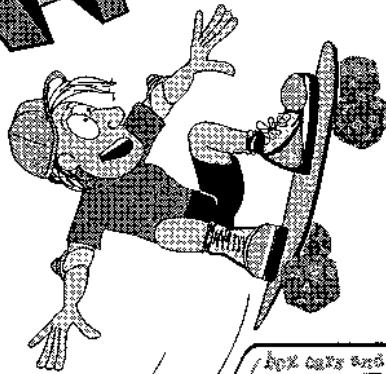


box cars and one-eyed jacks[®]

Presents

RADICAL MATH



January 28 Full Day Teacher Workshop Grades 5-8
Presented by Julie Armstrong / John Felling

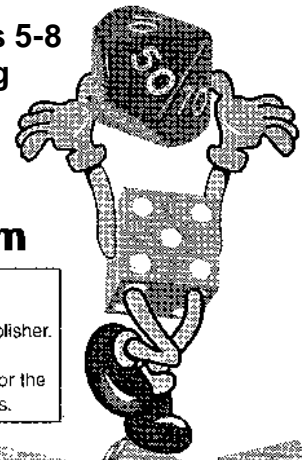
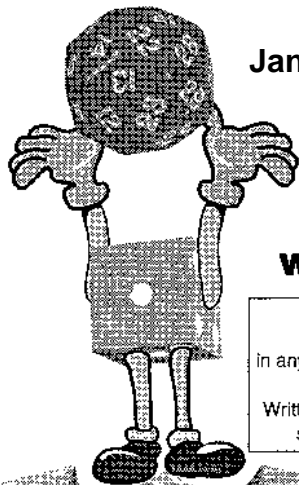
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BOX CARS & ONE-EYED JACKS

Games & Strategies In Your Classroom

- To Teach or Introduce Concepts
- Quick Math Warm Ups / Practice & Review Concepts
- Math Back Packs / Newsletters / Family Math / Home Connections
- After School Programs
- Cross-Graded Groupings - Mix Up Time With Reading Buddies
- Inside Days / Full Moon Fridays
- Centers
- Kids Teaching Kids - Peer & Cross-Graded Support
- Assessment
- Recycling Concepts For Review / Test Preparation
- Tutoring
- Math Clubs / Inventing Games
- Math Themes - Probability, Graphing ...
- Don't Lose 5-10 Minutes - Educational Play

MATH GAMES = POWERFUL TEACHING STRATEGY

PARENTS CAN HELP KIDS SUCCEED IN MATH

AS A PARENT, YOU ARE YOUR CHILD'S MOST IMPORTANT TEACHER!

YOU CAN:

PRESENT A POSITIVE ATTITUDE *about math - even if you didn't care for it in school. Kids need to feel good about math. If you say, "I hated math," or "I can't do math," your child may start to feel the same (You probably know more about math than you think!).*

SHOW INTEREST *in your child's homework - and be on hand to help.*

ENCOURAGE ACTIVITIES *that make math interesting and fun!*

**GAMES ARE A PERFECT WAY
TO MAKE HOMEWORK...**

“HOME PLAY”

A “REFRESHER” IN THE LANGUAGE OF MATH

Addition: $\text{addend} + \text{addend} = \text{sum}$

Subtraction: $\text{minuend} - \text{subtrahend} = \text{difference}$

Multiplication: $\text{factor} \times \text{factor} = \text{product}$

Division: $\text{dividend} \div \text{divisor} = \text{quotient}$
(and sometimes a remainder)

Fractions: $\frac{\text{numerator}}{\text{denominator}}$

HORSE RACE

4 LEVELS
OF
PLAY



This is a game for two Dicers to play at one time. Players use one tray divided so that each player uses only their half.

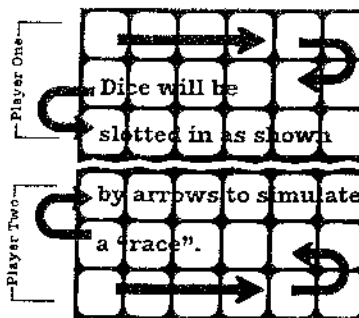
TO BEGIN

Each Dicer chooses eighteen dice of their own colour and these are removed from the tray.

THE GOAL

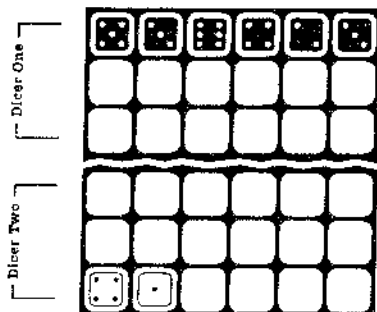
The goal of the game is to have the most dice in your side of the "horse race track" after all dice have been rolled out for the round. Dicers roll two dice at one time.

Dicers add their two dice and compare their sums. The Dicer with the greatest sum places them into their side of the "horse race track". Their opponent places their two dice into the lid (losing side). Dicers pick up two new dice, roll, add and compare their sums. The Dicer with the greatest sum places them into their side of the "horse race track" and their opponent places them into the lid. In the event of a tie sum, both Dicers place their dice into their own side of the "horse race track". Dicers roll out all remaining dice. The Dicer with the most dice on their side of the "horse race track" after nine tosses, is the winner.



The tray is divided between the two players as shown.

EXAMPLE



Play After 3 of 9 Rounds.

Toss 1

Dicer One + = 8 → WINS and places dice in tray

Dicer Two + = 5 → Tosses dice into lid

Toss 2

Dicer One + = 10 → WINS and places dice in tray

Dicer Two + = 3 → Tosses dice into lid

Toss 3

Dicer One + = 5 → TIE both players place dice in tray

Dicer Two + = 5

LEVEL 1

Play is outlined above, Dicers roll two dice and add.

LEVEL 2

Play as described in above rules, but now Dicers roll three dice and add for the greatest sum. The Dicer with the greatest sum (answer) places them into their side of the "horse race track".

$$\text{die 1} + \text{die 2} + \text{die 3} = 9$$

LEVEL 3

Play as described in above rules, but now Dicers roll two dice and multiply $\text{die 1} \times \text{die 2} = 20$ for the greatest product. The Dicer with the greatest product (answer) places them into their side of the "horse race track".

LEVEL 4

Play as described in above rules, but now Dicers roll three dice, add two, and multiply by the third for the greatest product. See example.

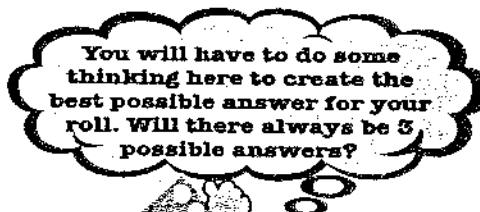
The Dicer with the greatest product places them into their side of the "horse race track".



$$(5 + 3) \times 6 = 48 \checkmark \text{ Best Choice}$$

$$(6 + 3) \times 5 = 45$$

$$(6 + 5) \times 3 = 33$$



GOOD LUCK!

