CCTCA 2026

Buddy Teachers + Buddy Classrooms = Math Success

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Math Journal

Table of Contents

Game Number	Game Name	Concepts Covered

Math Journal

Math Glossary

Word	Meaning or Example

LET'S NOODLE...
VISUAL NOTETAKING IDEAS

DICE	CARDS
GOAL	TAKE TURNS
RULE TWIST	PLAYERS
BONEYARD	MATH TALK
MATH THINKING	OTHER...

Noodling (note taking + doodling = noodling) (aka Sketch Noting, Visual Notes, etc.)

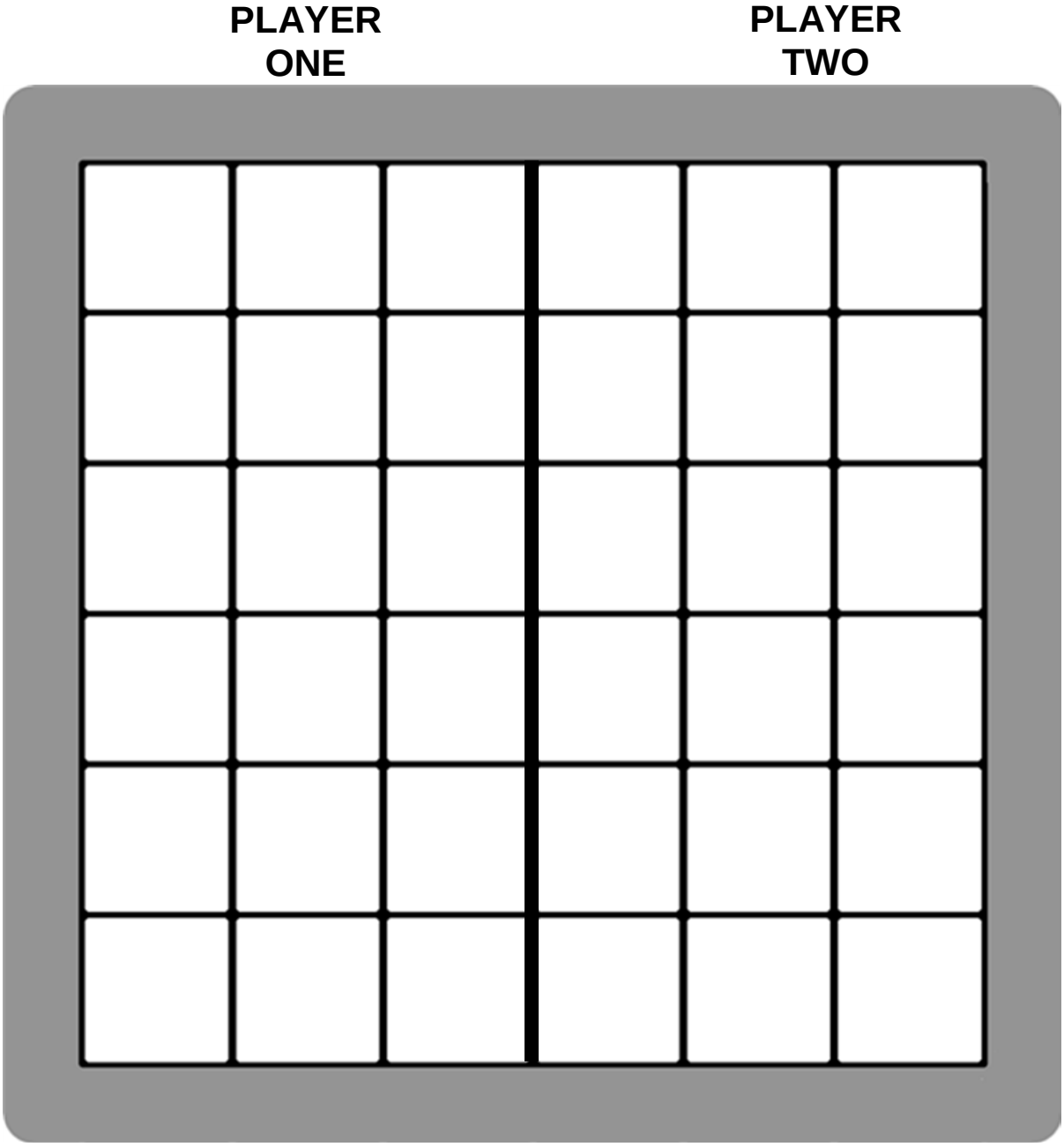
What do you need in your math icon library?

Dice	**Cards**	**Dominoes**	**Number Line**
Add	**Subtract**	**Fraction**	**Multiply**
Divide	**Players**	**Taking Turns**	**Math Talk**
Rule Change or Rule Twist	**Super Mush**	**Goal**	**Perseverance**
Probability	**Problem Solving**	**Place Value**	**Bone Yard**

As compiled by Eliza Thomas: mteducatrix@gmail.com for Box Cars and One Eyed Jacks

HORSE RACE

Each player takes 18 dice of own color.
Each player rolls two dice and adds.
Player with the greatest sum places them into their side of the tray, least sum places in lid.
Player with the most dice on their side of the tray at the end of the game wins.

