

Foldable Rulers

**MATH GAMES FOR EARLY PRIMARY
USING RULERS AND DICE**

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BOX CARS AND ONE-EYED JACKS

IS A REGISTERED TRADEMARK

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NUMBER FACE OFF

LEVEL: Kindergarten to Grade 1

SKILLS: subitizing, counting to 12, $>$ $<$ $=$

PLAYERS: 1 versus 1

EQUIPMENT: one 12-sided die per player, bingo chips or other counters, ruler

GOAL: to have the greatest number, and have the most points after a set period of time.

GETTING STARTED:

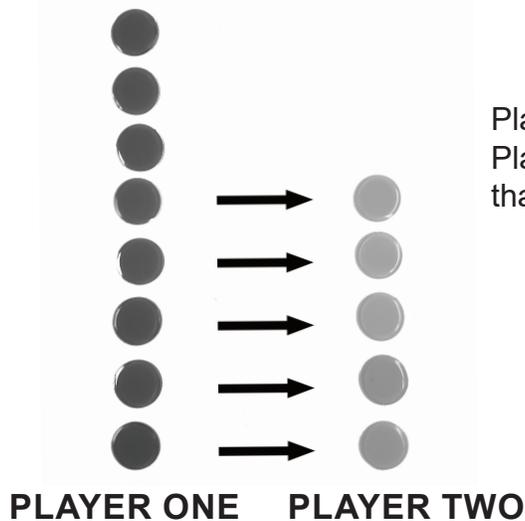
Players both sit facing the ruler and each need their own die. Both spotted and numeral dice can be used. Each player rolls, counts and/or identifies their number by subitizing and places it down on the ruler. Both players verbalize the number they rolled. The player with the greater number scores a point.



“Nine is greater than two.”

Player Two takes a bingo chip and places into their point pile.

Players roll again and compare their next numbers. In the event of a tie, both players can take a bingo chip. Play continues for a set period of time. Players count up their total number of bingo chips. The player with the most wins OR players can match, using one-to-one correspondence, their collected bingo chips to determine the winner.

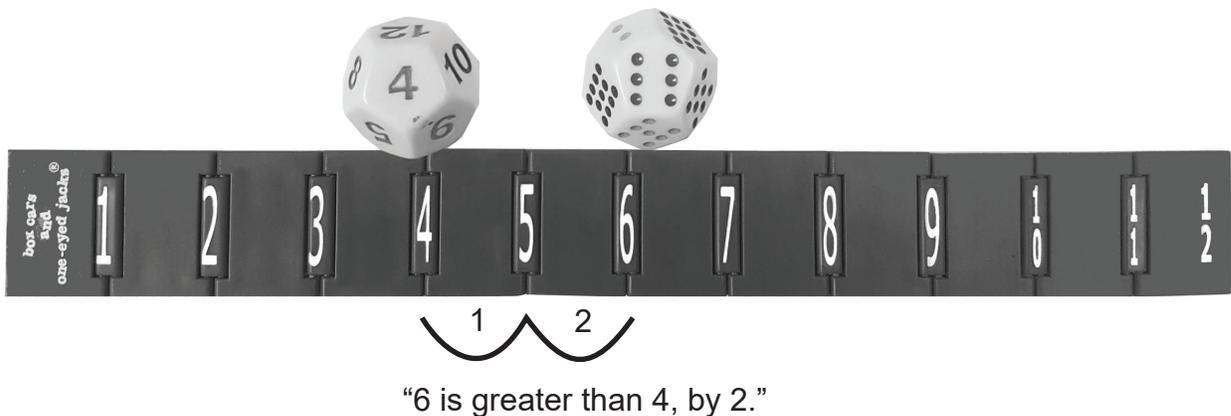


Player One has three more than Player Two and is the winner for that game.

NUMBER FACE OFF

MATH JOURNAL WORK AND EXTENSIONS:

1. Have players complete the recording sheet.
2. Have players keep track of how many ties occurred in their game.
3. Have students verbalize when ready: "6 is greater than 4 ... by 2." "12 is greater than 7 ... by 5." Teach them to count on from the least number on the ruler up to the greater number to find the missing part.