Hundred Board

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

100 Board Wipe Out

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Roll 1
Roll 2
Roll 3

Roll 4
Roll 5
Roll 6

= 1
= 2
= 3
= 4
= 5
= 6
= 7
= 8
= 9
= 10
= 11
= 12
= 13
= 14
= 15
= 16
= 17
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= 98
= 99
= 100

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Roll 3 to 5 dice, record numbers, create math sentence, mark on 100 Brd at answer or on answer sheet, keep making math sentences with same roll until no longer possible, then re-roll, **RECORD IN WRITING ALL MATH SENTENCES**

NUMBER WORD BLACKOUT

one

two

three

four

five

six

seven

eight

nine

ten

eleven

twelve

MULTIPLICATION SCRAMBLE

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0 - 9	_____	0 - 9	_____
10 - 19	_____	10 - 19	_____
20 - 29	_____	20 - 29	_____
30 - 39	_____	30 - 39	_____
40 - 49	_____	40 - 49	_____
50 - 59	_____	50 - 59	_____
60 - 69	_____	60 - 69	_____
70 - 79	_____	70 - 79	_____
80 - 89	_____	80 - 89	_____
90 - 99	_____	90 - 99	_____
100 - 109	_____	100 - 109	_____
110 - 119	_____	110 - 119	_____
120 - 129	_____	120 - 129	_____
130 - 139	_____	130 - 139	_____
140 - 149	_____	140 - 149	_____

THE BIG ROUND UP

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10 20 30 40 50 60 70 80 90 100 110 120 130 140

10 20 30 40 50 60 70 80 90 100 110 120 130 140

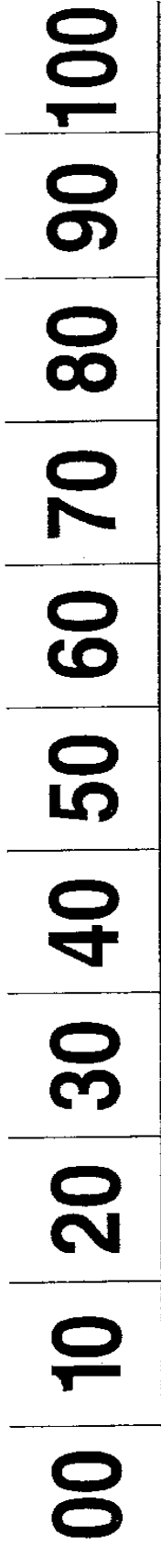
TANGLE WITH TWENTY

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

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

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Flippin' Out



Tens

An empty rounded rectangular box for Player One's Tens place.

Ones

An empty rounded rectangular box for Player One's Ones place.

Player One

Tens

An empty rounded rectangular box for Player Two's Tens place.

Ones

An empty rounded rectangular box for Player Two's Ones place.

Player Two

000 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | >

Copyright Box Cars And One-Eyed Jacks Inc.

Hundreds

Tens

Ones

Hundreds

Tens

Ones

Player One

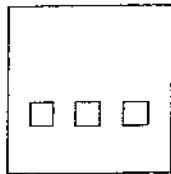
Player Two

BETWEENERS

USING THREE IN A CUBE DICE

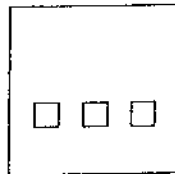
READ AND CHUNK PLACE VALUE

ROLL 1

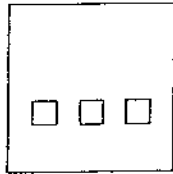


Hundreds
Tens
Ones

ROLL 2

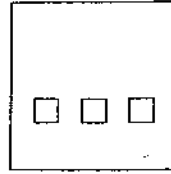


Hundred Thousands
Ten Thousands
Thousands

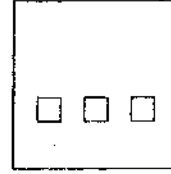


Hundreds
Tens
Ones

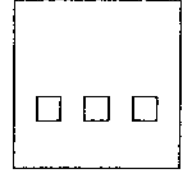
ROLL 3



Hundred Millions
Ten Millions
Millions



Hundred Thousands
Ten Thousands
Thousands



Hundreds
Tens
Ones

WARM UP:

ROLL THREE IN A CUBE TO BUILD THE GREATEST NUMBER POSSIBLE

ROLL THREE IN A CUBE TO BUILD THE LEAST NUMBER POSSIBLE

ASSIGN RED/WHITE/BLUE AS HUNDREDS/TENS/ONES (UNITS)

TO PLAY

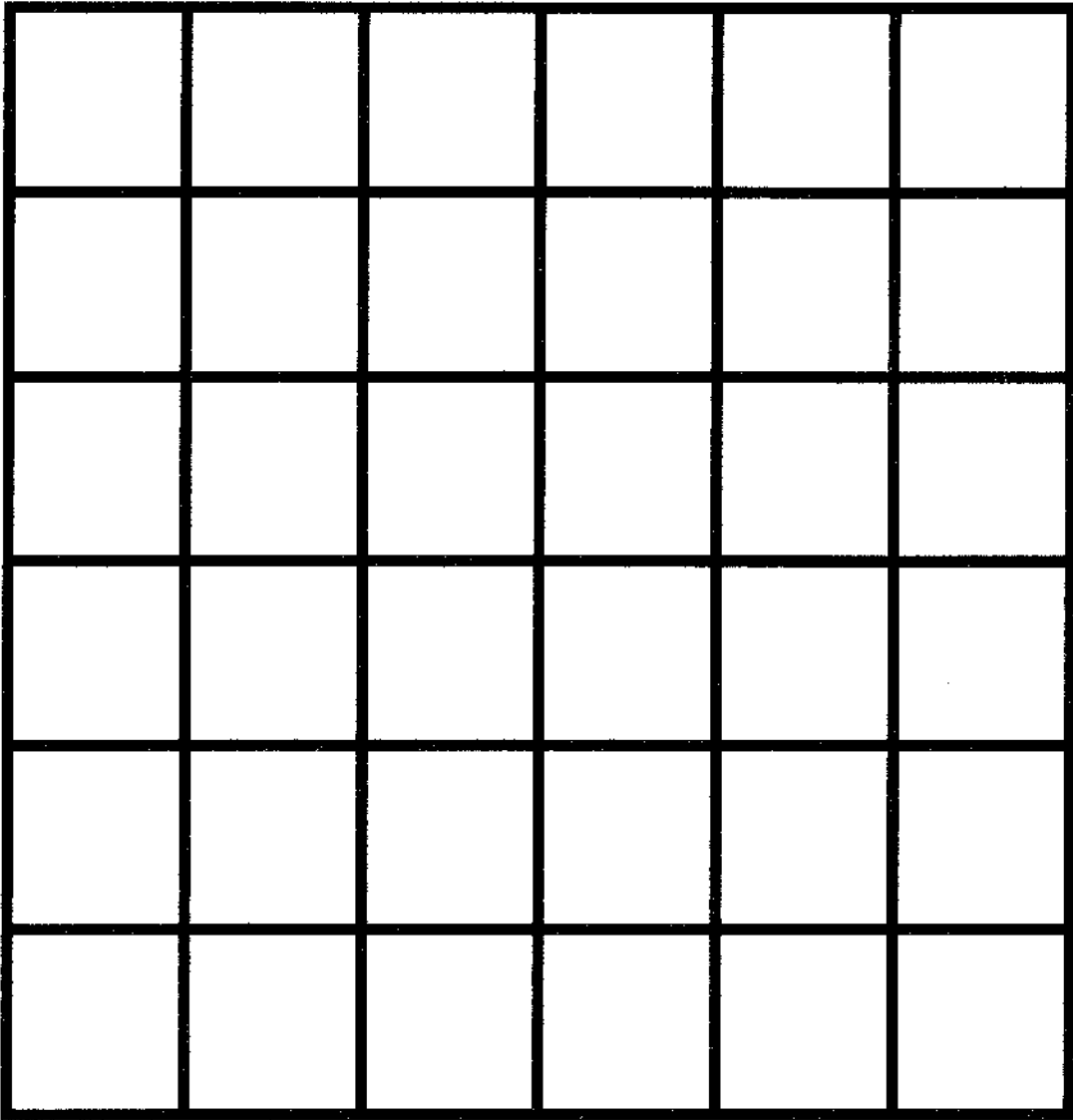
ROLL AND HIDE CUBE

BUILD THE BEST "BETWEEN" NUMBER. WRITE NUMBER DOWN

COMPARE AND SCORE. BETWEEN NUMBER WINS 1 POINT

EXAMPLE

246
351
556



Batters Up!