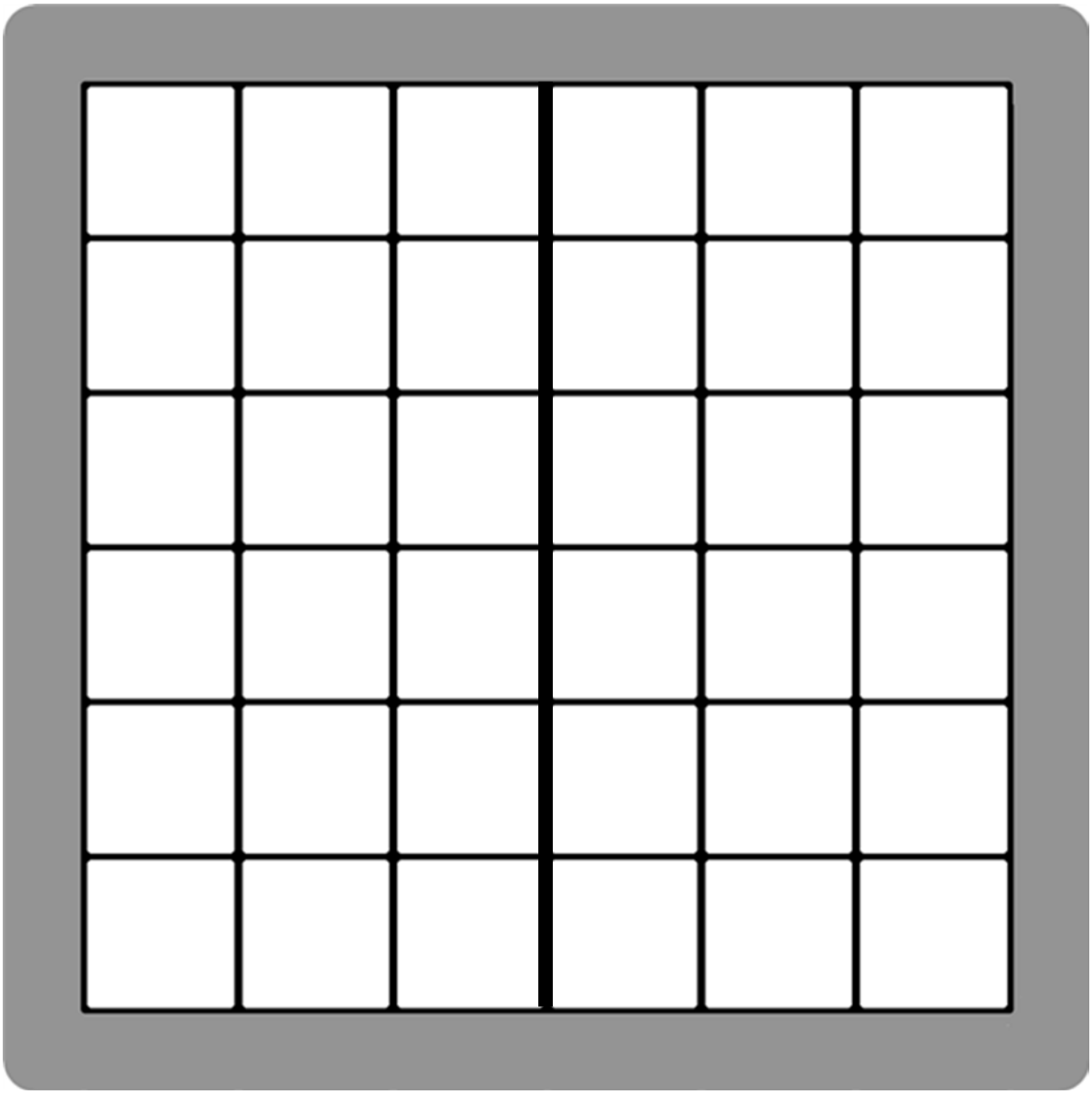


WARP 18

- Explore Associative Property of Addition.
- Each player takes 18 dice of their own color.
- Each player rolls 3 dice and adds.
- Player with the greatest sum places them into their side of the tray, least sum places in lid.
- Players need to verbalize how they calculated sums.
- Player with the most dice in their side of the tray at the end of the game wins.

Slam Dunk 36 / 72

PLAYER ONE	PLAYER TWO



Each player takes 18 dice of own color.

For 36 SLAM DUNK: Each player rolls 2 dice and multiplies them for a product.

For 72 SLAM DUNK: Each player rolls 3 dice, adds 2 of the dice for a sum and multiplies that sum by the third die for a product.

Player with the greatest product, places their dice into the black tray. Player with least product place their dice are into the clear lid.

Player with the most dice in their side of the black tray at the end of all the rounds, wins.

SQUARE DOUBLING

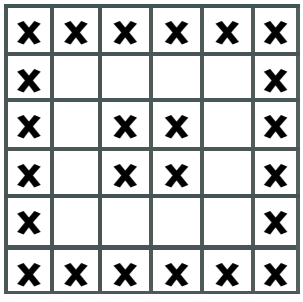
Skills: Patterning, addition with multiple addends, problem solving.

