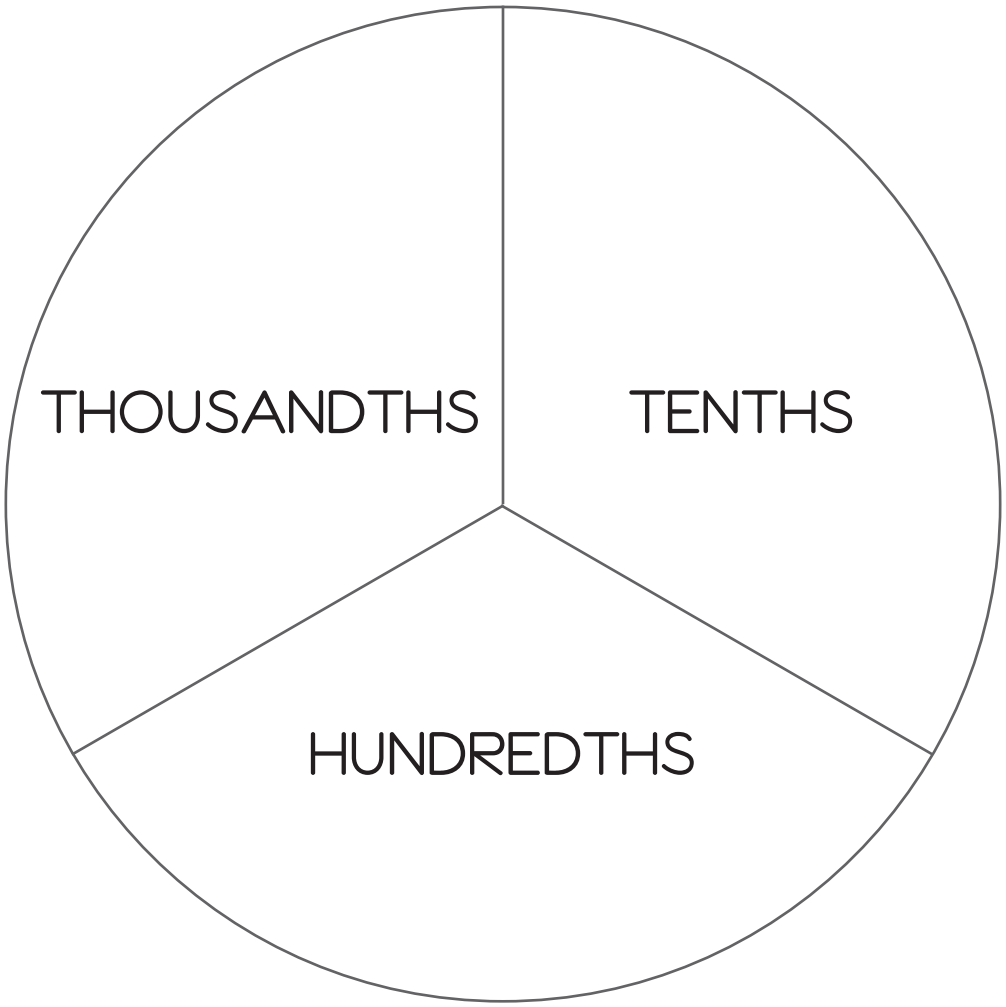


1. Pass out one large paper clip per pair of players.
2. Use the tip of a pencil to keep the paper clip on the spinner.
3. Spin the paper clip while holding the pencil or have a partner hold the pencil while you spin the paper clip.

SPINNING SUMS AND DIFFERENCES Reproducible 43

PLACE VALUE SPINNER 2

Copy this spinner as needed to play the game, one spinner per pair of players.



1. Pass out one large paper clip per pair of players.
2. Use the tip of a pencil to keep the paper clip on the spinner.
3. Spin the paper clip while holding the pencil or have a partner hold the pencil while you spin the paper clip.

SPINNING SUMS AND DIFFERENCES RECORDING SHEET

Reproducible 44

Copy this recording sheet as needed to play the game, one sheet per player.

Name _____

Player # _____

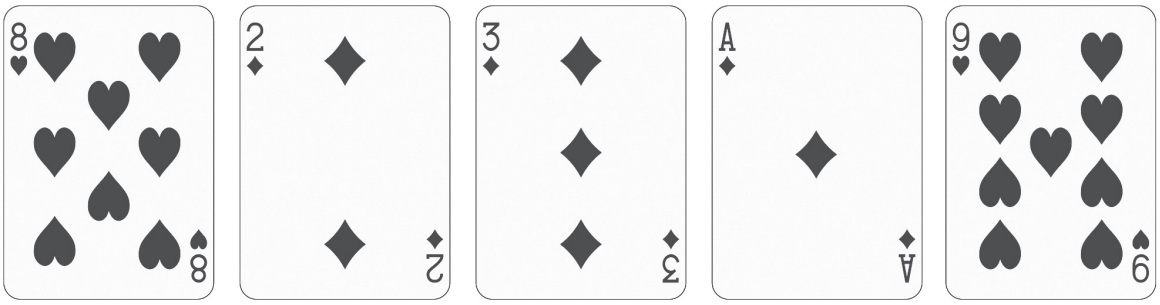
ROUND	NUMBERS GENERATED	ADDITION EQUATION	SUBTRACTION EQUATION	POINTS SCORED
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

TOTAL POINTS _____

TAKE FIVE, MAKE TEN! ASSESSMENT **Reproducible 45**

Name _____ Date _____

Pretend you drew the following five cards for the game of *Take Five, Make Ten!*.
Build five equations. Use the back of this paper if you have more than five.



Equations

1. _____

2. _____

3. _____

4. _____

5. _____

Which equation do you think no one else in your class might have written?
Circle that equation and explain why you think it is original.

_____

_____

_____

_____

TARGET 300 (A MULTIPLICATION GAME) RECORDING SHEET

Reproducible 46

Copy this recording sheet as needed to play the game, one sheet for each player for one game (five rounds).

ROUND	PLAYER 1 Name _____	PLAYER 2 Name _____
1		
2		
3		
4		
5		
TOTAL		

Multiplier Options

× 10

× 20

× 30

× 40

× 50

Player 1

_____ is _____ away from 300.

Player 2

_____ is _____ away from 300.

TARGET "PICK YOUR SUM" GAME BOARD

Reproducible 47

Copy this game board as needed to play the game, one copy per game.