Skills: Place Value to 100 000s, Addition with Expanded Notation

Equipment: Cards 0-9, Place Value System die, paper/pencil

Goal: Greatest total sum after ten rounds wins

Getting Started:

Each player builds a number in the 100 000s with their cards

Build in order from 100 000s place to 1s place (Example 230 516)

Each player reads their number to the other players.

One player rolls the PV System die and calls out the place value

Players identify the value at that place value in their number (this is their score for the round) and record their score for that round. Example: **ten thousands** is rolled, 3 is in the 10 000s place, score for that round is 30 000

Play 10 rounds, (rotate roller) then total your score.

BATTERS UP!

Round	Number	Roll	Value/Points/Score
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Total Score =

ROLL ON... DECIMALS

Roll Number	Ones	Tenths 10ths	Hundredths 100ths	Thousandths 1000ths	Running Total
1	●				
2	●				+ =
3	●				+ =
4	●				+ =
5	●				+ =
					<div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div>

difference from whole number (+/-)

COMBO FIVE

LEVEL: Grade 3 and up
SKILLS: Mixed operations (+, -, x, ÷), problem solving
PLAYERS: Teams of 2 vs. 2
EQUIPMENT: One 20-sided die, cards Ace - King (Ace = 1, Jack = 11, Queen = 12, King = 0)

GETTING STARTED: Both teams take five cards and place them face up. The goal of the game is to equal the rolled target number each round. To begin, one team rolls the target number for the round. This number will be used by both teams. Teams now begin finding combinations that equal the target number rolled - all operations may be used. A single card cannot be taken off. Teams may take off two, three, four or five card combinations. Teams may also take off a two card and a separate three card combination or two, two card combinations leaving one card behind for the next round. Each card may only be used once in any combination (ie., in the following example 4 can only be used once and not again in a second combination).

EXAMPLE: Cards drawn are as follows:

Team One	4	9	7	2	11
Team Two	2	3	8	10	5

Target rolled = 11
 Team One made the following combinations and removed the cards as follows:
 $9 + 2 = 11$ and $4 + 7 = 11$
 leaving behind the 11 card as it was not used in any combination.
 Team Two made the following combinations and removed the cards as follows:
 $(2 \times 3) + 5 = 11$
 leaving behind the 8 and 10 cards.

SWEET 16

"A REAL FAVOURITE"
LEVEL: Grade 4 and up
SKILLS: mixed operations, problem solving
PLAYERS: 1 (solitaire) or whole class in cooperative teams
EQUIPMENT: 1 thirty-sided die, cards (Ace = 1) - K, Jack = 11, Queen = 12, King = 0
GETTING STARTED: All teams build a four x four grid with sixteen random cards, face up.

The goal of the game is for each team to remove all the cards from their grid. All cards remaining at the end of a round equal their face value score AGAINST the team, (ie. 4 and 3 left - score against = 7). The lowest and best possible score per round is zero.
 To begin play the teacher rolls a target number for the first round with the die. This number will be used by all cooperative teams. Teams now begin finding combinations that equal the target number rolled - all operations may be used. Players may take off two, three, four or five card combinations.

Grid was randomly drawn as follows:

King	4	10	2
Jack	3	9	7
6	Ace (1)	8	6
5	4	10	2

BIG SUMS



- SKILLS:** Problem solving, gathering data, recording data, interpreting data
- PLAYERS:** Students work in groups of 2, 3 or 4
- EQUIPMENT:** 36 regular dice per group, paper and pencil, chart
- ACTIVITY I:** The goal of the activity is to find the sum of 36 dice after they have been rolled.
- TEACHING TIP:** Allow students several rounds to develop their own method of adding the dice. Use **Chart I** to record the methods. Teach the patterns below and show the students how to group the dice.

1	2	6
2	4	7
3	6	8
<u>+4</u>	<u>+8</u>	<u>+9</u>
10	20	30

THOUGHT PROVOKERS:

1. What is the most efficient pattern to start with? Why?
2. In which order should we use the patterns to be most efficient? Why?
3. What is the largest sum we could have? What is the smallest?

ACTIVITY II: The goal is the same but we are trying to determine the range of possible sums. Use **Chart II** to record the sums that are used.

THOUGHT PROVOKERS:

1. What is the estimate for the mean value of the sums?
2. Can anyone give an explanation for the mean?
3. (Challenger) What is the mean sum of 48 dice?

CHART I:

	Prediction	Method Used	Actual Sum	+ / - Difference
1.				
2.				
3.				
4.				
5.				

CHART II:

150+	141-150	131-140	121-130	111-120	101-110	90-100

BETWEENERS

See instructions on
"Chunking" page

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MYSTERY ROLL

You will need to play either 50 or 100 rounds. Play in groups of 3. Every round record L, E and G plus figure out the RANGE between G and L. Use a calculator if you wish. When you are playing you should use your highlight pen to mark any unusual rolls - for example, tie rolls, sequences, unusual winning rolls, etc. Circle the points you score.

Round #	Least	Between	Greatest	Range	Analyze
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Once you have completed either 50 or 100 rolls
answer the following questions.

Work Together!

1. What is the average range of the rolls?
2. What percentage of the time does a tie roll happen?
3. What percentage of the time did you score a point? If you kept track of all winners, what percentage of the time did all 3 players score a point?
4. Describe your most unusual round. Try to interpret the probability of that event happening. Remember $\frac{1}{30}$ chance of rolling any number.
5. Write one question for the rest of the group to use with their data.

COMMIT AND CAPTURE

1. $\square \times (\square - \square) - \square =$

2. $\square + \square \times \square \div \square =$

3. $\square^2 - \square \times \square - \square =$

4. $\square + \square \div \square \times \square =$

5. $\square \times (\square + \square) - \square =$

6. $\square [\square^3 \times (\square - \square)] =$

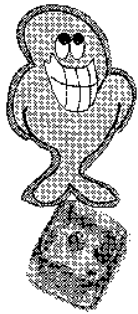
7. $\square \div \square + \square \times \square =$

8. $\square \div \square \times \square - \square =$



THREE-IN-A-CUBE WARM-UPS

2
Double Dicers
to Play



1. DUELLING DICE



Each player rolls their own die and adds all three numbers and verbalizes their sum out loud. Players compare their sums. The player with the greatest sum scores 1 point. You'll add to 18 this way.

ROLL  = 10



Play for speed. Players roll one die between them. The first player to give the correct sum out loud scores 1 point. $4 + 4 + 3 = 11$

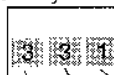
Use patterns such as doubles, doubles +1, making 10's to help you add quicker.
 $4 + 4 + 3 = \text{doubles } (8) + 3 = 11$ $3 + 4 + 6 = \text{making } 10\text{'s}$ $3 + (10) = 13$

The best possible score is 0!
What rolls will make it?

2. DUELLING DICE



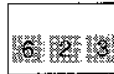
Each player rolls their own die and may add any two numbers. They then subtract the third. Players are trying to create the least difference possible. Players will have to analyze the various combinations to find the least difference for their final answer. Each number may only be used once.

ROLL  $(3 + 1) = 4$ $4 - 3 = 1$

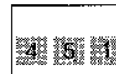
3. DUELLING DICE



Each player rolls their own die and adds two numbers and multiplies this sum by the remaining third number. Players will need to analyze the various combinations to build the greatest product. The player with the greatest product scores 1 point.

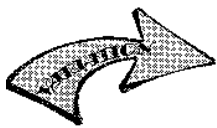
ROLL  $6 + 2 = 8$ or $3 + 2 = 5$
 $8 \times 3 = 24$ $5 \times 6 = 30$


4. DUELLING DICE PLACE VALUE

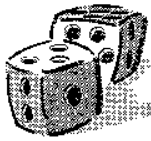
Each player rolls their own die and builds the greatest hundreds number. ROLL  = 541 (when rearranged) to make "Five hundred forty-one". The player with the greatest number scores 1 point.