Players : 2

Equipment: 12 dice of each of two colors, two dice trays.

To Begin: Players take 12 dice of their color. Then players take turns rolling their dice one at a time and placing them into a square on their dice tray.

Once all twelve spaces in the square have been filled, players sum up the rows and columns and add the totals to their score. However, only rows and columns with doubles in them (for example, a row with two 4's or a column with two 6's) count for scoring!
If all four dice in a row or column have different numbers, they add no points to the player's score. The player with the highest score wins the game!



Only the clear spaces on this tray are used in this game!

If a player rolls a number they don't think will help them score, they can re-roll it as a "reject roll." Use this wisely, though! Only four reject rolls are allowed per player per game.

Example: Here's what a player's gameboard might look like at the end of a game. Let's score it!

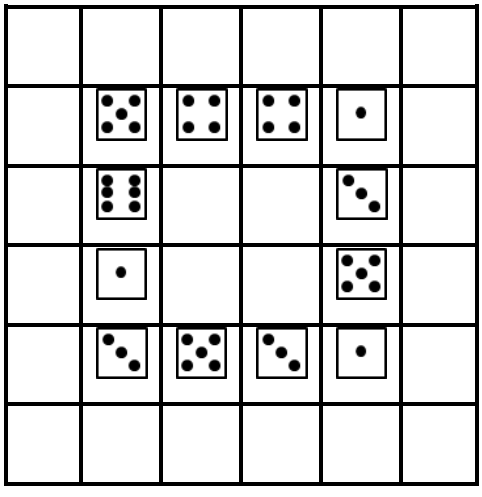
Left Column: No doubles! No score.

Right Column: ***1*** + 3 + *5* + ***1*** = *10* (double 1s)

Top Row: *5* + ***4*** + ***4*** + **1** = 14 (double 4s)

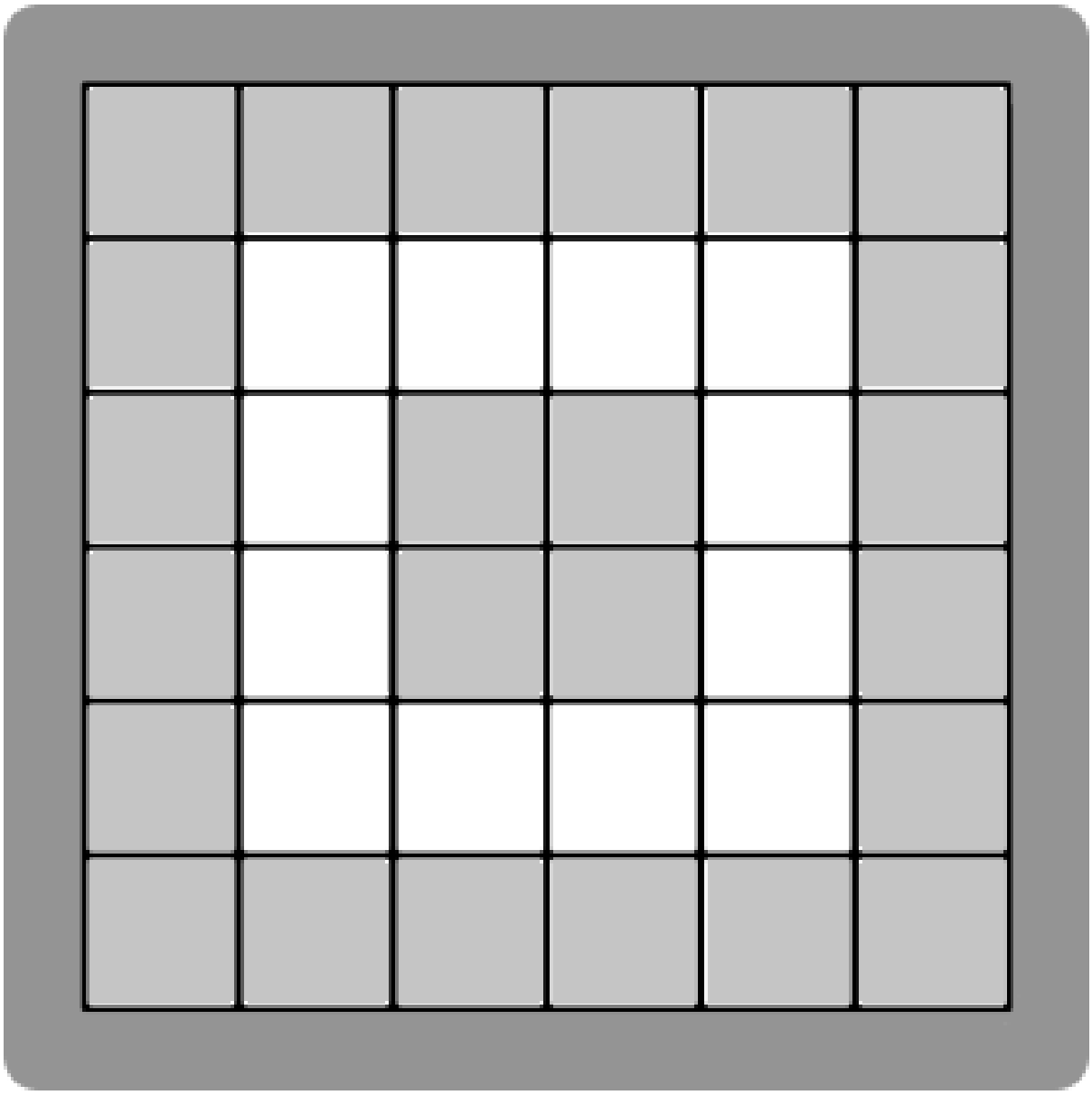
Bottom Row: ***3*** + *5* + ***3*** + 1 = 12 (double 3s)