4. Switch it up and play for LEAST number wins. Introduce the math talk: "8 is less than 11."
5. As students are playing, observe the following:
 - which students are identifying the number immediately; student can subitize to what number?
 - which students are using 1-1 correspondence to count the chips, and which are just guessing?

NUMBER FACE OFF RECORDING SHEET

MY NUMBER	> = <	MY FRIEND'S NUMBER	MY NUMBER	> = <	MY FRIEND'S NUMBER
<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="radio"/>	<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="radio"/>	<input style="width: 100%; height: 100%;" type="text"/>
<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="radio"/>	<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="radio"/>	<input style="width: 100%; height: 100%;" type="text"/>
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1. When my number is bigger than my partner's I draw the _____ symbol.
2. When my number is less than my partner's I draw the _____ symbol.
3. I won _____ rolls.
4. My partner won _____ rolls.

BETWEEN FRIENDS

LEVEL: Kindergarten to Grade 1

SKILLS: know number names and the count sequence, compare three numbers as $>$ $<$ or between

PLAYERS: 3

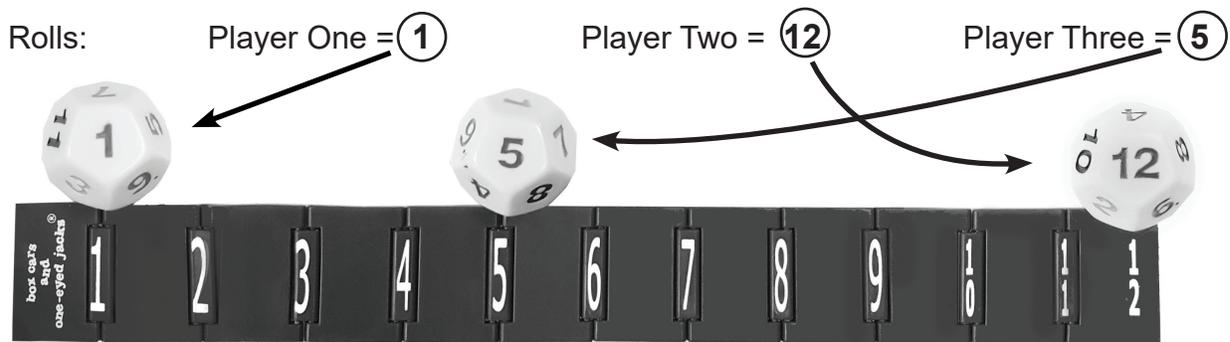
EQUIPMENT: one 12-sided die per player, bingo chips or other counters, ruler, recording sheet

GOAL: arrange rolled numbers in order from least to greatest and try to have the middle number to win the round

GETTING STARTED:

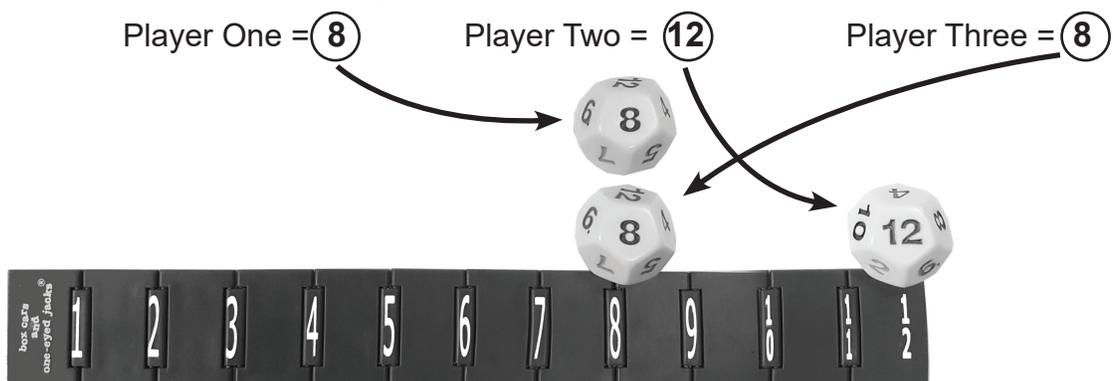
All players roll their die. Players compare their numbers by first arranging them in sequence on the ruler and then determining which number falls between. The between number wins the point. The ruler can also provide a good visual for younger students who are still learning to determine betweenness given three numbers.