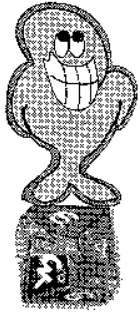
You can also play that the least number scores 1 point. CHECK OUT CUBIC MYSTERY on p. 16-18 for a great game that uses the dice this way.



Players can build a decimal number. ROLL  = .116 (when rearranged) to make "one hundred sixteen thousandths". The player with the least number scores 1 point.



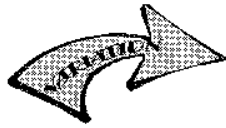
10-SIDED DOUBLE DICE WARM-UPS



1 DUELING DICE +

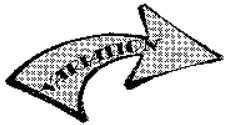
Each player rolls their own die and adds the inside and outside numbers, and verbalizes their sum out loud. Players compare their sums. The player with the greatest sum scores 1 point. You'll add to 18 this way.

$$\begin{array}{c} 8 \\ \triangle \\ 6 \end{array} = 14$$



Each player rolls two dice, adds all four numbers and compares for the greatest sum. You'll add to 36 this way.

$$\begin{array}{c} 6 \\ \triangle \\ 2 \end{array} + \begin{array}{c} 9 \\ \triangle \\ 5 \end{array} = 8 + 14 = 22$$



Each player rolls one die, adds the inside and outside numbers, then doubles it. The greatest sum scores 1 point. You'll add to 36 this way.

$$\begin{array}{c} 6 \\ \triangle \\ 3 \end{array} 9 \text{ doubled} = 18$$

2 DUELING DICE -

Each player rolls one die and subtracts for the least difference. The player with the least difference (answer) scores 1 point.

$$\begin{array}{c} 6 \\ \triangle \\ 8 \end{array} 8 - 6 = 2$$

3 DUELING DICE X

Each player rolls one die and multiplies the numbers. The player with the greatest product (answer) scores 1 point. You'll practice multiplying to 81 this way.

$$\begin{array}{c} 7 \\ \triangle \\ 6 \end{array} = 42$$

TIES In the event of a tie, in all games, both players score 1 point.

DOUBLE DICE SNAPS: Players can try all of the above games for speed.

DOUBLE DICERS roll only one die (or set of dice if needed). The first player to call out the correct answer scores 1 point.

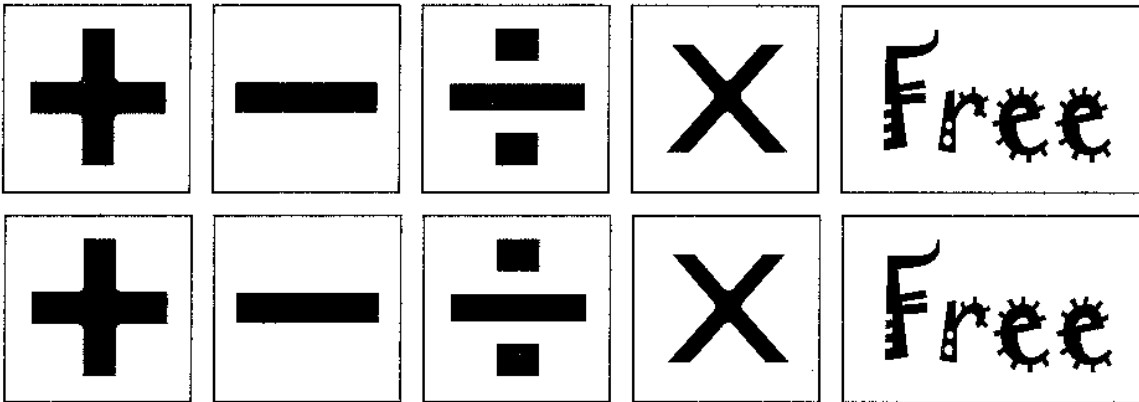
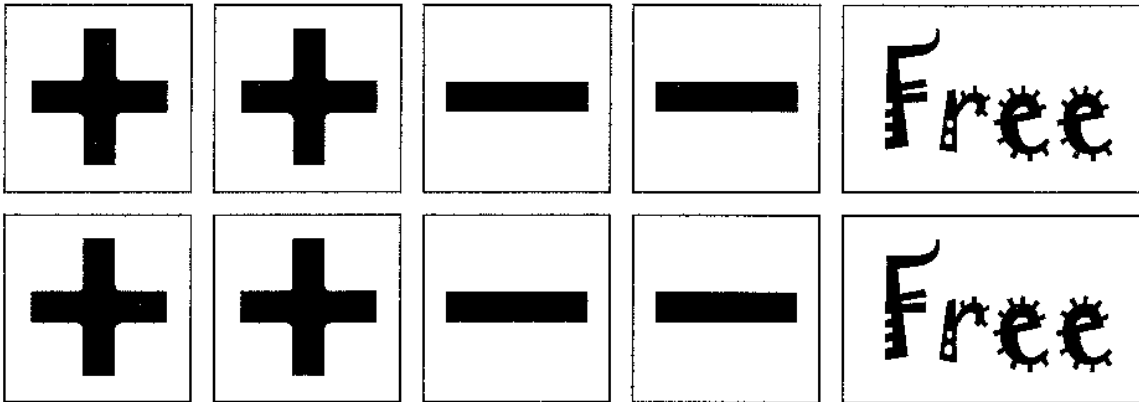
4 REDUCE FRACTION SNAP

Players only roll one die between them. Both players mentally build a proper fraction and reduce it to its simplest form (if possible). If a zero is rolled it is used as a 10. The first player to call out the fraction in its reduced form scores 1 point.

$$\text{ROLL } \begin{array}{c} 3 \\ \triangle \\ 6 \end{array} = \frac{3}{6} = \frac{1}{2}$$

$$\text{ROLL } \begin{array}{c} 2 \\ \triangle \\ 0 \end{array} = \frac{2}{10} = \frac{1}{5}$$

Double Dice Decisions



GOAL: The greatest accumulated sum wins

- 1) Roll the double dice
- 2) Decide which operation to use and record the math sentence
- 3) Bank your points and cover up that operation. That operation cannot be used again except as a free choice
- 4) Division sentences must have a remainder of zero in order to score

EXAMPLE:

ROLL

ACCUMULATED POINTS

- 1) $6 - 2 = 4$
- 2) $3 + 1 = 3$
- 3) $4 + 3 = 7$
- 4) $4 \times 2 = 8$
- 5) $6 \times 3 = 18$