5	5	5	5	5
4	4	4	4	4
3	3	3	3	3
2	2	2	2	2
1	1	1	1	1

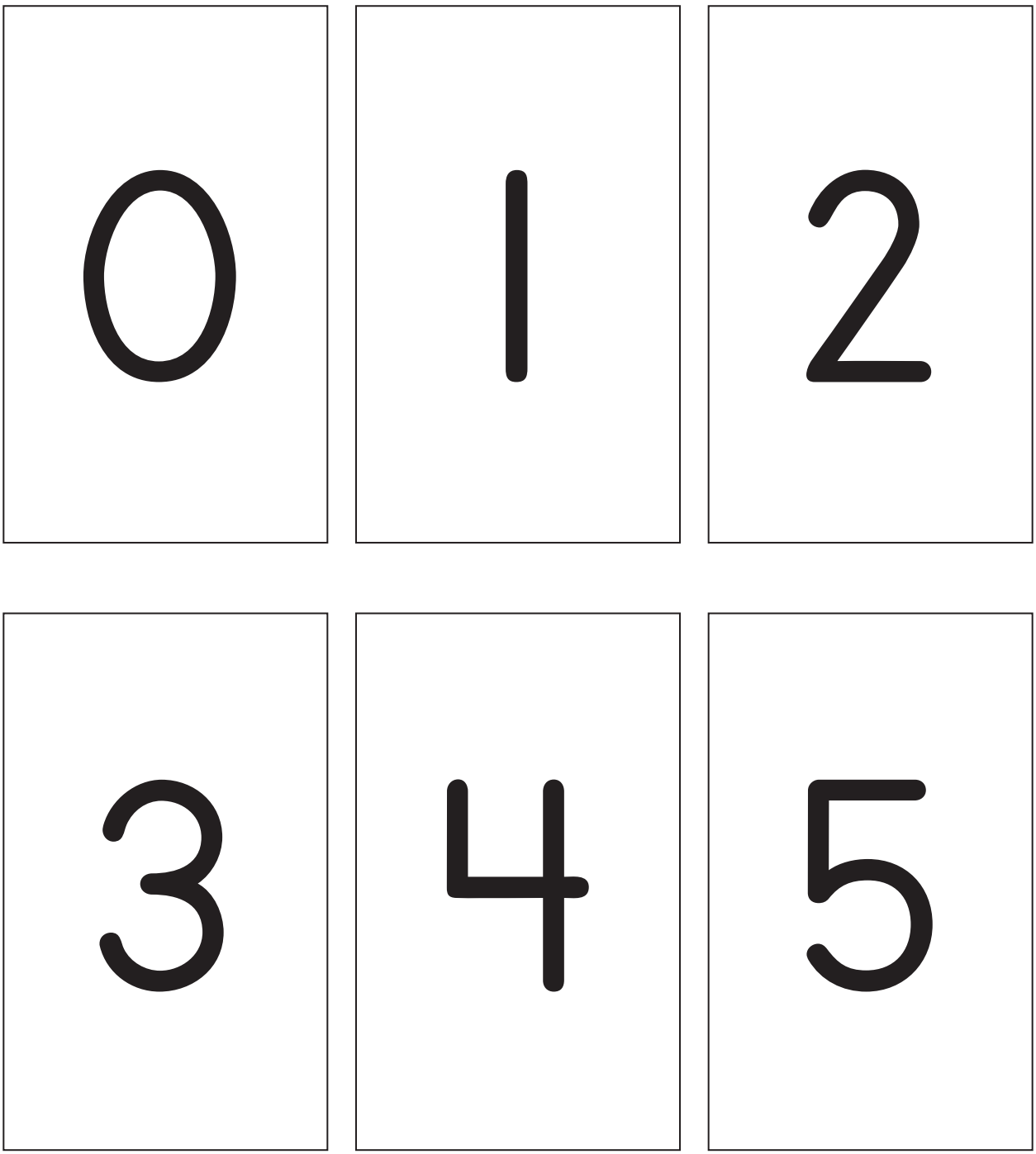
HUNDREDS CHART

Reproducible A

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

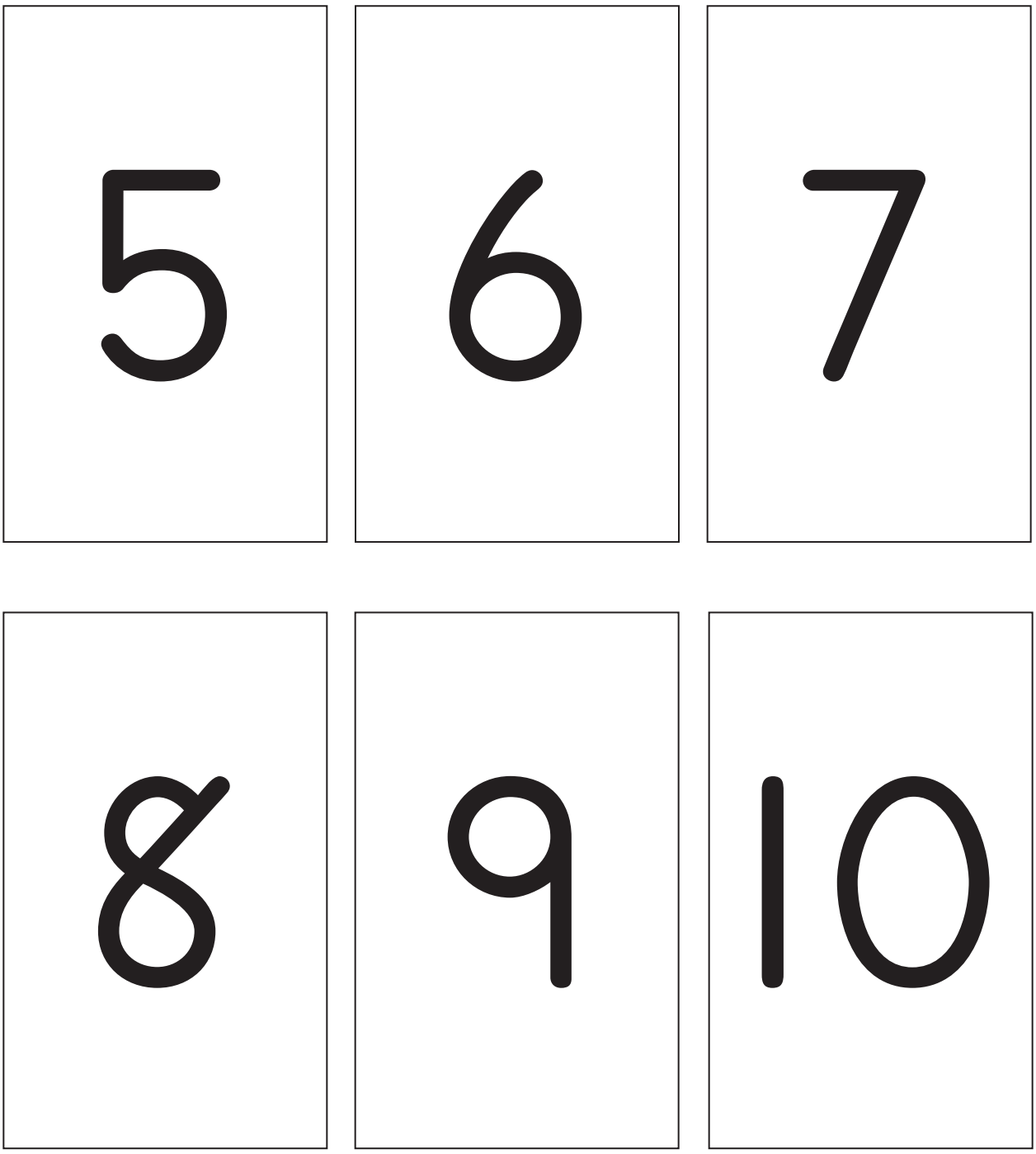
NUMERAL CARDS

Reproducible B



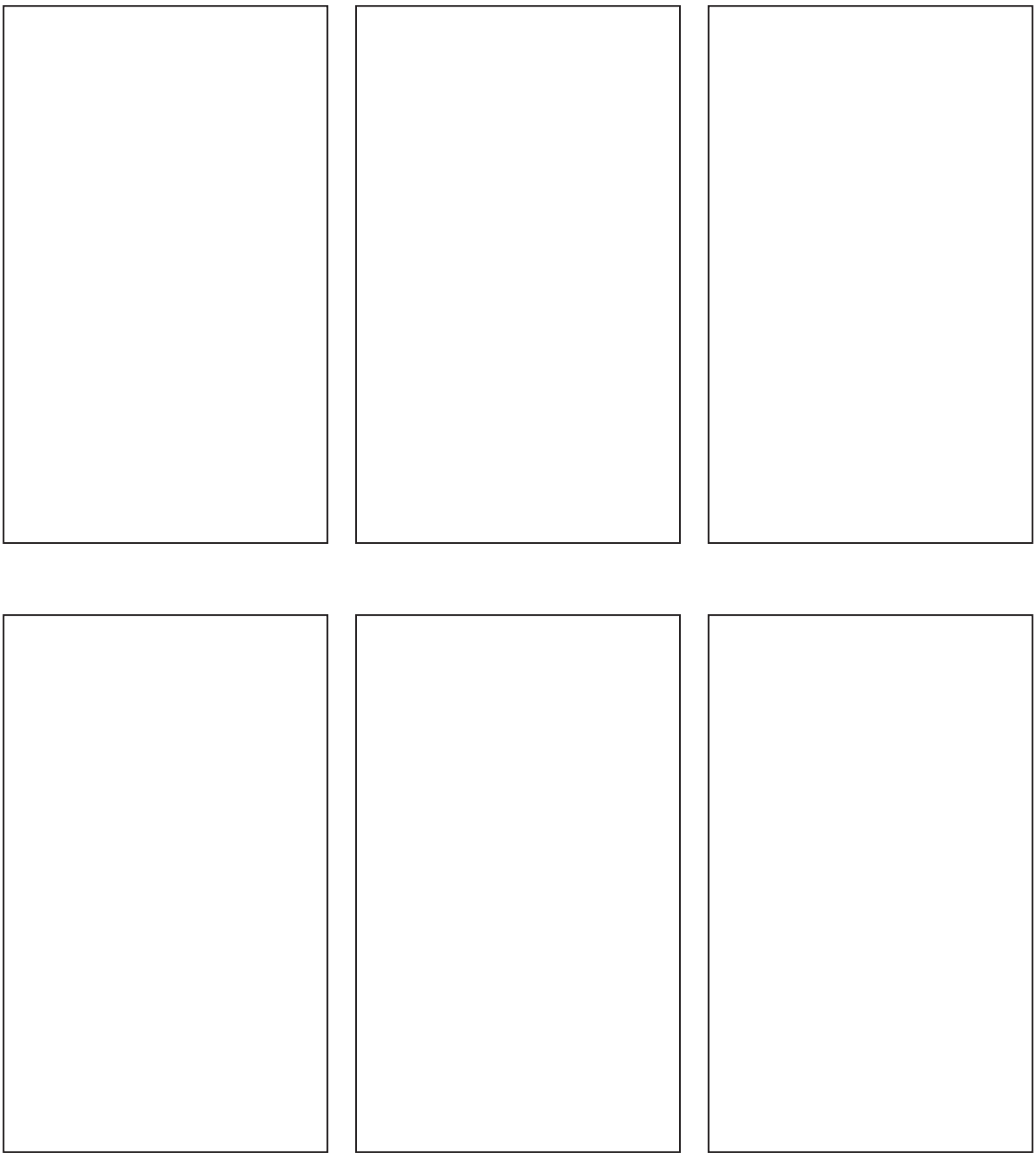
NUMERAL CARDS, continued

Reproducible B



NUMERAL CARDS, continued

Reproducible B



Game 1: A "Mazing" 100

Objective

During this game, players create a maze from zero to one hundred by moving through the hundreds chart. Moves can be both horizontally (when adding ones) and vertically (when adding or counting by tens).

Materials

- Hundreds Chart (REPRODUCIBLE A), 1 per player or pair of players
- marker, crayon, or colored pencil, 1 per player or pair of players
- die (labeled *1–6*), 1 player or pair of players

Players

1 or 2
(players may play solo or as a team of two)

Directions

1. If playing in pairs, decide who is Player 1 and who is Player 2.
2. On the hundreds chart, write the word *Start* next to the square numbered 1. Write the word *End* next to the square numbered 100.
3. One player rolls the die. Move the corresponding number of squares (for the first roll, move in ones—this is only for the first roll), tracing your path with a marker, crayon, or colored pencil as you go.
4. The next player rolls the die. Both players decide if the number rolled will represent a 10 or a 1.
5. Move the corresponding number of squares, tracing your path as you go.
6. Repeat Steps 4 and 5 until you reach the end of the hundreds chart.