Our total score: 0 + 10 + 14 + 12 = 36

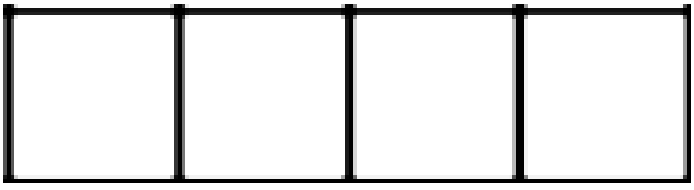


Variation: To increase difficulty, roll 20 dice and fill in the outside edge of the dice tray. Since rows and columns in this variation have six spaces, players must place three-of-a-kind in them to score!

SQUARE DOUBLING

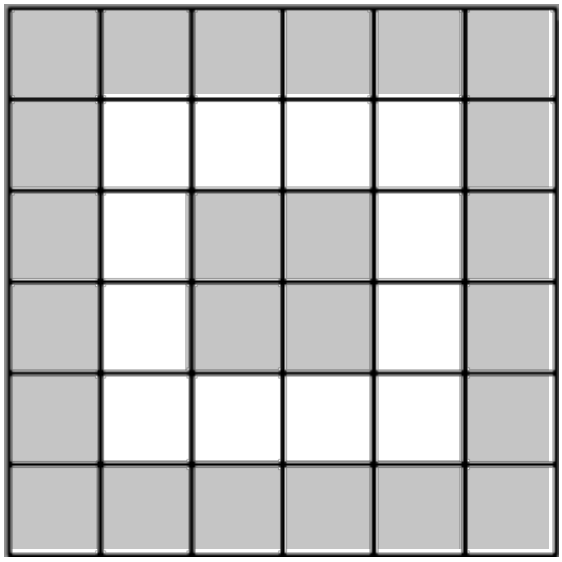


REJECT ROLLS



SQUARE DOUBLING

RECORDING SHEET



Column 1: ___ + ___ + ___ + ___ = _____

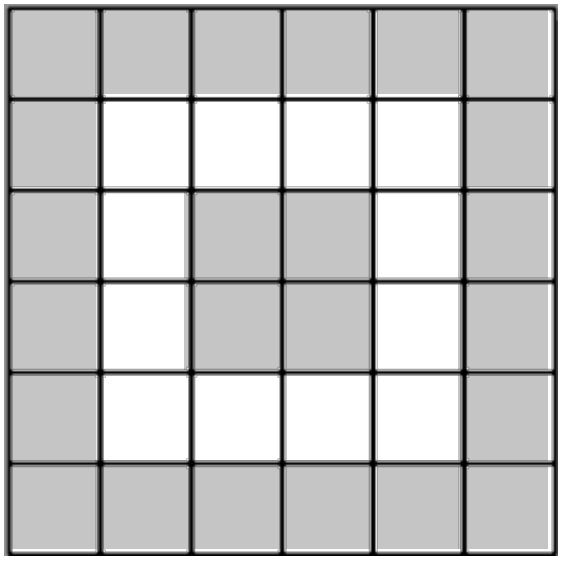
Column 2: ___ + ___ + ___ + ___ = _____

Row 1: ___ + ___ + ___ + ___ = _____

Row 2: ___ + ___ + ___ + ___ = _____

TOTAL SUM: ☐

REJECT ROLLS



Column 1: ___ + ___ + ___ + ___ = _____

Column 2: ___ + ___ + ___ + ___ = _____

Row 1: ___ + ___ + ___ + ___ = _____

Row 2: ___ + ___ + ___ + ___ = _____

TOTAL SUM: ☐

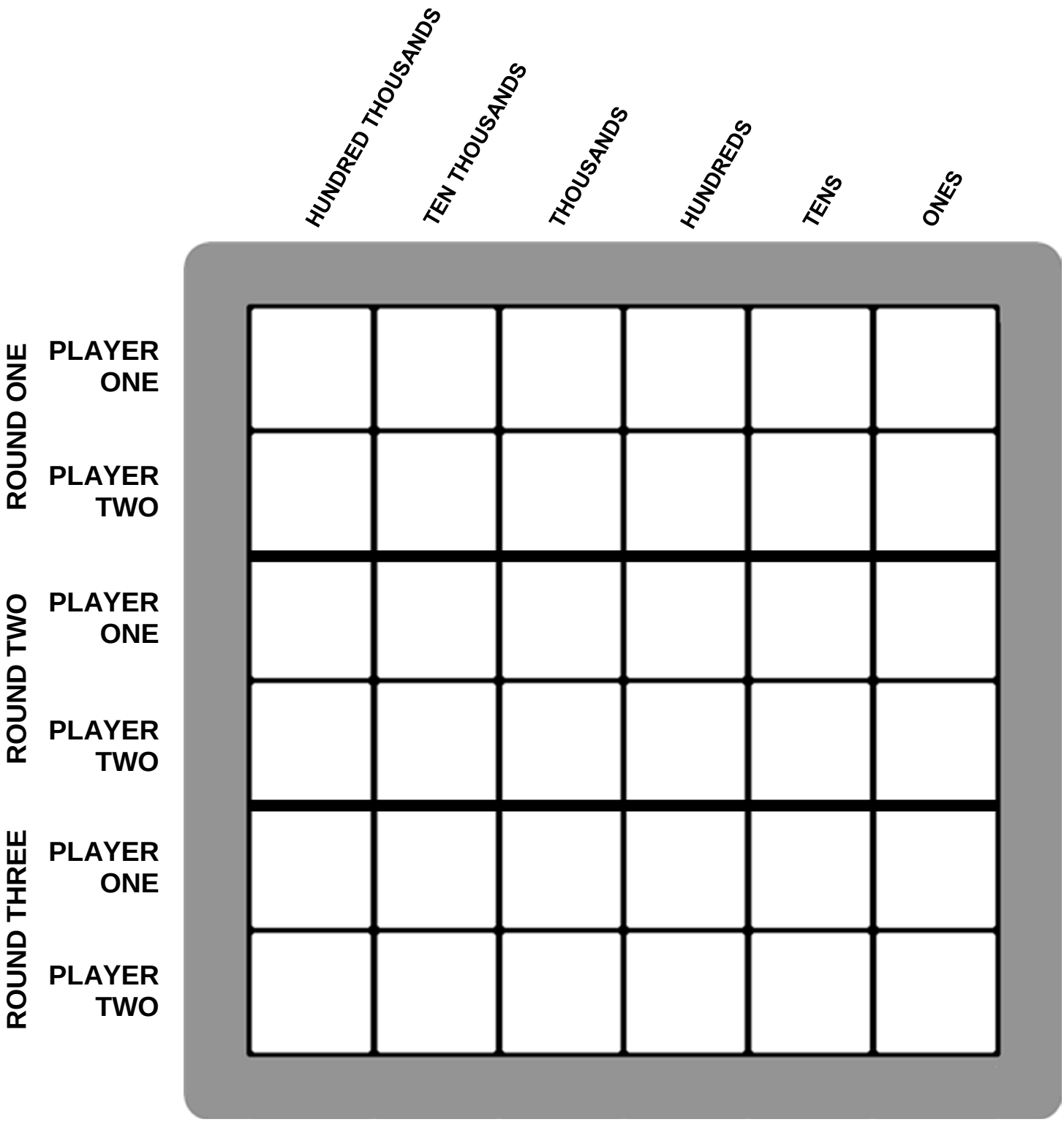
REJECT ROLLS

100s, 10s and ONES HORSE RACE

PLAYER ONE			PLAYER TWO		
HUNDREDS	TENS	ONES	HUNDREDS	TENS	ONES

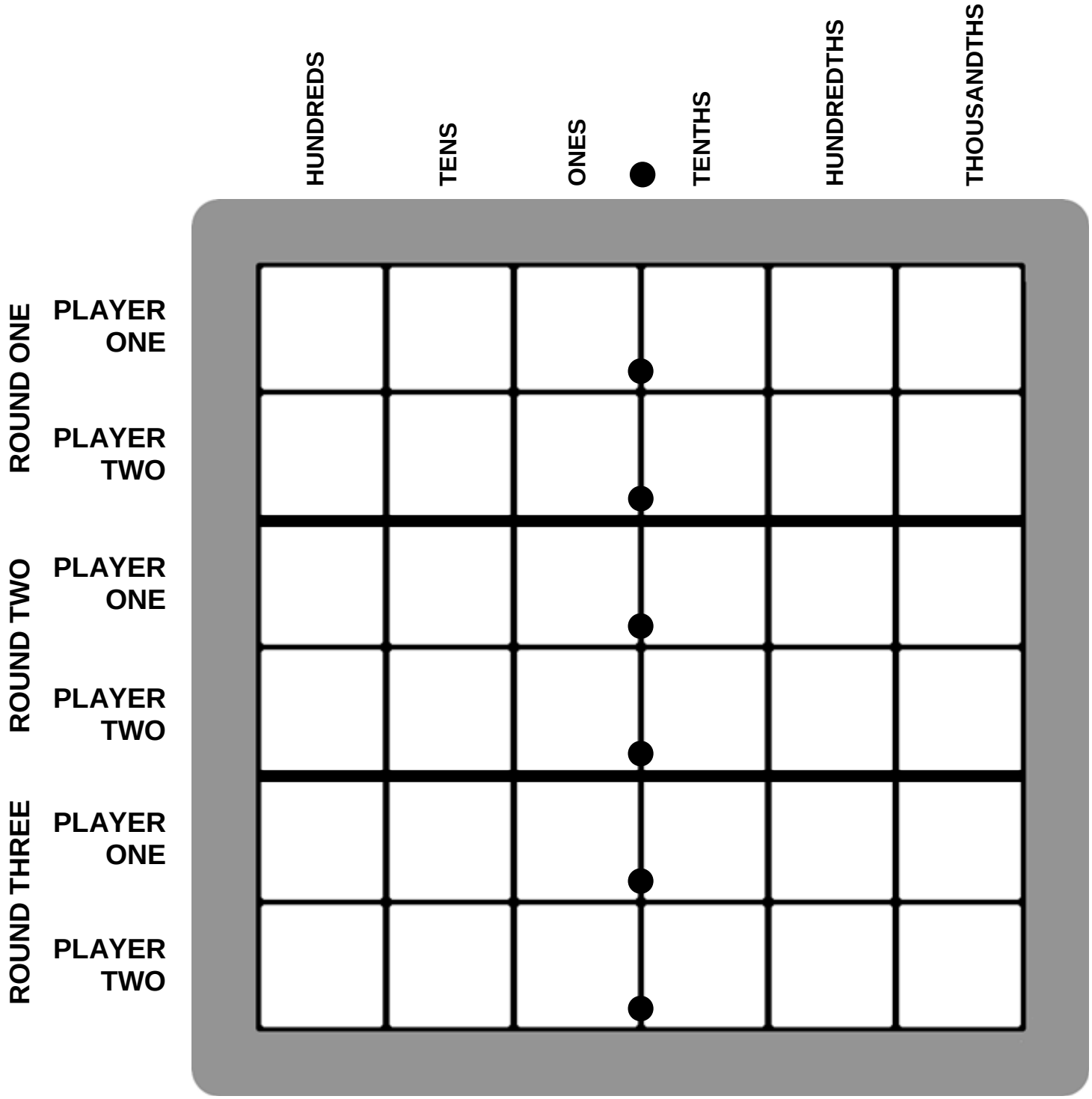
- Each player takes 18 dice of the same color.
- Each player rolls three dice and creates a 100s, 10s, 1s number.
- The player with the greater number places the dice into their side of the tray.
- The player with the least number places their dice into the lid.
- The player with the most dice on their side of the tray at the end of the game wins.

ROLL ON PLACE VALUE