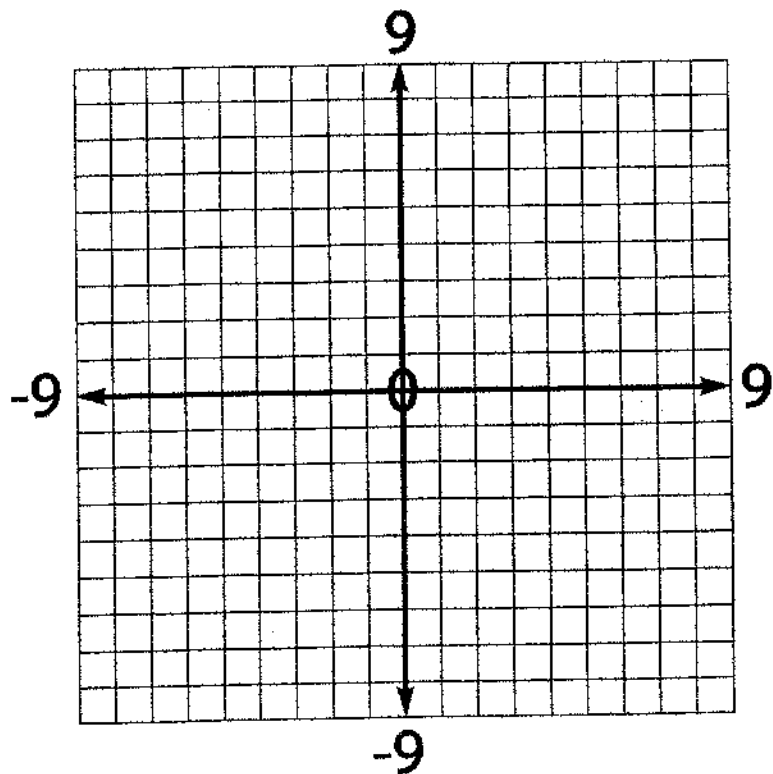
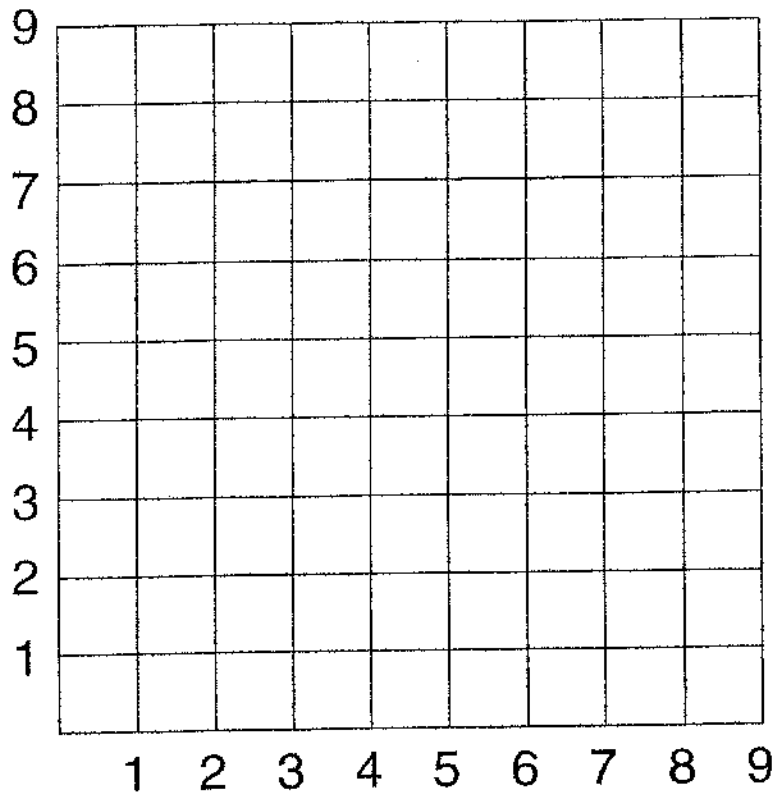
4
+3 7
+7 14
+8 22
+18

40 Total Points

Chooses free →



PLOTTING ALONG GRAPH



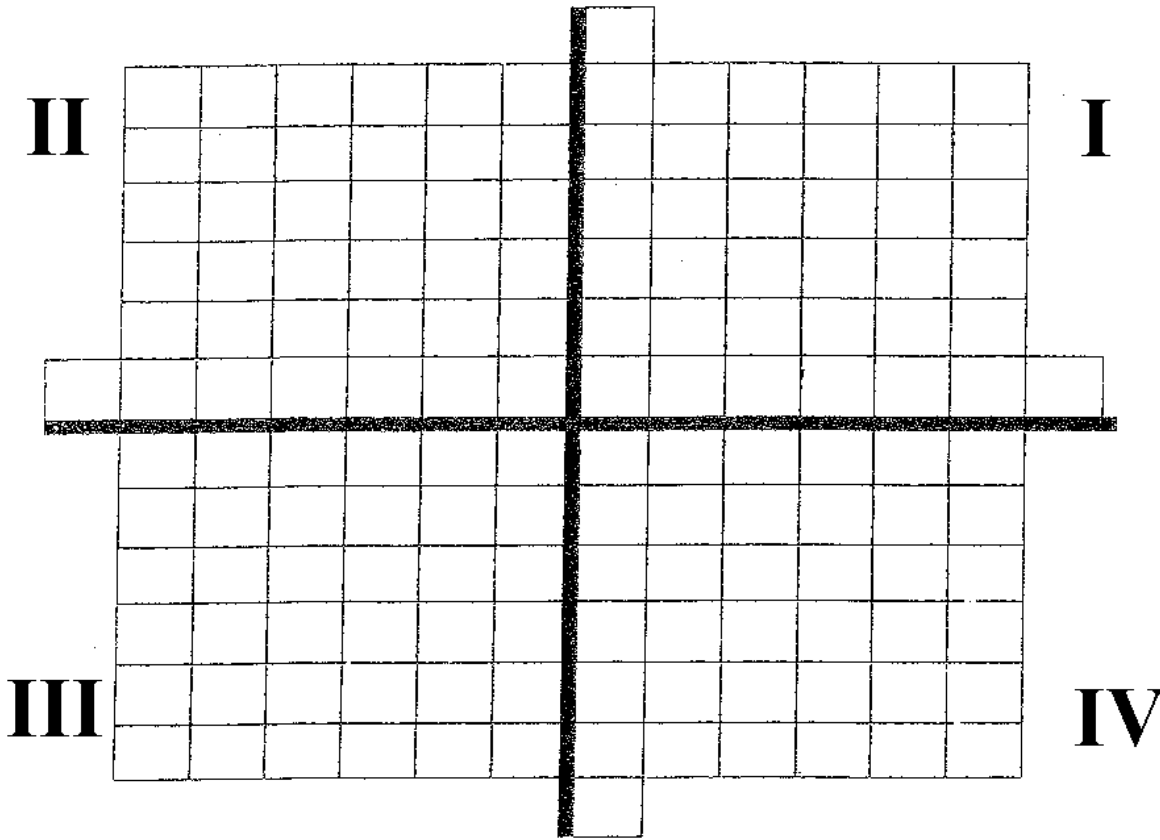
Hit Target

Goal: To get 3 in a row in each quadrant

Directions: Two players on each grid. Players take turns plotting points.

When it's your turn:

- Roll the double die.
- Choose the number or numbers to be negative or positive
- Record the Ordered Pair in the Column for the correct quadrant before you plot the point.



Player 1:				Player 2			
Quadrant I	Quadrant II	Quadrant III	Quadrant IV	Quadrant I	Quadrant II	Quadrant III	Quadrant IV