Game 2A: Addition Table Trail

Objective

During this game, players take turns covering sums across or down the game board (the addition table) in an attempt to build a trail. The first player to complete his or her trail (from one side of the game board to the other) is considered the winner.

Materials

- Addition Table 0–5 or 0–10 (REPRODUCIBLES 1 and 2), 1 per pair of players
- counters (25 of each color), 50 per pair of players
- dice (2 labeled *0–5,* 2 labeled *5–10*), 4 per pair of players

Players

2

Directions

1. Each player chooses which color counter her or she will use (must be different).
2. Each player will be moving within the addition table in a different direction. Decide who will move horizontally and who will move vertically.
3. Take turns rolling the dice. Only two dice are rolled at a time. When it is the first player's turn, he or she selects two of the four dice to roll. Any combination of dice to roll can be chosen: both labeled *0–5*, both labeled *5–10*, or one of each. For example, a player might choose to roll both the *0–5* dice if he is trying to get a sum in the upper left quadrant of the board. Or, the player might roll both the *5–10* dice to get a sum in the lower right quadrant of the board. A player may also roll one of each.
4. The numbers that come up are the addends. Cover the sum that represents the roll on the addition table with one of that player's colored counters.
5. If the sum has already been covered, roll one of the dice again. If the sum of the new roll is covered, it is the other player's turn.
6. Take turns playing. The goal is to be the first player to make a trail across or down the addition table. The path may move up, down, forward, backward, and diagonally, as long as the path is continuous and connects the sides of the table in the player's designated direction (vertically or horizontally).

Game 2B: Multiplication Table Trail

Objective

During this game, players take turns covering products across or down the game board (the multiplication table) in an attempt to build a trail. The first player to complete his or her trail (from one side of the game board to the other) is considered the winner.

Materials

- Multiplication Table 1–6 or 0–10 (REPRODUCIBLES 3 and 4), 1 per pair of players
- counters, 50 per pair of players (25 of each color)
- dice (2 labeled *0–5,* 2 labeled *5–10*), 4 per pair of players

Players

2

Directions

1. Each player chooses which color counter he or she will use (must be different).
2. Each player will be moving within the multiplication table in a different direction. Decide who will move horizontally and who will move vertically.
3. Take turns rolling the dice. Only two dice are rolled at a time. When it is a player's turn, select two of the four dice to roll. Any combination of dice to roll may be chosen: both labeled *0–5*, both labeled *5–10,* or one of each.
4. The numbers that come up are multiplied. Cover the product that represents the roll on the multiplication table with one of the player's colored counters.
5. If the product has already been covered, the player may roll one of the dice again. If the product of the new roll is covered, it is the other player's turn.
6. Take turns playing. The goal is to be the first player to make a trail across or down the multiplication table, from one side to the other. The path may move up, down, forward, backward, and diagonally, as long as the path is continuous and connects the sides of the table in the player's designated direction (vertically or horizontally).

Game 3: Addition Tic-Tac-Toe

Objective

During this game, players take turns marking the sum of two addends until one player has connected five sums in a row, column, or diagonal. This player is considered the winner.

Materials

- paper clips, 2 per pair of players
- tiles, 24 per pair of players (12 of each color)
- *Addition Tic-Tac-Toe* Game Board (REPRODUCIBLES 5 or 6), 1 per pair of players

Players

2

Directions

1. Decide who is Player 1 and Player 2 and which color of tiles each player will use.
2. Player 1 selects two numbers from those listed at the bottom of the game board and places a paper clip on each (if using Reproducible 6, players must first fill in the game board with numbers). These numbers become the addends. Player 1 covers the sum of the two addends on the game board with his color tile.
3. Player 2 moves *just one* of the paper clips to another number, adds the two addends, and covers the sum with her color tile.
4. Repeat Steps 2 and 3 until a winner is declared. The winner is the player who has connected five sums by placing five color tiles in either a row, column, or diagonal. Just as in the classic game of tic-tac-toe, some games will end in a tie.

Note: In some cases, both paper clips may be placed on the same number.

Game 4: Anything but Ten!

Objective

During this game, players take turns rolling dice until they reach 100 on the game board. The first player to reach 100 or beyond is the winner.

Materials

- Hundreds Chart (REPRODUCIBLE A), 1 per pair of players
- dice (1 labeled *0–5,* 1 labeled *5–10*), 2 per pair of players
- counters, each a different color, 2 per pair of players

Players

2

Directions

1. Each player chooses a counter and places it at 0, just before the square labeled *1* on the hundreds chart.
2. Players take turns rolling both dice:
   - If the number rolled is *not* a combination of ten, the player moves the total number of spaces. The player then has two choices: to end his or her turn or to roll again.
   - If the number rolled *is* a combination of ten, the player must remain at or go back to 0.
   - If a combination of ten is rolled at any point during the game, the player must go back to 0.
3. The winner is the first player to reach 100 or beyond on the game board (hundreds chart).

Game 5: Build Ten

Objective

During this game, players take turns rolling the die until they have built ten against their tens rod. The first player to build ten is the winner.

Materials

- die (labeled *1–6*), 1 per pair of players
- base ten rods, 2 per pair of players
- base ten cubes, 20 per pair of players

Players

2

Directions

1. Decide who is Player 1 and Player 2. Both players lay a tens rod on their workspace.
2. Player 1 rolls the die and collects the corresponding number of ones cubes. The player carefully places the ones cubes against the tens rod so that they are touching each other.
3. Player 2 rolls the die, collects the corresponding number of ones cubes, and places them against his tens rod.
4. Players continue to take turns rolling the die and placing the ones cubes against their tens rods. The first player to build ten wins.

Note: Players try to roll exactly ten; however, after three consecutive rolls they may go over ten to finish a round. For example, if a player has eight ones cubes, a roll of 2, 3, 4, 5, or 6 would complete the game.

Game 6: Circles and Stars

Objective

During this game, players roll a die and draw the corresponding number of circles and stars. Each player then records the two number sentences (addition and multiplication) that the model represents.

Materials

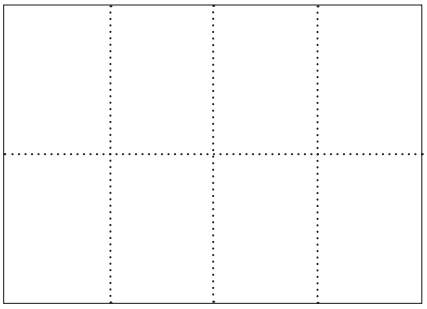
- die (labeled *1–6*), 1 per player or pair of players
- 12-by-18-inch sheet of white paper, 1 per player or pair of players
- pencil, 1 per player or pair of players

Players

1 or 2

Directions

1. Players fold the paper three times so that there are eight sections for recording:



2. If there are two players, each player chooses a side and writes *Circles and Stars* and their name in the top left-hand box.
3. Roll the die. Draw the corresponding number of circles in the first section of the recording sheet. Make sure your circles are big enough to draw stars inside of them (at least the size of a quarter).
4. Roll the die again. Draw the corresponding number of stars in each circle.
5. Record the corresponding multiplication sentence.
6. Repeat Steps 3 through 6 until each player has played seven rounds and recorded their rounds in the corresponding sections of the paper.

Game 7A: Close to 0

Objective

In this version of the game, each player is dealt eight numeral cards. Each player selects six of his or her cards to make two, three-digit numbers. The objective is to have the two, three-digit numbers, when subtracted, give a difference that is as close to 0 as possible.

Materials

- pencil, 1 per player
- Numeral Cards 0–9 (REPRODUCIBLE B) plus four blank cards with *Wild Card* written on each, 1 deck per player or group of players
- *Close to 0* Recording Sheets (REPRODUCIBLE 7), 1 per player

A Deck of Cards

For the purpose of this game, a deck of numeral cards is four copies of each numeral card listed in the materials, plus four wild cards (blank cards with *Wild Card* written on each).

Players

1, 2, or 3

Directions

1. Deal eight numeral cards to each player.
2. Each player selects any six of the cards in his or her hand to make two, three-digit numbers. For example, a 2, 6, and 5 could make 256, 265, 526, 562, 625, or 652. Wild cards can be used as any numeral. Try to make numbers that, when subtracted, give you a difference that is as close to 0 as possible.
3. Each player writes the two numbers and their difference on his or her copy of the *Close to 0* Recording Sheet. For example: $652 - 647 = 5$.
4. Each player figures out his or her score. The score for the round is the difference between the total and 0. In the example in Step 3, the score would be 5.
5. Put the cards that you used in a discard pile. Keep the two cards that you didn't use for the next round.
6. For the next round, deal six new cards to each player (players should add these cards to their hand of two cards for a total of eight).
7. Repeat Steps 2–5. When you run out of cards, shuffle the discard pile and use those cards again.
8. After five rounds, every player totals their score. The player with the score closest to 0 is the winner.

Game 7B: Close to 20

Objective

In this version of the game, each player is dealt four numeral cards. Each player selects three of the numeral cards and adds the numbers. The objective is to have the three numbers be equal or close to 20.

Materials

- pencil, 1 per player
- Numeral Cards 0–9 (REPRODUCIBLE B) plus four blank cards with *Wild Card* written on each, 1 deck per pair or group of players
- *Close to 20* Recording Sheets (REPRODUCIBLE 8), 1 per player
- optional: counters

A Deck of Cards

For the purpose of this game, a deck of numeral cards is four copies of each numeral card listed in the materials, plus four wild cards (blank cards with *Wild Card* written on each).