EXAMPLE



Players place their die on the ruler and determine 1 is least, 12 is greatest, and 5 falls in between. Players should verbalize the relationship between the rolled numbers. Player Three rolled 5 and would take a chip (point) for the round.

There may be some rounds where no players earn a point, for example rolls of 8, 12, 8.



There is no between number, so no points are scored. Players continue rolling, arranging their numbers and determining the between number. Play continues for a set period of time. The player with the most points is the winner.

BETWEEN FRIENDS

MATH TALK

As students play the game, ask them the strategy they are using to identify whose number goes first, second and third, from least to greatest. Having students describe their different strategies provides insight on how they learn about and understand numbers. For instance, one student may prefer to start counting from 1 through 12 until the numbers rolled have each been covered. Another student may prefer the number line strategy, etc.

Important: Students may sometimes use the term 'middle' for a 'between' roll. This is incorrect for most rolls. The "between" number is between the least and greatest, not typically right in the middle or MIDPOINT. Make sure students use the correct vocabulary "Between".

MATH JOURNAL WORK AND EXTENSIONS:

1. When ready have students record their question on the recording sheet.

BETWEEN FRIENDS RECORDING SHEET

G	11	G	11	G	11	G	12
B	4	B	10	B	9	B	10
L	2	L	9	L	5	L	6

G	4	G	3	G	12	G	7
B	2	B	3	B	4	B	10
L	1	L	3	L	3	L	9

L	B	G	L	B	G
1	5	12	1	2	4

L	B	G	L	B	G
0	8	10	3	4	5

L	B	G	L	B	G
1	2	3	4	8	12

BETWEEN FRIENDS RECORDING SHEET

G	
B	
L	

G	
B	
L	

G	
B	
L	

G	
B	
L	

G	
B	
L	

G	
B	
L	

G	
B	
L	

G	
B	
L	

L	B	G

L	B	G

L	B	G

L	B	G

L	B	G

L	B	G

ODD AND EVEN

LEVEL: Kindergarten to Grade 1

SKILLS: count using one-to-one correspondence, identify a number as odd/even

PLAYERS: 2 - 4

EQUIPMENT: one 12-sided die, 100 snap cubes (minimum); two colors – 50 of each (one color to represent even numbers, and one color to represent odd numbers), ruler

GOAL: to determine if the number rolled is odd or even and then to count out the appropriate number of snap cubes to match

GETTING STARTED:

Player One rolls the die and determines whether the number is even or odd. Player takes the ruler and folds it up to determine odd or even.



If even, the player takes the appropriate number of even colored cubes and links these together. If odd, they take the appropriate number of odd colored cubes. Player Two takes a turn. Players continue alternating turns each building two separate rows of cubes (one to represent an even row and one to represent an odd row). After ten rolls players compare their odd and even “trains”. The longest trains score 1 point each.

MATH TALK

Ask students how they know a number is even or odd. For example, even numbers can be shared fairly but odd numbers have a leftover. As they play, encourage students to fold and call out in sequence the ODD or EVEN pattern.

MATH JOURNAL WORK AND EXTENSIONS:

1. In their math journals, have students complete the sentences on the following page. When complete, cut into sentence strips that students can glue into their books.

VARIATION:

1. Have players build two trains of fifty (one with each color). Players roll and subtract from their odd and even trains. The first player to shrink their trains to zero scores 1 point. For example, if 3 is rolled, subtract 3 from the odd train. If a 4 is rolled it would be subtracted from the even train.

ODD AND EVEN RECORDING SHEET

My odd train was
----- snap cubes long.

My even train was
----- snap cubes long.

I had more/less than

My train was greater/less than my partner's by

Draw one odd number, one even, and show how you know!