Name _____

Order In The Court

Date _____

Reject Rolls

Reject Rolls

Reject Rolls

Reject Rolls

Reject Rolls

Reject Rolls

Use Double Sided Dice; 6-Sided Dice; or 1-12 Dice

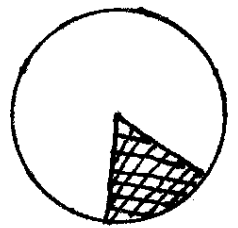
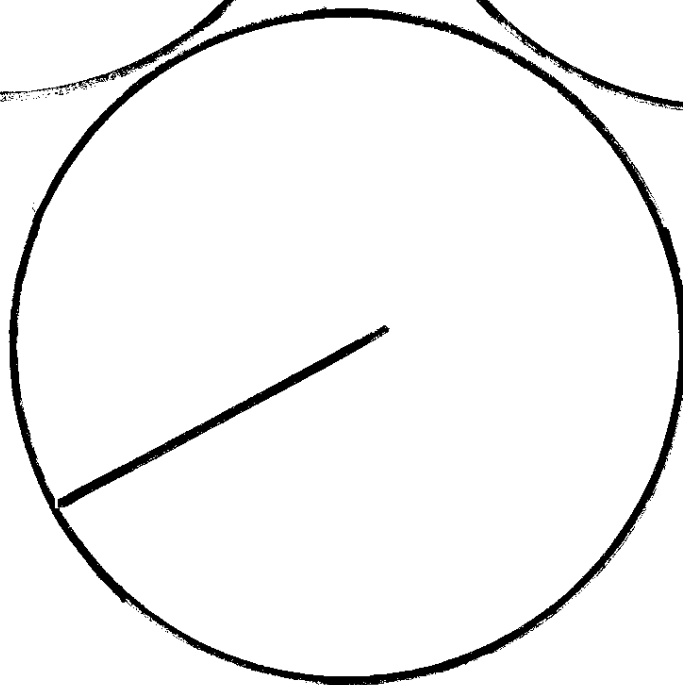
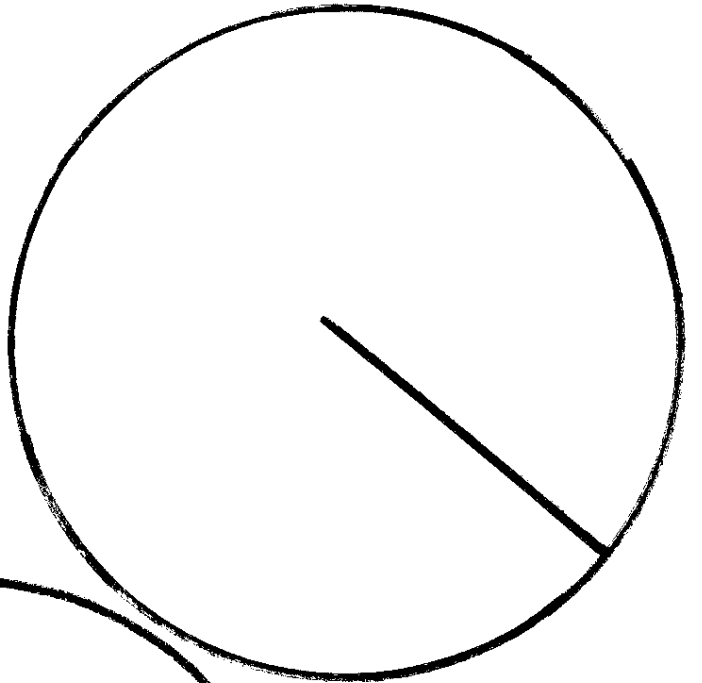
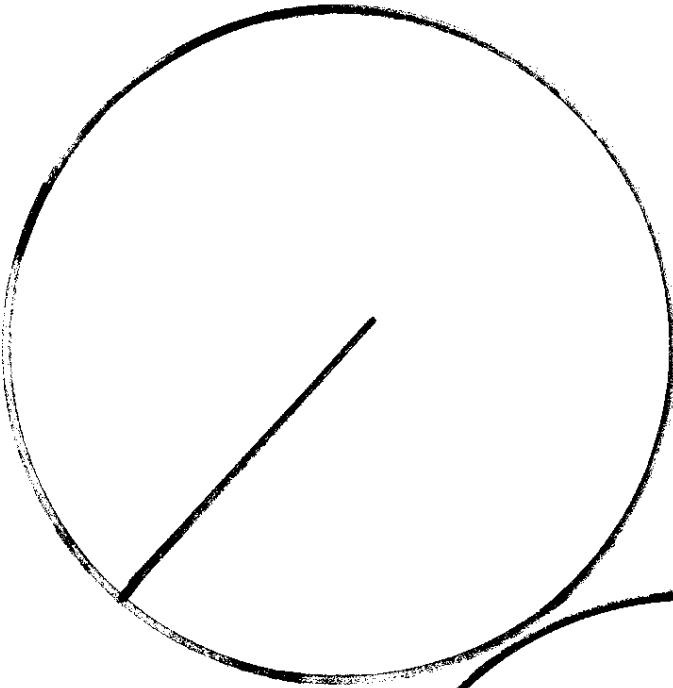
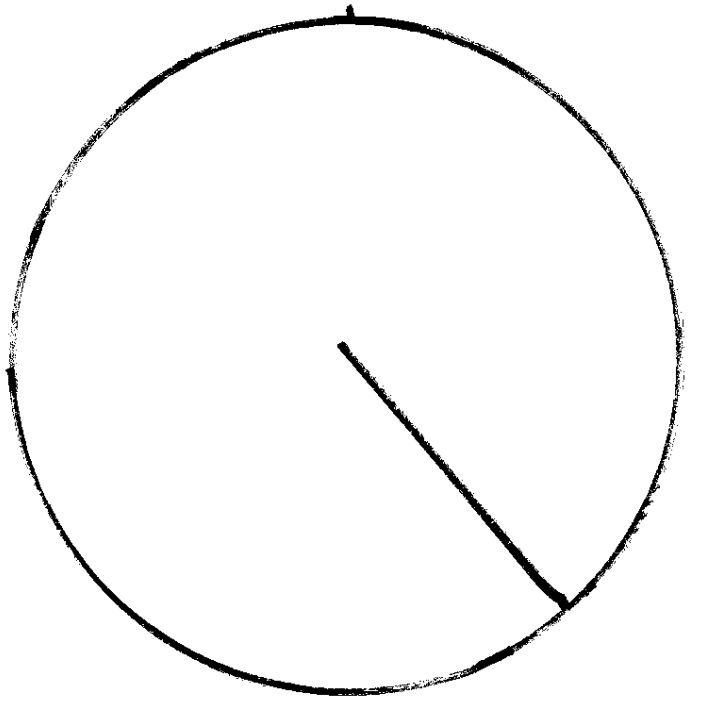
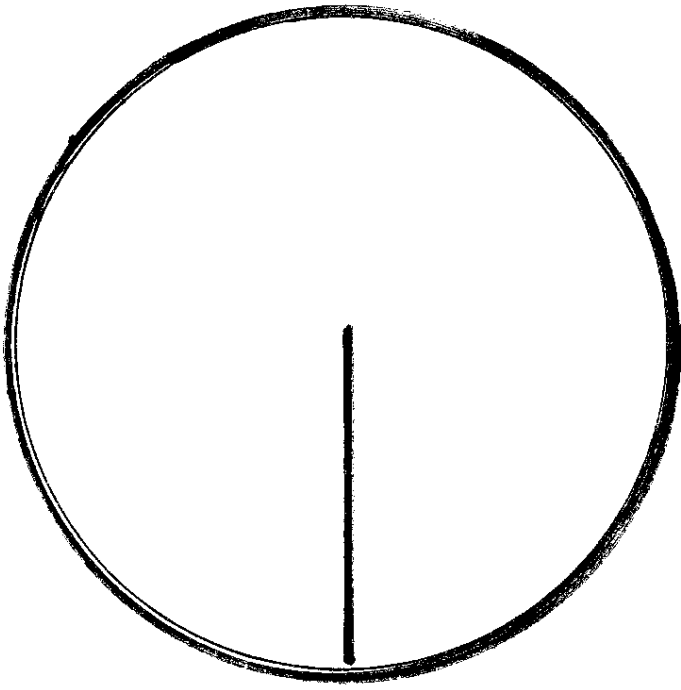
Goal: To get as many fractions in a row as possible

- Roll one die at a time (Variation: You may roll all the dice at once and race your partner to line them up)
- Write the fraction into the chain or put into the reject boxes
- Points are awarded at the end of 7 rolls. 1 point for each fraction in the chain.
- Use Fraction Circles or Fraction Bars to check accuracy