Players

2 to 3

Directions

1. Deal five cards to each player.
2. Each player uses any three of the five cards in his or her hand to make a total as close to 20 as possible. For example, $8 + 7 + 3 = 18$. Wild cards can be used as any numeral.
3. Each player writes the three numbers and their total on his or her copy of the *Close to 20* Recording Sheet.
4. Each player figures out his or her score. The score for the round is the difference between the total and 20. For example, if you choose 8 + 7 + 3, your total is 18 and your score for the round is 2.
5. After recording, each player takes the number of counters that equates to his or her score.
6. Put the cards that you used in a discard pile. Keep the two cards that you didn't use for the next round.
7. For the next round, deal three new cards to each player (players should add these cards to their hand of two cards for a total of five).
8. Repeat Steps 2–6. When you run out of cards, shuffle the discard pile and use those cards again.
9. After five rounds, every player totals their score and counts their counters. The two numbers should be the same. The player with the lowest score (and subsequently the fewest counters) is the winner.

Game 7C: Close to 100

Objective

In this version of the game, players draw six numeral cards and select four to make two double-digit numbers. The objective is to have the two double-digit numbers, when added, equal a sum as close to 100 as possible.

Materials

- pencil, 1 per player
- Numeral Cards 0–9 (REPRODUCIBLE B) plus four blank cards with *Wild Card* written on each, 1 deck per player or group of players
- *Close to 100* Recording Sheet (REPRODUCIBLE 9), 1 per player

A Deck of Cards

For the purpose of this game, a deck of numeral cards is four copies of each numeral card listed in the materials, plus four wild cards (blank cards with *Wild Card* written on each).

Players

1, 2, or 3

Directions

1. Shuffle the cards and place them face down in a pile. Each player draws six cards and places the cards face up in a row in front of them.
2. Each player selects four cards from their six to construct two double-digit numbers that, when added, have a sum as close to 100 as possible. Wild cards can be used as any numeral.
3. Each player writes the equation on his or her copy of the *Close to 100* Recording Sheet. For example, $42 + 56 = 98$ or $46 + 59 = 103$.
4. Each player figures out his or her score. The score for the round is the difference between the sum and 100. In the examples in Step 3, $42 + 56 = 98$ would result in a score of 2 and $46 + 59 = 103$ would be a score of 3.
5. Put the cards that you used in a discard pile. Keep the two cards that you didn't use for the next round.
6. For the next round, deal four new cards to each player (players should add these cards to their hand of two cards for a total of six).
7. Repeat Steps 2–5. When you run out of cards, shuffle the discard pile and use those cards again.
8. After five rounds, every player totals their score. The player with the lowest score is the winner.

Game 7D: Close to 1,000

Objective

In this version of the game, players are dealt eight numeral cards. Each player selects six of his or her cards to make two, three-digit numbers. The objective is to have the two, three-digit numbers, when added, equal a sum that is as close to 1,000 as possible.

Materials

- pencil, 1 per player
- Numeral Cards 0–9 (REPRODUCIBLE B) plus four blank cards with *Wild Card* written on each, 1 deck per player or group of players
- *Close to 1,000* Recording Sheets (REPRODUCIBLE 10), 1 per player

A Deck of Cards

For the purpose of this game, a deck of numeral cards is four copies of each numeral card listed in the materials, plus four wild cards (blank cards with *Wild Card* written on each).

Players

1, 2, or 3

Directions

1. Deal eight numeral cards to each player.
2. Each player selects any six of their cards to make two, three-digit numbers. For example, a 2, 6, and 5 could make 256, 265, 526, 562, 625, or 652. Wild cards can be used as any numeral. Try to make numbers that, when added, give you a total that is close to 1,000.
3. Each player writes the two, three-digit numbers and the corresponding sum on his or her recording sheet. For example: $742 + 256 = 998$.
4. Each player figures out his or her score. The score for the round is the difference between the total and 1,000. For example, if your total is 998, your score is 2. If your total is 1,005, your score is 5.
5. Put the cards that you used in a discard pile. Keep the two cards that you didn't use for the next round.
6. For the next round, deal six new cards to each player (players should add these cards to their hand of two cards for a total of eight).
7. Repeat Steps 2–6. When you run out of cards, shuffle the discard pile and use those cards again.
8. After five rounds, every player totals their score. The player with the lowest score is the winner.

Game 8: Compare (Shake and Spill)

Objective

During this game, players take turns shaking and spilling a select group of two-color counters. Each time, players record whether there are more red counters, more yellow, or the same amount.

Materials

- two-color counters, 10 per player
- pencil, 1 per pair of players
- *Compare (Shake and Spill)* Chart (REPRODUCIBLE 12), 1 per pair of players

Players

2

Directions

1. With your partner, decide how many counters to use: six, seven, eight, nine, or ten. Also decide who is Player 1 and Player 2.
2. Player 1 shakes and spills the counters.
3. Player 2 records the results, placing a tally mark in the corresponding column of the chart.
4. Repeat Steps 3 and 4, alternating turns shaking/spilling and recording until you've collected twenty pieces of data (tally marks).
5. Extension: Record the addition sentences that describe the data.

Game 9: Cross Out Singles

Objective

During this game, players fill in the nine squares on their game boards with the numbers rolled. After all squares are filled in, players find the sums of the number strings (the rows, columns, and diagonal). They cross out any sums that appear only once, then total the remaining sums. This is their score. The objective is to be the player with the highest score out of three rounds.

Materials

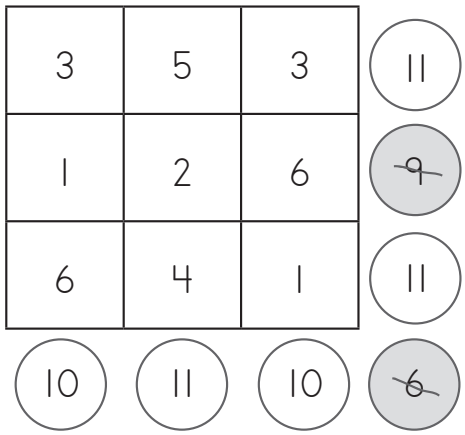
- die (labeled *1–6*), 1 per player or group of players
- pencil, 1 per player
- *Cross Out Singles* Game Boards (REPRODUCIBLE 13), 1 per player

Players

1 or more

Directions

1. If playing with more than one player, decide who is Player 1.
2. Player 1 rolls the die. All players record the number in a square on the first array of their recording sheet. Remember, once a number is written it may not be changed.
3. Another player rolls the dice. All players record the number in a square on the first array of their recording sheet.
4. Repeat Step 3 until all nine squares on players' arrays have been filled.
5. Players then find the sums of the number strings (the rows, columns, and diagonal) and write the sums in the corresponding circles.
6. All players examine their sums. They cross out the sums that appear only once (in only one circle).



7. The total of the sums not crossed out is the player's score for that round. For example:

   $11 + 11 + 10 + 11 + 10 = 53$

   The player's score for the above example round is 53.
8. Repeat Steps 2–7. After three rounds are completed, players review their scores. The player with the highest score after three rounds is the winner.

Game 10: Cross Out Sums

Objective

During this game, players take turns drawing three cards from a deck. They form three different equations using the numbers on the cards, then cross off the equations' sums on their game board. The objective is to cross off all sums on the game board or reach a point at which no sums match those remaining on the game board.

Materials

- Numeral Cards 1–10 (REPRODUCIBLE B), 1 deck per pair of players
- *Cross Out Sums* Game Board, Version 1 (REPRODUCIBLE 15), 1 per pair of players

A Deck of Cards

For the purpose of this game, a deck of numeral cards is four copies of each numeral card listed in the materials.

Players

1, 2, or 4

Directions

1. Decide who is Player 1.
2. Player 1 draws three cards from the deck.
3. Players work together to create three different equations using the numbers on the cards.
4. Players then cross out the corresponding sums on the game board.
5. Players take turns drawing three cards and crossing out the sums of the equations on the game board.
6. Play continues until either all sums are crossed off the game board or there are no sums that match those remaining on the game board.

Game 11: Digit Place (A Secret Number Quest)

Objective

During this game players try to figure out a secret number through a series of guesses. After each guess, the player with the secret number reveals whether the number guessed shares a digit with the secret number. If it does, it's also noted whether the place value is correct. The objective of the game is to share and gain enough information to identify the secret number correctly.

Materials

- *Digit Place* Recording Sheet (REPRODUCIBLE 17), 1 per group of players
- pencil, 1 per player

Players

2 or 4

Directions

1. Decide who is Player 1.
2. Player 1 chooses a secret two-digit number. The two digits must be different.
3. The other player or players make a guess at the number. The guess is recorded in the first column of the recording sheet.
4. Player 1 records how many digits are correct in the Digits column and how many of those digits are in the correct place in the Place column.
5. Repeat Steps 3 and 4 until the number is guessed.
6. Switch roles so that a different player now chooses the secret two-digit number. Repeat Steps 3 and 4 until the number is guessed.

Game 12: Equation Building

Objective

During this game, players build equations based on numbers rolled with the dice. Players then turn those cards face down that share the same answer or answers as their equations. The objective of the game is to be the first player to turn all twenty cards of his or her color face down.