The goal of the game is to create the largest number. Players take turns rolling a die, placing it into the tray and announcing it's place value for that roll. After 6 rolls, players compare numbers. A point is earned by the player with the largest number. A Place Value Systems die is rolled to identify a specific place value (for example 100's) . A second point is earned by the player with the highest place value in that place. A third "upside down bonus point" is awarded to the player with the biggest number when the tray is rotated 180 degrees and the numbers are compared.

ROLL ON PLACE VALUE - DECIMALS



ZAP

"Although this games involves speed, this is a Primary Favorite!"

LEVEL: Grade 2

SKILLS: adding to 12

PLAYERS: 3-4

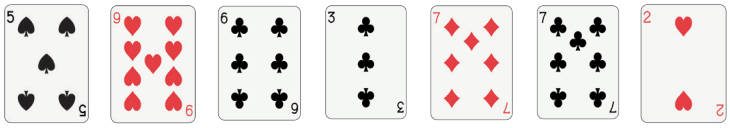
EQUIPMENT: 2 regular dice, cards 2 - (Jack=11, Q=12) remove Aces, Kings & Jokers

GOAL: to be the first player to get rid of all their cards

GETTING STARTED: Each player is dealt seven cards and the remainder of the deck is placed face down. Player One rolls the dice and adds them together for a sum. If Player One has a card (or cards) that match that sum in their hands, they may place the card(s) down. If they do not have cards that match the sum, they say **ZAP**. All other players now have the opportunity to place card(s) down that match the rolled sum. The first player to place the card(s) down keeps them down, all other players must return their card(s) back into their hand.