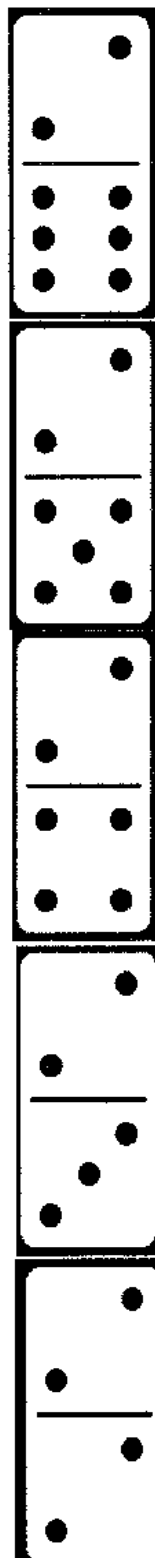
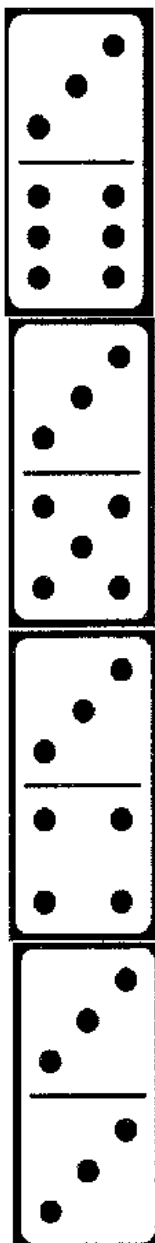
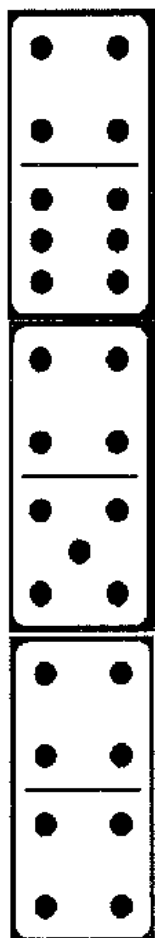
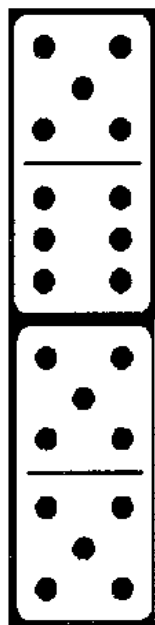
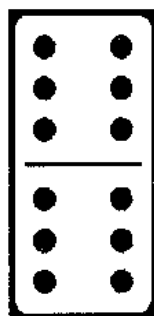
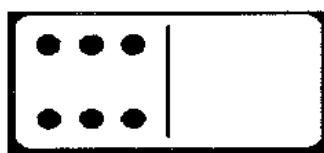
Fractions Decimals Percents

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One Whole		1/1	1.00	100%
One Half		2/2 1.00 100%		
One Third	1/3	0.333	33%	
Two Thirds	2/3	0.666	67%	
Three Thirds	3/3	1.00	100%	
One Fourth	1/4	0.25	25%	
Two Fourths	2/4	0.50	50%	
Three Fourths	3/4	0.75	75%	
Four Fourths	4/4	1.00	100%	
One Fifth	1/5	0.20	20%	
Two Fifths	2/5	0.40	40%	
Three Fifths	3/5	0.60	60%	
Four Fifths	4/5	0.80	80%	
Five Fifths	5/5	1.00	100%	
One Sixth	1/6	0.166	17%	
Two Sixths	2/6	0.333	33%	
Three Sixths	3/6	0.50	50%	
Four Sixths	4/6	0.666	67%	
Five Sixths	5/6	0.833	83%	
Six Sixths	6/6	1.00	100%	
One Seventh	1/7	0.143	14%	
Two Sevenths	2/7	0.286	29%	
Three Sevenths	3/7	0.429	43%	
Four Sevenths	4/7	0.571	57%	
Five Sevenths	5/7	0.714	71%	
Six Sevenths	6/7	0.857	86%	
Seven Sevenths	7/7	1.00	100%	
One Eighth	1/8	0.125	12.5%	
Two Eighths	2/8	0.25	25%	
Three Eighths	3/8	0.375	37.5%	
Four Eighths	4/8	0.50	50%	
Five Eighths	5/8	0.625	62.5%	
Six Eighths	6/8	0.75	75%	
Seven Eighths	7/8	0.875	87.5%	
Eight Eighths	8/8	1.00	100%	
One Ninth	1/9	0.111	11%	
Two Ninths	2/9	0.222	22%	
Three Ninths	3/9	0.333	33%	
Four Ninths	4/9	0.444	44%	
Five Ninths	5/9	0.555	55%	
Six Ninths	6/9	0.666	67%	
Seven Ninths	7/9	0.777	78%	
Eight Ninths	8/9	0.888	89%	
Nine Ninths	9/9	1.00	100%	
One Tenth	1/10	0.10	10%	
Two Tenths	2/10	0.20	20%	
Three Tenths	3/10	0.30	30%	
Four Tenths	4/10	0.40	40%	
Five Tenths	5/10	0.50	50%	
Six Tenths	6/10	0.60	60%	
Seven Tenths	7/10	0.70	70%	
Eight Tenths	8/10	0.80	80%	
Nine Tenths	9/10	0.90	90%	
Ten Tenths	10/10	1.00	100%	
One Eleventh	1/11	0.091	9%	
Two Elevenths	2/11	0.182	18%	
Three Elevenths	3/11	0.273	27%	
Four Elevenths	4/11	0.364	36%	
Five Elevenths	5/11	0.454	45%	
Six Elevenths	6/11	0.545	55%	
Seven Elevenths	7/11	0.636	64%	
Eight Elevenths	8/11	0.727	73%	
Nine Elevenths	9/11	0.818	88%	
Ten Elevenths	10/11	0.909	91%	
Eleven Elevenths	11/11	1.00	100%	
One Twelfth	1/12	0.083	8%	
Two Twelfths	2/12	0.166	17%	
Three Twelfths	3/12	0.25	25%	
Four Twelfths	4/12	0.333	33%	
Five Twelfths	5/12	0.417	42%	
Six Twelfths	6/12	0.50	50%	
Seven Twelfths	7/12	0.583	58%	
Eight Twelfths	8/12	0.667	67%	
Nine Twelfths	9/12	0.75	75%	
Ten Twelfths	10/12	0.83	83%	
Eleven Twelfths	11/12	0.92	92%	
Twelve Twelfths	12/12	1.00	100%	