Materials

- dice (1 labeled *0–5*, 1 labeled *5–10*), 2 for each player
- playing cards (face cards and Jokers removed; Aces remain to represent the value of 1), 1 deck per pair of players
- paper and pencil, 1 per player

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Players sort their deck of cards into red and black cards. Player 1 takes all the red cards and places them in numerical order (or an order that works for him), face up, on the table. Player 2 takes all the black cards and places them in numerical order (or an order that works for her), face up, on the table. Each player should have twenty cards.
3. Player 1 rolls the dice and creates equations with the numbers rolled. He may use any one of the four operations (addition, subtraction, multiplication, division) as long as the answer is a whole number. Player 1 records his equations for Player 2 to see.
4. Player 1 asks Player 2, "Do you agree with my equations and answers?" If the answer is no, Player 2 works with Player 1 until they come to an agreement.
5. Player 1 goes back to his line of red cards. He turns the cards face down that have the same numbers as the *answers* of the equations.
6. Alternate turns and repeat Steps 3–5.
7. Play continues; the first player to turn all twenty cards face down is the winner.

Game 13: Fifteen-Number Cross-Out

Objective

During this game, each player creates a list of numbers. Players then take turns rolling the dice. They add the numbers rolled and decompose the sum, then select either the sum or a combination of numbers in the decomposition to cross out on their lists. The objective of the game is to be the first player to cross out all the numbers on his or her list. Alternatively, both players might reach a point when they can no longer cross out numbers based on the sum; the winner is then the player with the fewest numbers remaining on his or her list.

Materials

- dice (labeled *1–6*), 2 per pair of players
- *Fifteen-Number Cross-Out* Recording Sheet (REPRODUCIBLE 18), 1 per pair of players

Players

2

Directions

1. Determine who is Player 1 and who is Player 2.
2. Using the recording sheet, each player makes a list of ten additional numbers. Use the three rules to guide your decisions.

Three Rules for Adding Ten More Numbers

1. The ten additional numbers may consist of any number 1–9, including more 5s.
2. Numbers may be repeated.
3. Not every number has to be used.

3. Player 1 rolls the dice and adds the two numbers rolled. The player announces the sum to her partner.
4. Both players now need to decompose the sum. Record your work in the space provided under the list on your recording sheet.
5. Now choose either the sum *or* one of the combinations and cross the chosen numbers off your lists. Both players cross off numbers; only one combination or sum can be crossed off on each list.
6. Player 2 rolls the dice and adds the two numbers rolled. The player announces the sum to his partner.
7. Repeat Steps 4–5. The game continues as long as a player is able to cross out a number or numbers on his or her list. If a player cannot make the sum with any numbers that remain on his or her list, that player waits until the next roll.
8. The game is won in two ways:
   a. The first player to cross out all the numbers on his or her list is the winner.

      or

   b. Both players reach a point when they can no longer cross out numbers; the winner is then the player with the fewest numbers remaining on his or her list.

Note: Reproducible 18 has space for three games to be played.

Game 14: Finding Factors

Objective

During this game, players take turns selecting numbers on the game board and identifying the number's factors. The first player selects and circles the number using her colored marker; the second player identifies and circles the number's factors using his colored marker. The objective of the game is to be the player with the highest score at the end. A player's score is the total of all the numbers circled in his or her color.

Materials

- markers or crayons, 2 per pair of players (each a different color)
- *Finding Factors* Game Board (REPRODUCIBLE 20 or 21), 1 per pair of players

Players

2

Directions

1. Decide who is Player 1 and who is Player 2. Each player chooses a different-color marker or crayon.
2. Player 1 chooses a number on the game board and circles it with her marker.
3. Player 2 finds all the factors for the number and circles those with his marker.
4. Player 2 chooses a number on the game board and circles it with his marker.
5. Player 1 finds all the factors for the number and circles those with her marker.
6. Players repeat Steps 2–5 until there are no factors left for the remaining numbers, alternating who circles the number first.
7. Players tally their scores by adding all the numbers of the same color together. Players show their work in the space below or next to the game board.
8. The player with the highest score is the winner.

GAME TIP

Selecting Numbers with No Factors Left: An Illegal Move

Selecting a number with no factors remaining is an illegal move and that player loses his or her turn; the other player gets to play twice in a row (meaning, he or she gets to circle 2 numbers).

Game 15: Greater Than, Less Than, Equal To

Objective

During this game, players take turns drawing numeral cards and completing number sentences. Together, players determine which symbol (>, <, or =) goes with each sentence. The player with the greater sum keeps all four cards from the round. The objective of the game is to have the most cards at the end (ten rounds); this player is the winner.

Materials

- Numeral Cards 0–10 (REPRODUCIBLE B), 1 deck per pair of players
- *Greater Than, Less Than, Equal To* Recording Sheet (REPRODUCIBLES 22, 23, 24, or 25), 1 per pair of players

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 draws two numeral cards from the stack and records the numbers in the blanks under Player 1 on the recording sheet.
3. Player 2 draws two more cards and records the numbers in the blanks under Player 2 on the recording sheet.
4. Together, compare the sides of the equation. Ask each other, "Which symbol will make the number sentence true?" Write the symbol in the box.
5. Compare sums. The player with the greater sum keeps all four cards from the round.
6. Repeat Steps 2–5 until all number sentences are complete on the recording sheet (ten rounds).
7. Together, complete the sentences on the bottom portion of the recording sheet.
8. Count your cards. The player with the most cards is the winner.

Symbols Key

= equal to

> greater than

< less than

Game 16: Hit the Target (Mental Multiplication)

Objective

During this game, players choose a target range and multiplicand. They then pick multipliers that they think, when multiplied by the multiplicand, will get a product between the target range numbers. The objective of the game is to hit the target (get a product between the target range numbers).

Materials

- paper and pencil, 1 per player

Players

2

Directions

1. Players decide who is Player 1 and who is Player 2.
2. Players choose a target range and write it on their paper.

Choosing a Target Range

There are three main ways a target range can be decided:

1. The range can be chosen by the class.
2. The range can be chosen by rolling a 1–6 die three times, then creating the largest number possible from the combination of three numbers, and adding 50 to get the range. For example, if a 4, 6, and 2 are rolled, the largest number is 642. Then, add 50 to the number to create the target range. In this case, the target range is 642–692.
3. The range can be chosen by selecting a target range from the target range charts posted around the classroom.

3. Player 1 picks a multiplicand—a number between 3 and 29. Player 1 writes the number on the paper.
4. Player 2 picks a multiplier—a number that he or she thinks, when multiplied by the multiplicand, will get a product between the target range numbers. Player 2 writes the number sentence on the paper.
5. Players work together to solve the number sentence. Compute mentally as much as possible. Player 2 writes the product on the paper.
6. Players discuss: Does the product hit the target? Why or why not? Players then proceed with one of the following, depending on the outcome:
   a. If the product does *not* hit the target, repeat Steps 4 and 5, with Player 2 picking another multiplier. Play continues until a product is reached that hits the target (lands within the range).
   b. If the product hits the target, players switch roles; Player 2 now picks a multiplicand and Player 1 picks the multiplier.
7. Players play ten rounds or for a predetermined amount of time like 20 minutes.

The Multiplicand and Multiplier

Remember, the multiplicand (the number first picked) remains the same until the target is hit; only the multiplier changes.

Game 17: How Close to 0?

Objective

During this game, players take turns rolling the die, assigning the number rolled a ones value or a tens value, and subtracting it from the number rolled previously. The objective is to get a number as close to 0 as possible by Round 7. If a player reaches or goes below 0 *before* Round 7, the other player wins.

Materials

- die (labeled *1–6*), 1 per pair of players
- pencil, 1 per pair of players
- *How Close to 0?* Game Board (REPRODUCIBLE 26), 1 per pair of players

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 rolls the die and assigns a ones value or a tens value to the number rolled.
3. Player 1 subtracts the number from 100 and records her play on the game board in the Player 1, Round 1 box.
4. Player 2 repeats Steps 2 and 3, recording his computation in the Round 1, Player 2 box.
5. Player 1 now rolls the die a second time and assigns a ones value or a tens value to the number rolled.
6. Player 1 subtracts the number from the difference she calculated in Round 1 and records her play on the game board in the Player 1, Round 2 box.
7. Player 2 repeats Steps 5 and 6, recording his computation in the Player 2, Round 2 box.
8. Play continues for a total of 7 rounds. The difference in Round 2 becomes the starting number in Round 3, the difference in Round 3 becomes the starting number in Round 4, and so on.
9. The player closer to 0 after 7 rounds is the winner. If a player reaches or goes below 0 before Round 7, the game is over and the other player wins.

Game 18A: Leftovers with 15

Objective

Player 1 rolls the die and distributes the 15 tiles equally among the corresponding number of plates. Player 1 records the problem and keeps the tiles that are the remainder, and Player 2 starts off using only the tiles that were on the plates. Players take turns modeling and recording division problems. The game continues until no tiles are left to divide. The objective is to be the player at the end of the game with the highest sum of remainders (leftovers).

Materials

- color tiles, 15 per pair of players
- cup (to hold tiles), 1 per pair of players
- paper plates or coffee filters, 6 per pair of players
- die (labeled *1–6*), 1 per pair of players
- pencil and ruled paper

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 rolls the die and lays out that number of paper plates.
3. Player 1 then takes the cup of tiles and divides the tiles equally onto the plates, keeping any leftover tiles aside.
4. Player 1 says and records the math equation that describes the plates and tiles. For example, "Fifteen divided into two groups is seven in each group, with a remainder of one." Player 1 records:

   $$15 \div 2 = 7 \text{ R } 1$$

5. Player 1 initials the equation and returns *only* the tiles that are on the plates to the cup for the next player's turn.
6. Player 2 repeats Steps 2–5. For example, Player 2 might roll 4, thus distributing the fourteen tiles among four plates and saying, "Fourteen divided into four groups is three with a remainder of two." Player 2 records:

   $$14 \div 4 = 3 \text{ R } 2$$

   and returns the 12 tiles on the plates to the cup.
7. Player 1 now continues with the 12 tiles. Play alternates until all the tiles are gone.
8. Each player counts the number of tiles collected as remainders. The winner is the player with the most remainders—referred to as *leftovers*!