The roller always draws one card after their turn. Players who lay **ZAP** cards down <u>do not</u> pick up another card. Player Two now rolls, looks for the sum in their hand, and either lays down a card(s) or says **ZAP**. Play continues until one player has no cards left in their hand and is the winner.

EXAMPLE: PLAYER ONE has the following cards:



Rolls…  **= 7**

Places two   (7) cards down, draws one card at the end of their turn.

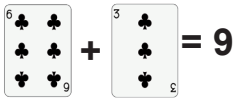
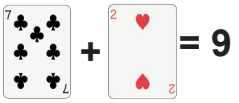
PLAYER TWO has the following cards:

Rolls…  **= 3**

There is no match, Player Two calls "ZAP". Player One can place their  down. Player Two must draw a card. Player Three rolls etc.

VARIATION:

1. Allow students to place down a combination of two cards that equal the sum. For example, if Player One above rolls 6 + 3 = 9, they could place down:

 **= 9** and  **= 9** and  **= 9**

SALUTE

LEVEL: Grade1-2

SKILLS: missing addend, problem solving (for missing factor)

PLAYERS: 3 cooperative - 1 general/referee, 2 players

EQUIPMENT: cards (Ace=1) - 12 (Jack =11, Queen=12, King=0)

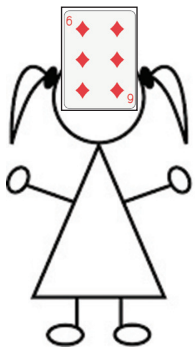
GOAL: to identify the missing addend (card) on your head

GETTING STARTED: One player is designated as the "General" and will be providing the SALUTE signal and calling the sums for players. The other two players divide the cards and place them face down. The General calls "SALUTE!" and both players take a card from the top of the deck and, without looking at it, place it on top of their heads so that the other player can see it. The general must add the two cards and call the sum out loud.