Dominoes Outcomes Chart



PICK A SIDE

1-12

12-23

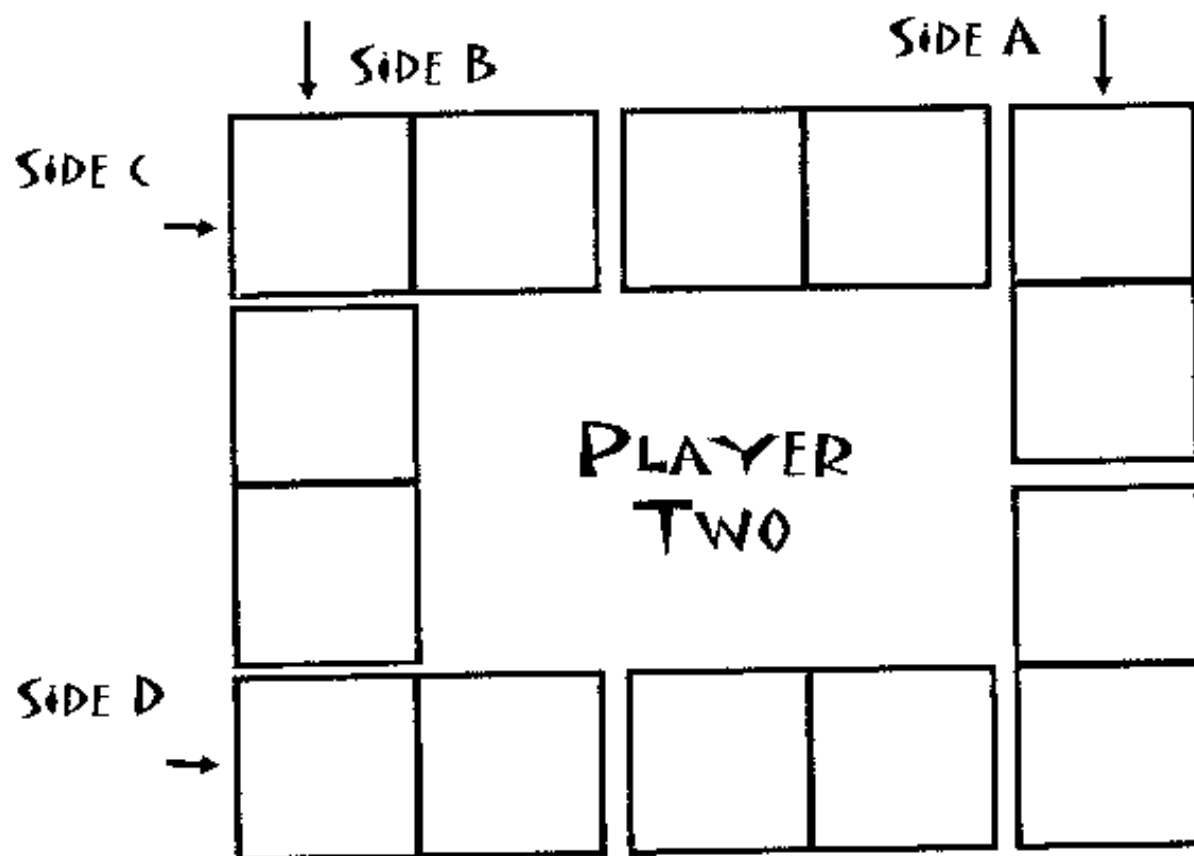
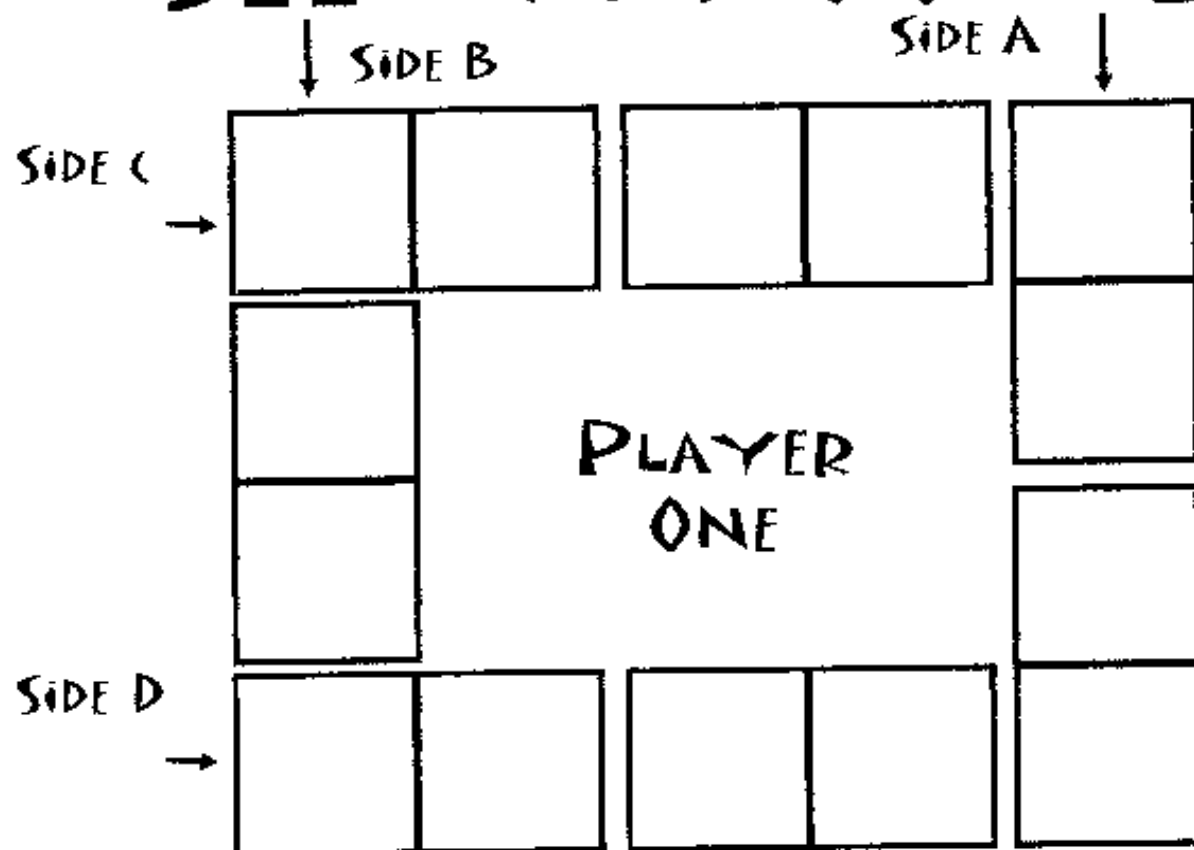
UNDERCOVER

PREDICTION ACTUAL SUM DIFFERENCE

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2.	<input type="text"/>	<input type="text"/>	→	<input type="text"/>
3.	<input type="text"/>	<input type="text"/>	→	<input type="text"/>
4.	<input type="text"/>	<input type="text"/>	→	<input type="text"/>
5.	<input type="text"/>	<input type="text"/>	→	<input type="text"/>
6.	<input type="text"/>	<input type="text"/>	→	<input type="text"/>
7.	<input type="text"/>	<input type="text"/>	→	<input type="text"/>

TOTAL
SUM

SEEING DOUBLES



Activity

Concept

Equipment

Goal/Object of the Game

Set Up and Play

Variations:

Activity

Concept

Equipment

Goal/Object of the Game

Set Up and Play

Variations:

Activity

Concept

Equipment

Goal/Object of the Game

Set Up and Play

Variations:

Activity

Concept

Equipment

Goal/Object of the Game

Set Up and Play

Variations:

Game Number: _____

Title: _____

Players: _____ Skills: _____

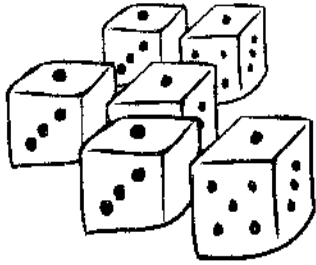
Equipment: _____

How to play:

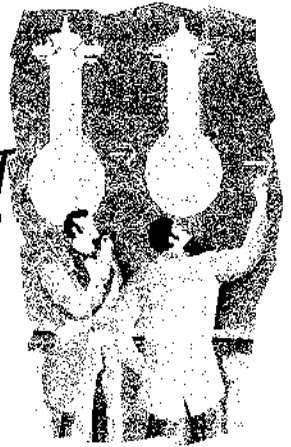
Goal:

Math Glossary

Word	Meaning or Example



INVENT-A-GAME ASSIGNMENT



Use the following format:

Game Title

Level: How hard is it? What grade is it for? Your game can be made in the grade 4-6 levels. Check out the skills in the curriculum guide.

Skills: What math skills do you use to play?

Players: How many?

Equipment: What you need to play.

Getting Started: This is a full description of your game's goals, rules, and play written in *complete sentences*. Make sure to describe how the game ends and how points are accumulated.

Example: If possible, you should play out a few rounds of your game to make an example and to work out your directions in "getting started" to get them as clear as possible.

Variations: If any.

Teaching Tips: Strategies and/or other helpful hints.

Jokes: if you want to jazz-up your page.

Thought Provokers: Write a few questions to have your players answer.

Marking:

The bare minimum is doing the Level, Skills, Players, Equipment, Getting Started, and Example. Doing the other components will increase your marks!

DUE DATE: _____

TOTAL: /30

Implementation Plan

List 3 ways you can incorporate the Box Cars strategies into your classroom, program or school.

1.

2.

3.

Identify the game/activity that you will try first, when you get back later this week.

Find a colleague in this room whom you will contact at the end of the week. The two of you will be agreeing to hold a conversation regarding what you did to start implementing what you learned today.

Who:

From:

Phone:

Email:

You can reach me at:

boxcars@telus.net

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