Game 18B: Leftovers with 100

Objective

During this version of *Leftovers,* players start by selecting and dividing a number 1–20 into the start number 100. The remainder becomes the first player's score. The second player subtracts the remainder from the start number to determine the next "new" start number. The game continues until the start number is 0. The objective is to be the player at the end with the highest sum of remainders (leftovers).

Materials

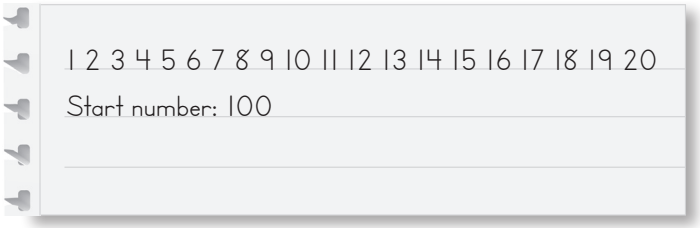
- pencil and ruled paper

Players

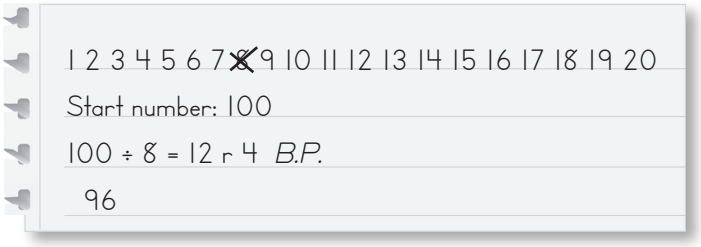
2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Write the numbers *1–20* across the top of the paper and the words *Start number* near the margin. The start number is 100.



3. Player 1 chooses one of the numbers from 1–20 and crosses it out. Player 1 then divides the start number by that number. The remainder becomes Player 1's score. Player 1 marks the remainder with her initial.
4. Player 1 then subtracts the remainder from the start number to determine the next start number. An example of Steps 3 and 4 is shown here:



5. Player 2 selects a different number from numbers 1–20 and crosses it out. Player 2 then divides the new start number by it. The remainder becomes Player 2's score. Player 2 marks the remainder with his initial.
6. Play continues until the start number is 0.
7. Players add their remainders. The player with the larger sum is the winner.

Game 19: Making Moves on the Hundreds Chart

Objective

During this game, players roll a specially labeled die to determine the corresponding number of spaces to move on a hundreds chart. The objective is to be the first player to land exactly on the square numbered 99.

Materials

- Hundreds Chart (REPRODUCIBLE A), 2 per pair of players
- game markers (counters or interlocking cubes of two different colors, for example), 2 per pair of players
- die (labeled *+10, +10, +10, –10, +1, –1*), 1 per pair of players
- paper and pencil, 1 per pair of players

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Each player titles a piece of paper *Making Moves on the Hundreds Chart* to record their moves.
3. Each player places a game marker in the margin next to the 1 square on his or her hundreds chart.
4. Player 1 rolls the die and moves her marker the corresponding number of spaces.
5. Player 2 checks Player 1's accuracy. If the move is correct, Player 1 records the move as a number sentence.
6. Player 2 repeats Steps 3–5 using his hundreds chart.
7. The first player to land on square 99 exactly is the winner.

Impossible Moves

Sometimes a corresponding move on the hundreds chart will not be possible. For example, if a –1 is rolled as the first roll of the game, the player will not be able to move his game marker. Or, if the player is on square 98 and rolls a +10, the player will not be able to move his game marker. In the case of an impossible move, the player loses a turn.

Game 20: Missing Addend or Factor (Salute!)

Objective

During this game, two players start by each drawing a card and placing it on their forehead, number side facing out. The third player studies both cards and announces the sum of the two numbers. The other two players take turns figuring out the number they have on the card against their forehead. The first player to figure out his or her number wins both cards. The game continues until all the cards have been used. The objective is to be the player with the most cards at the end; the player with the most cards then plays the role of Player 3, the player who calls out the sums. This game can also be played as *Missing Factor,* using multiplication.

Missing Factor

To practice multiplication, the cards become factors and the third player calls out the product of the two numbers.

Materials

- Numeral Cards 0–10 (REPRODUCIBLE B), 1 deck per group of three players

  or

- playing cards, 1 deck per group of three players (face cards and Jokers removed; Aces remain to represent the value of 1)

Players

3

Directions

1. Shuffle the deck of cards and place the deck face down on a table or desk.
2. Decide who is Player 1, Player 2, and Player 3.
3. Players 1 and 2 each draw a card from the stack and quickly place the card to their forehead, number side facing out. Players 1 and 2 do *not* look at the number on their cards.
4. Player 3 calls out the sum of the two numbers.
5. The first player to name the addend he or she is holding to his or her forehead wins the round and collects both cards.
6. Repeat Steps 3 and 4 until all cards have been drawn.
7. The winner is the player with the most cards. Rotate roles; the player with the most cards now becomes Player 3 and calls the sums.
8. Shuffle the cards and play again.

A Deck of Cards

For the purpose of this game, a deck of numeral cards is four copies of each numeral card listed in the materials.

Game 21: More!

Objective

Players are dealt equally all the cards from a deck of playing cards. They each draw one card from their pile and compare the face value of the cards. The player with the greater value determines the difference between the two values and connects the corresponding number of interlocking cubes. As play continues, players continue to connect cubes; each player has a stick of cubes when all cards have been played. Players then compare the lengths, count their stick of cubes, and record the amount. The objective of the game is to build and compare visual representations of numbers.

Materials

- playing cards (Jokers removed; Aces are optional and represent the value of 1), 1 deck per pair of players
- interlocking cubes, approximately 150 per pair of players
- *More!* Recording Sheet (REPRODUCIBLE 27), 1 per pair of players
- pencil, 1 per pair of players

Players

2

Value of Face Cards

Ace = 1 (optional use)

Jack = 11

Queen = 12

King = 13

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 shuffles the deck of playing cards and deals all cards so each player has 26 cards.
3. Both players stack their cards in a pile neatly, face down, in front of them.
4. Both players take the top card from their pile and turn it over.
5. Players compare the face value of the cards. The player with the greater value represents the difference in values by using interlocking cubes. For example, if the difference is 3, the player with the greater value takes three interlocking cubes and snaps them together.

   (If the cards drawn happen to be the same value, set the cards aside, draw two new cards, and continue play.)
6. Repeat Steps 4 and 5, until all the cards are played. Players should always add on to their existing train of interlocking cubes so that, at the end of the game, each player has a stick of cubes.
7. When all cards have been played, compare the length of the interlocking cubes and record the total of each and the difference between them.
8. Play the game a second time.
9. After two games have been played, total your points for both games, record the sums in the TOTAL row, and again find the difference.

Game 22: Odd or Even?

Objective

Players work in pairs using a deck of playing cards. They start by taking the top two cards from the stack and placing the cards face side up, one overlapping the other. If the sum of the two cards is an even number, players "win" the cards and set them aside in their pile. Players then take two more cards from the deck. If the sum is odd, players take a third card from the deck and place it face up, once again overlapping it on the top card. Now if the top two cards are even, the players "win" these two cards and remove them from play. Play continues in this fashion, with players always looking at only the last two cards played. After all cards have been played, players count to see how many cards are in their pile versus in the pile formed by the deck. The winner (the players or the deck) is the one with the most cards. The goal of the game is to improve one's understanding of even and odd numbers while simultaneously "sparring" with a deck of cards.

Materials

- playing cards (face cards and Jokers removed; Aces remain to represent the value of 1), 1 deck per pair of players

  or

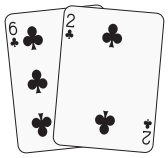
- Numeral Cards 1–10 (REPRODUCIBLE B), 1 deck per pair of players

Players

2

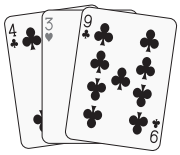
Directions

1. Shuffle the deck of playing cards and place them in a neat stack, face down.
2. Take the top two cards from the deck and turn them over. Place them face side up, overlapping, next to the deck.
3. Is the sum of the two numbers odd or even?
   a. If the sum is an even number, remove both cards from play and place them aside in a pile. You are playing against the deck and these are the cards you've won. Then, take two more cards from the deck and think: Is the sum of the two numbers odd or even? Continue play accordingly.



The sum of these cards is the even number 8, so both would be removed from play.

   b. If the sum is an odd number, draw a third card from the deck and place it so that it overlaps the top card. If the two new top cards are even, you "win" them again; place them in your pile. Draw another card from the deck and place it so it overlaps the remaining card. The remaining card forms the beginning of the deck's pile of wins.



The sum of the first two cards was an odd number 7, so a third card was drawn. The sum of the top two cards is now even (3 + 9 = 12), so these two cards are removed from play. The 4 card is placed in a separate deck.

4. Continue playing, repeating Step 3, until all the cards in the deck have been played.
5. To determine the winner, count the number of cards you and your partner have in your pile, then count the cards that remain with the deck. If you and your partner have more cards than the number of cards in the deck, you win!