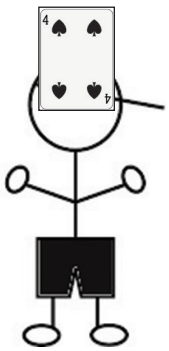
EXAMPLE:

Players "Salute" - both players draw a card and place on their heads. The General says "Your sum equals 10, what's on your head?"

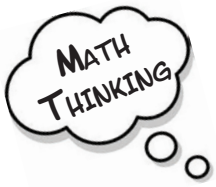
The players then use the sum and the number on the card they can see on the other player's head to try and figure out their own card.



Player One



Player Two



Player One "The sum is 10, I see 4. 10 - 4 = 6, I think 6 is on my head."

Player Two "The sum is 10. I see 6. I am going to count on from 6…7-8-9-10. I had to count on 4 more, I must have a 4. 6 + 4 = 10.

Players should let the group know the strategy they used to figure out the number on their head.

The General calls "Salute" again, and without looking, both players draw a new card and place them on their heads. The General says the sum out loud and players again try to figure out their card value. Have players change roles so that each will have a chance to be the General.

JOURNAL WORK AND EXTENSIONS:

1. After practicing several rounds have students complete the Salute Recording Sheet (see page 68).
2. Have students describe three strategies they could use to figure out their number. They can write or illustrate their answers.
3. Use the skills checklist found on page 69 to help you assess student's understanding.

SEVEN UP - ADD UP RECORDING SHEET

Shake # My 7 numbers _____ _____ _____ _____ _____ _____ _____ My Sum ☐

How I grouped my addends → Strategy I used

- ______________________ → • ______________________
- ______________________ → • ______________________
- ______________________ → • ______________________
- ______________________ → • ______________________

Shake # My 7 numbers _____ _____ _____ _____ _____ _____ _____ My Sum ☐

How I grouped my addends → Strategy I used

- ______________________ → • ______________________
- ______________________ → • ______________________
- ______________________ → • ______________________
- ______________________ → • ______________________

Shake # My 7 numbers _____ _____ _____ _____ _____ _____ _____ My Sum ☐

How I grouped my addends → Strategy I used

- ______________________ → • ______________________
- ______________________ → • ______________________
- ______________________ → • ______________________
- ______________________ → • ______________________

Shake # My 7 numbers _____ _____ _____ _____ _____ _____ _____ My Sum ☐

How I grouped my addends → Strategy I used

- ______________________ → • ______________________
- ______________________ → • ______________________
- ______________________ → • ______________________
- ______________________ → • ______________________

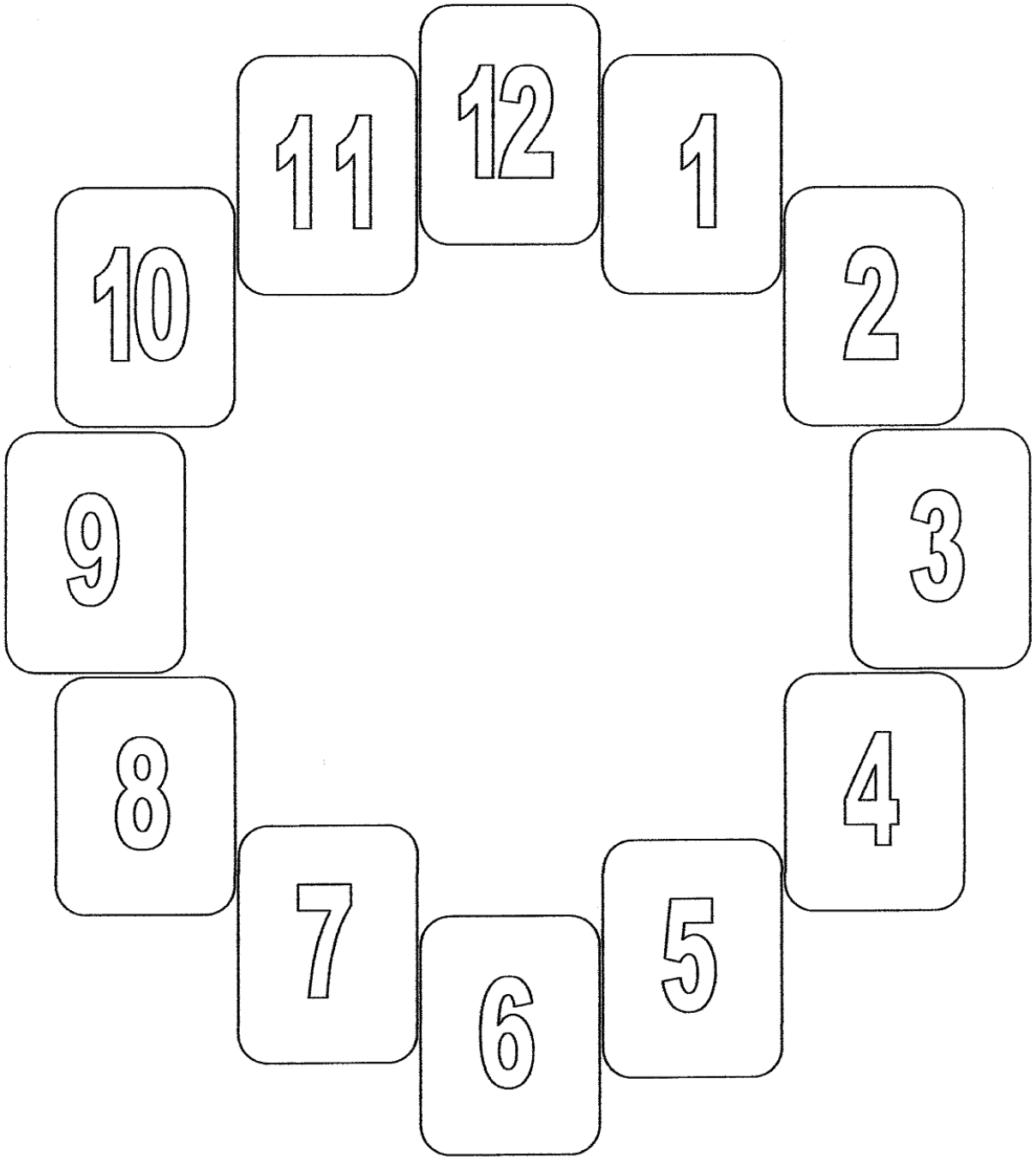
HUNDRED HORIZONTAL SHAKE UP RECORDING SHEET