Game 23: Oh No! 20!

Objective

During this game, two players (or two teams of two) play a hand of four cards each, adding or subtracting card values strategically until one player's (or team's) sum is or exceeds twenty. The objective of the game is not to be the first player (or team) to get to twenty or more.

Materials

- playing cards (6, 7, 8, 9, 10, and Jokers removed; face cards remain; Aces remain to represent the value of 1), 1 deck per pair of players

  or

- Numeral Cards 1–5 (REPRODUCIBLE B) plus four cards marked *–5*, four cards marked *0*, and four wild cards, 1 deck per pair of players

Values of Face Cards

For the purpose of this game, a deck of playing cards is four of each number 2–5 (cards 6–10 removed) plus the face cards, which are assigned the following values:

Ace = 1

Jack = –5 (subtract 5)

Queen = 0

King: wild card (any number 1, 2, 3, 4, 5, –5, or 0)

Players

2 or two teams of 2

Directions

1. Decide who is Player 1 and who is Player 2. If playing in teams, decide who is on Team 1 and who is on Team 2.
2. Shuffle the deck of playing cards and deal four cards to each player or team.
3. Player or Team 1 starts by selecting a card from the hand of four cards and placing it in the middle of the playing area.
4. Player or Team 2 then selects a card from the hand of four cards, places it in the middle next to Player or Team 1's selected card, then announces the sum of the two cards.
5. Players or teams each draw one more card from the stack so they have four cards each.
6. Now Player or Team 1 selects a card from the hand of four cards, places it down, and announces the sum by adding the value to the existing sum.
7. Player or Team 1 then takes a new card from the stack to continue to have four cards in hand.
8. Player or Team 2 repeats Steps 6 and 7, building on Player or Team 1's new sum.
9. Play continues, alternating turns between the players or teams until one player's or team's sum is twenty or more.

   Remember: The objective of the game is *not* to be the first player or team to get twenty or more!

Game 24: Order Up 21!

Objective

After drawing four cards or rolling the four dice, players build an equation using all four numbers and applying the order of operations (parentheses, exponents, multiplication, division, addition, and subtraction). The objective is to build an equation that totals twenty-one. After each round, a player's or team's score is determined by how far away their total is from twenty-one. After ten rounds, the player or team with the lowest score is the winner.

Materials

- playing cards (face cards and Jokers removed; Aces remain and represent the value of 1), 1 deck per pair of players

  or

- Numeral Cards 0–10 (REPRODUCIBLE B), 1 deck per player, pair, or group of players

  or

- dice (2 labeled *0–5*, 2 labeled *5–10*), 2 of each per player, pair, or group of players
- *Order Up 21!* Recording Sheet (REPRODUCIBLE 28), 1 per player or pair of players

Players

1, 2, or 4

Directions

1. If playing in pairs, decide who is Player 1 and who is Player 2. If playing in teams, decide who is on Team 1 and who is on Team 2.
2. Roll all four dice or draw four cards.
3. Each player or team builds an equation using the four numbers and following the rules for building equations. Players write the equation on their recording sheet.
4. After each player or team has built an equation, determine the scores. The score for each round is how far away the total is from twenty-one. Players record their scores on the recording sheet.
5. Play ten rounds. After ten rounds, total your scores. The player or team with the lowest score is the winner.

A Deck of Cards

For the purpose of this game, a deck of cards is four of each number Ace (1)–10. If using a deck of playing cards, the 0 is not available.

Game Rules for Building Equations

- Players may use any combination of the four operations (addition, subtraction, multiplication, division).
- The numbers may be used in any order, but may only be used once. If a number is drawn/rolled twice, the number must be used twice in the equation.
- Remember to use parentheses.
- Numbers may be used as exponents.
- Numbers may also be used to form factions equivalent to whole numbers.
- Equations must be accurate mathematically.

Scoring

Points are determined by how far away the total of the equation is from 21. A score of 0 point means the player got exactly 21. A score of 1 point means the player got either 20 or 22. The goal is to have the lowest score.

Game 25A: Pathways (Products Tic-Tac-Toe)

Objective

Players select factors, multiply them, and cover the corresponding product on the game board. The objective of the game is to be the first player to complete a continuous pathway across the game board, from one side to the other.

Materials

- paper clips, 2 per pair of players
- game markers, 2 sets of 10 (each set a different color)
- *Pathways* Game Board (REPRODUCIBLES 30, 31, 32, or 33)

Players

2

Directions

1. Decide who is Player 1 and who is Player 2, and the color game marker each player will use.
2. Look at the factors listed at the bottom of the game board. Player 1 chooses two factors and places a paper clip over each.
3. Player 1 then multiplies the factors and covers the corresponding product on the game board with one of her game markers. *Remember:* Both paper clips may be placed on the same factor!
4. Player 2 moves just one of the paper clips to another factor, multiplies the two numbers, and places one of his game markers on the product.
5. Repeat Step 4, alternating turns. The winner is the first player to make a continuous pathway across the game board.

A Pathway

A pathway may include boxes that share a common side or common corner. Pathways move across the game board from left to right, not from top to bottom (although pathways will move up and down).

Game 25B: Times Ten

Objective

Players select factors, multiply them, and cover the corresponding product on the game board. The objective of the game is to be the first player to complete a continuous pathway across the game board, from one side to the other.

Materials

- paper clips, 2 per pair of players
- cubes, tiles, counters, or other game markers (2 sets of 10, each set a different color), 20 per pair of players
- *Times Ten* Game Board (REPRODUCIBLES 34, 35, 36, or 37), 1 per pair of players

Players

2

Directions

1. Decide who is Player 1 and who is Player 2, and the color game marker each player will use.
2. Look at the factors listed at the bottom of the game board. Player 1 chooses two factors and places a paper clip over each.
3. Player 1 multiplies the factors, determines the product, and then multiples the product by ten. Player 1 then covers the final product on the game board with one of her game markers. *Remember:* Both paper clips may be placed on the same factor!
4. Player 2 moves just one of the paper clips to another factor, multiplies the two numbers, and then multiples the product by ten. Player 2 places one of his game markers on the final product.
5. Repeat Step 4, alternating turns. The winner is the first player to make a continuous pathway across the game board.

A Pathway

A pathway may include boxes that share a common side or common corner. Pathways move across the game board from left to right, not from top to bottom (although pathways will move up and down).

Game 26: Roll 6 for 100

Objective

The objective of the game is to get to 100 or as close to 100 as possible (but not over!) through a combination of adding and multiplying the numbers rolled using a die. The die may be rolled up to six times. After each roll, players record an addition equation/number string. At any time up to six rolls, a player can decide to end her participation in the round by recording a multiplication equation. The other player may continue the round up to six rolls; the player closest to 100 is the winner.

Materials

- die (labeled *1–6*), 1 per pair of players
- *Roll 6 for 100* Recording Sheet (REPRODUCIBLE 38), 2 per pair of players
- pencil and ruled paper

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 rolls the die and records the number on his recording sheet.
3. Player 1 rolls the die a second time, adding the number to the first and recording the equation.
4. Player 1 repeats Step 3 until he feels he has rolled a number that, when multiplied by the previous sum, will get him as close to 100 as possible. After the player multiplies, his round is done. The player has up to (but not more than!) six rolls. On the sixth roll, the player *must* multiply.
5. Player 2 repeats Steps 2–4, recording her equations/number string on her recording sheet.
6. After both players have completed a round, they determine the winner—the player with the total closest to but not more than 100. Players fill out the scoring sentence frames on their recording sheets.
7. Each player plays four more rounds of the game.

Game 27A: Roll for $1.00

Objective

Players take turns rolling a die, assigning the rolled number a value of penny or dime, and collecting that number of pennies or dimes. When players accumulate enough pennies to equate a dime, they must exchange their pennies for a dime. The objective of the game is to form a collection of pennies and dimes that totals exactly or as close to $1.00 as possible, but does not go over $1.00. A round consists of each player having seven turns (rolls).

Materials

- die (labeled *1–6*), 1 per pair of players
- 30 pennies and 20 dimes, per pair of players
- *Roll for $1.00* Game Boards (REPRODUCIBLE 40), 1 for each player

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 rolls the die, decides whether the number rolled represents pennies or dimes, and places the corresponding number of coins in the appropriate space on his game board.
3. Player 2 rolls the die, decides whether the number rolled represents pennies or dimes, and places the corresponding number of coins in the appropriate space on her game board.
4. Players continue to take turns rolling the die and assigning a penny or dime value to the roll. When players have ten or more pennies, they must exchange their pennies for a dime. The dime can be placed in any space on the game board in the Dimes column.
5. The game is over after each player has taken seven rolls. Players total their coins. The winner is the player who has exactly or the closest to $1.00 (but not more!). Players who go over $1.00 are out.

Game 27B: Roll for 1

Objective

Players take turns rolling a die and assigning the rolled number a value of .1 or .01. At the end of seven turns (rolls) per player, players add up their hundredths and tenths to determine who is closer to (but not over!) the whole number one. The closest player is the winner.

Materials

- die (labeled *1–6*), 1 per pair of players
- *Roll for 1* Recording Sheets (REPRODUCIBLE 41), 1 per player
- calculators (optional)

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 rolls the die and decides if the number rolled represents tenths or hundredths.
3. Player 1 records the play on her recording sheet.
4. Player 2 follows Steps 2 and 3.
5. Play alternates until each player has had seven turns (rolls).
6. The winner is the player who is the closest to (but not over!) one. Players who go over one are out.

Game 28: Spinning Sums and Differences

Objective

Player 1 rolls the die and spins the place value spinner. The die provides the number and the spin determines the place value of the number rolled. Player 1 rolls and spins a second time, generating a second number. Player 2 does the same thing—rolls and spins, rolls and spins—creating two numbers. Using the numbers, players write two equations—one addition equation and one subtraction equation. Players solve both equations and check each other's sum and difference. The largest sum and difference each earn 1 point; the player with the highest score at the end of ten rounds is the winner.

Materials

- die (labeled *1–6*), per pair of players
- Place Value Spinner (REPRODUCIBLE 42 or REPRODUCIBLE 43), 1 per pair of players
- paper clip, 1 per pair of players
- *Spinning Sums and Differences* Recording Sheet (REPRODUCIBLE 44), 1 per player
- paper and pencil

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 rolls the die and spins the place value spinner. The die determines the number; the spinner determines the place value of the number. Player 1 records the number on her recording sheet.
3. Player 1 repeats Step 1 to create a second number.
4. Player 2 follows Steps 1 and 2 to generate his 2 numbers.
5. Each player uses the two numbers he or she generated to write 2 equations—1 addition equation and 1 subtraction equation.
6. Players solve both equations.
7. Players check each other's sum and difference; if there is disagreement, share your thinking.
8. Now determine the score of the round. The largest sum and difference each win 1 point.
9. Continue playing for ten rounds.
10. Total your scores using the recording sheet. The player with the highest total score is the winner.

Game 29: Take Five, Make Ten!

Objective

Players draw five cards and use the numbers to build five equations, each of which totals 10. The equations can involve addition, subtraction, multiplication, and division. Players keep track of their equations for each round. Each player earns 1 point for each equation built. Each round can be worth up to 5 points.

Materials

- playing cards (10s, face cards, and Jokers removed; Aces remain to represent a value of 1), 1 deck per player or pair of players

  or

- Numeral Cards 1–9 (REPRODUCIBLE B), 1 deck per player or pair of players
- paper and pencil

Players

1–2

Directions

1. Shuffle the deck of cards and draw five cards.
2. Using the numbers on the cards, build five equations, each totaling 10. Follow the game rules.

GAME RULES

- Addition, subtraction, multiplication, and division operations can be used.
- A minimum of two and maximum of five of the numbers can be used.
- Numbers cannot be repeated in the same equation unless there are two of the same number cards.

3. Record the five equations on paper.
4. The end of the game is determined when all cards have been played (typically six rounds).
5. The winner is the person with the most points (1 point per equation that equals 10).

EXAMPLE ROUND

If the cards Ace (1), 2, 3, 4, and 8 are drawn, possible equations are:

$8 + 2$

$8 + 4 - 2$

$8 + 3 - 1$

$8 \times 1 + 2$

$1 + 2 + 3 + 4$

Game 30: Target 300
(A Multiplication Game)

Objective

Players take turns rolling a die and multiplying the number rolled by ten or multiples of ten through fifty. The goal is to be the player with a total sum of exactly or closest to 300 after five rolls.

Materials

- die (labeled *1–6*), 1 per pair of players
- *Target 300 (A Multiplication Game)* Recording Sheets (REPRODUCIBLE 46), 1 per player

Players

2

Directions

1. Decide who is Player 1 and who is Player 2.
2. Player 1 rolls the die and decides whether to multiply the number rolled by 10, 20, 30, 40, or 50.
3. Both players record the multiplication sentence in the column Player 1 on their recording sheets. For example, if Player 1 rolls a 4 and decides to multiply it by 20, both players record:

ROUND	PLAYER 1 Name _____	PLAYER 2 Name _____
1	4 x 20 = 80	

4. Player 2 repeats Steps 2 and 3, and both players record the mathematics in the column Player 2 on their recording sheets.
5. After each player has had five turns, both players add the products for all five rounds. The winner is the player closest to 300. Note that the total sum may go over 300.

Game 31: Target "Pick Your Sum"

Objective

To start, players decide on a target sum between 25 and 55. During each turn, a player covers a number on the game board and adds it to the previously covered number or numbers. Players or teams continue to add to the running total during every turn, attempting to be the first to get to the target sum. The first player or team to reach the target sum exactly is the winner.

Materials

- *Target "Pick Your Sum"* Game Board (REPRODUCIBLE 47), 1 per pair or group of players
- counters (discs, coins, beans, or tiles of any color), 20 per pair or group of players

Players

2–4

Directions

1. If playing in pairs, decide who is Player 1 and who is Player 2. If playing in teams, decide who is on Team 1 and who is on Team 2.
2. Choose a target sum between 25 and 55. Record it where all players can see it.
3. Player or Team 1 covers a number on the game board with his counter.
4. Player or Team 2 covers another number on the game board and adds that number to the first number covered. Player or Team 2 announces the sum aloud. For example, if Player or Team 1 places a counter on the number 4 and Player or Team 2 places a counter on the number 3, Player or Team 2 says, "Four plus three equals seven."
5. Player or Team 1 covers another number (for example, the number 5), adds that number to the running total, and states his thinking aloud. So, for our example, Player or Team 1 says, "Seven plus five equals twelve." Alternatively, Player or Team 1 can also add all the covered numbers, "Four plus three plus five equals twelve."
6. Repeat Step 5, with players or teams alternating turns. The first player or team to reach the target sum exactly is the winner. If a player or team goes over the target sum, they are out. If the remaining numbers on the game board are all too low to reach the target sum, players or teams must start the game over.

   Reminder: Each square may only be covered once!

Game 32: Tens Go Fish

Objective

Players put aside pairs of cards that add up to ten. Then, players take turns asking each other for a number card they need to make a pair that adds up to ten. Play continues until all the cards in the deck are used up or until one player goes out by having no remaining cards to play.

Materials

- playing cards (10s, face cards, and Jokers removed; Aces remain to represent a value of 1), 1 deck per pair of players

  or

- Numeral Cards 0–10 (REPRODUCIBLE B), 1 deck per pair of players

Players

2–4

Directions

1. If playing in pairs, decide who is Player 1 and who is Player 2. If playing in teams, decide who is on Team 1 and who is on Team 2.

2. One player or team shuffles and deals the cards, five to each player. Place the remaining cards face down in the middle, either in a stack or a "fishing pond" (spreading cards face down in a pool-like array).

3. Players or teams examine their cards. Are there any pairs in their hand that, when added, make ten? If so, players or teams place those pairs near them on the table and draw two cards to replace the cards played.

4. Now players or teams alternate turns. During turns, players or teams ask for a card that will go with a card in their hand to make ten. For example, if Player or Team 1 is holding an 8 but not a 2, he might ask the other player or team for a 2. Two things can happen in this case (and on every turn):

   a. If Player or Team 1 gets the card requested to make ten, Player or Team 1 puts the pair of cards aside. Player or Team 1's turn then continues; Player or Team 1 asks for another card that makes a ten with any of the cards in his remaining hand.

   b. If Player or Team 2 does not have the requested card that makes a ten, Player or Team 1 takes the top card from the deck (or chooses a card from the fishing pond). If the new card makes a ten with any of the cards in Player or Team 1's hand, Player or Team 1 sets that pair aside and continues to draw and pair cards. Player or Team 1's turn is over when they no longer have a pair of cards in hand that makes ten.

5. A winner is determined in two ways:

   a. If a player or team has paired all their cards and has no cards left in their hand, they are the winner.

   b. If all the cards are played and no more pairs can be made, the player or team with the most pairs of ten is the winner.

Game 33: Wipeout
(Fractional Relationships)

Objective

Both players begin with the same number (1, 2, or 3) of hexagons (considered the "whole") as well as other pattern blocks (the "parts"): red trapezoids, blue rhombuses, and green triangles. Players roll a special die labeled with fractions ($\frac{1}{2}, \frac{1}{3}, \frac{1}{3}, \frac{1}{3}, \frac{1}{6}, \frac{1}{6}$)and have three options of moves: (1) remove the pattern block represented by the fraction on the die, (2) exchange any of your blocks for equivalent blocks, or (3) do nothing. The objective is to be the first player to discard all of your pattern blocks.

Materials

- pattern blocks (6 yellow hexagons, 12 red trapezoids, 18 blue rhombuses, and 36 green triangles), 1 set per pair of players
- die (faces labeled $\frac{1}{2}, \frac{1}{3}, \frac{1}{3}, \frac{1}{3}, \frac{1}{6}, \frac{1}{6}$), 1 per pair of players

Players

2

Pattern Blocks

Although 18 blue rhombuses and 36 green triangles allow for the most options when playing this game, if you have a limited supply of pattern blocks, 12 of each (rhombuses and triangles) should suffice.

Directions

1. Decide together how many yellow hexagons you want to play with—1, 2, or 3. Place the corresponding number of hexagons in front of each player.
2. Take turns rolling the die. On his or her turn the player has three options of moves to make (see "Three Moves in the Game").
3. The winner is the first player to discard all of his or her pattern blocks.

Reminder: Equivalent parts may not be substituted. In the game of Wipeout, equivalent parts may not be substituted. For example, two triangles (each having the value of $\frac{1}{6}$) may not be removed if a $\frac{1}{3}$ (represented by the rhombus) is rolled. Only a rhombus may be removed.

Three Moves in the Game

Roll the die and:

1. Remove the pattern block that the fraction on the die represents,
2. Trade in any of your remaining pattern blocks for an equivalent portion, or
3. Do nothing.

Note that you can only choose one of these moves on each turn. You may not remove a pattern block (move 1) and trade in pattern blocks (move 2) in one turn.