MY NUMBER				MY FRIEND'S NUMBER		
Hundreds	Tens	Ones	> = <	Hundreds	Tens	Ones
			◯			
			◯			
			◯			
			◯			
			◯			
			◯			
			◯			
			◯			
			◯			

MILLIONS MAMBO RECORDING SHEET

SHAKE	NUMBER	EXPANDED NUMBER
1		
2		
3		
4		
5		
6		
7		
8		

WHAT TIME IS IT MR WOLF?



- Roll 2 regular dice and add them together.
- Use the result to fill in a time on their clock by crossing off the number on the clock, or, if playing with cards, turn over the card with the corresponding number.
- Players alternate turns until only 1 o'clock remains.

TICK TOCK ROLL A CLOCK

LEVEL: Grade 3 - 5

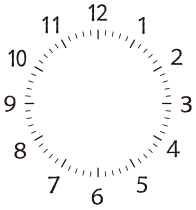
CONCEPTS: mixed operations, addition, subtraction, multiplication, division; PEDMAS

PLAYERS: 2 cooperatively; or solitaire

EQUIPMENT: 1 x 3-in-a-cube die, recording sheet

GOAL: to cross off all numbers on the clock in twelve rolls

GETTING STARTED:



Players either draw a clock or use the recording sheet. Play begins by rolling the 3-in-a-cube die and recording the numbers. Players must use all three numbers in a math sentence who's solution eliminates one of the numbers on their clock. Players can use +, −, × and ÷. All numbers rolled must be used, and can only be used once.

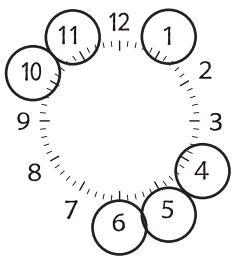
EXAMPLE: 1 2 6 Players can decide to: 6 ÷ (2 − 1) = 6 ***OR*** 6 + 2 + 1 = 9 ***OR*** 6 ÷ 2 + 1 = 4 etc.

Only one clock number can be crossed off per roll. Players continue to roll for new combinations, each time analyzing all possibilities, and crossing off their best open number. If players are unable to find a combination for any remaining numbers, they must record an extra roll.

As students become more proficient with the strategy and probability in the game, change the **GOAL**. Replay with the following challenge:

Players can cross off as many numbers as possible with each roll. All numbers must be used and used only once. ***ASK*** - What's the fewest number of rolls that allow you to cross off all the numbers on your clock? Allow all operations, exponents, integer values.

EXAMPLE: 3 4 2



3 + 4 + 2 = 9

(-3) × (-2) + 4 = 10

(4 − 1) − 2 = 1

(4 × 1) + 2 = 6

(3 − 2) + 4 = 5

(3 − 2) × 4 = 4

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Zip/Postal: _____ Email: (PRINT CLEARLY) _____

Phone: _____ Fax: _____

Ship To: (___) SAME AS ABOVE

Contact Name: _____

Address: _____ City: _____ St/Pv: _____

Zip/Postal: _____ Email: (PRINT CLEARLY) _____

Phone: _____ Fax: _____

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		Tax (If applicable)	
		Grand Total (Pay this amount)	

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Orders $60.01 to $125.00 add 18% + 6.00
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Orders $300.01 to $649.99 add 13% + 6.00
Orders over $650.00 add 12% + 6.00
Questions? info@boxcarsandoneeyedjacks.com

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