

MATHEMATICS GAMES BOOKLET

YEAR 3



1, 2, 3!



This is a game for two players to practice quick basic recall (+, -, x).

Rules of the game

Version: One Hand Addition













1. This game is played like “Paper, scissors, rock” where each player shakes one fist “1,2,3” and shows a selection of fingers (choose between 0-5).
2. Winner of the round is the first to say the sum/total of two hands.

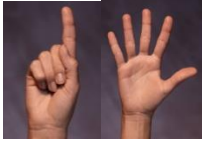
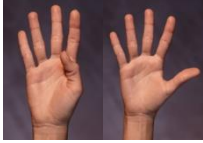

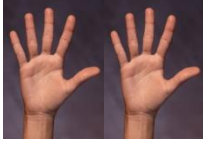
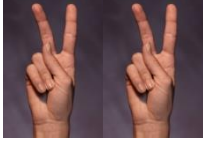
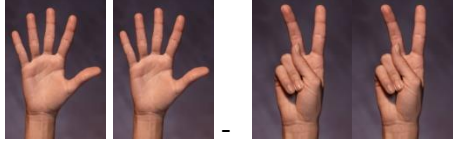
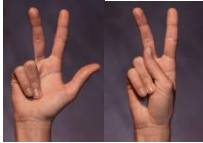
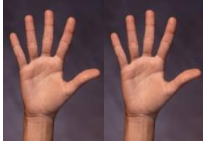
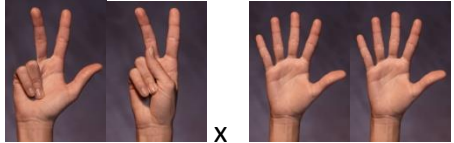
Variations

- ◆ One Hand Multiplication-multiply each players hands
- ◆ Two Hand Addition- add the total of both hands to practice basic facts to 20
- ◆ Two Hand Subtraction- work out the difference between the total of each players hands
- ◆ Two Hand Multiplication- multiply the total of each players hands to practice multiplication facts

Note: Encourage players to shake their fist with fingers down to the floor/knuckles up then it is easier to see the fingers when opened out.

For example:

One hand				
	Player A	Player B	Player A & Player B	Answers
Addition (+)			 +  (1 + 4)	5
Subtration (-)			 -  (5 - 2)	3
Multiplication (x)			 x  (3 x 2)	6

Two hands				
	Player 1	Player 2	Player 1 & Player 2	Answers
Addition (+)			 (6 + 9)	15
Subtraction (-)			 (10 - 4)	6
Multiplication (x)			 (5 x 10)	50

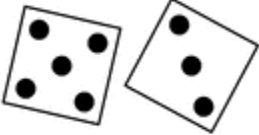
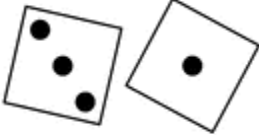
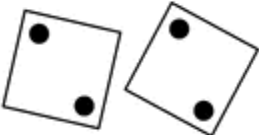
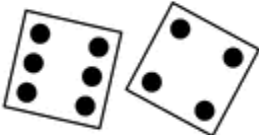


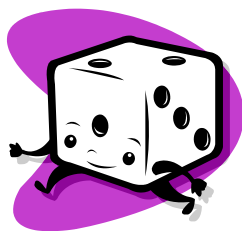
Dice Difference

What you need:

- Two 1-6 dice
 - Pencil and paper
 - Two players
- Ⓢ Take turn to throw the dice and find the total score (e.g. Player A throws a 5 and a 3 with a sum of 8; Player B throws a 3 and a 1 with a sum of 4)
 - Ⓢ Player with the largest total is the winner
 - Ⓢ To work out the score for that round take the lowest total from the largest total. That then becomes the score for that round (e.g. Player A wins the round above. Player A gets a score of 4 for that round ($8-4 = 4$))
 - Ⓢ Record the score for that round.
 - Ⓢ Each player throws the dice **10 times**.
 - Ⓢ Winner is the Player with largest total after the 10 rounds.

*change the type of dice i.e. 20 sided dice, 10 sided dice, 9 sided dice etc.)

Round 1-10	Player A	Player B	The winner is.....	How to score...
1	 $5 + 3 = 8$	 $3 + 1 = 4$	Player A	Player A gets 4 points ($8-4 = 4$) Player B gets 0 point
2	 $2 + 2 = 4$	 $6 + 4 = 10$	Player B	Player A = 0 Player B gets 6 points ($10-4 = 6$)



Dice Activity

What you need:

- A six sided dice
- Paper and pencil
- Two players

☐ Players take turns to throw the dice and place the number somewhere on their grid.



☐ After four throws each, the grid should be full.

☐ Players then choose which pairs to multiply.

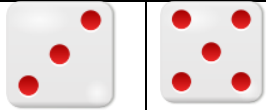
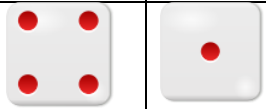
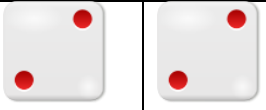
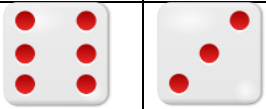

<table border="1"> <tbody> <tr> <td>3</td> <td>→</td> <td>6</td> </tr> <tr> <td>1</td> <td>→</td> <td>9</td> </tr> </tbody> </table>	3	→	6	1	→	9	<table border="1"> <tbody> <tr> <td>3</td> <td>↓</td> <td>6</td> </tr> <tr> <td>1</td> <td>↓</td> <td>9</td> </tr> </tbody> </table>	3	↓	6	1	↓	9	<table border="1"> <tbody> <tr> <td>3</td> <td>↘</td> <td>6</td> </tr> <tr> <td>1</td> <td>↙</td> <td>9</td> </tr> </tbody> </table>	3	↘	6	1	↙	9
3	→	6																		
1	→	9																		
3	↓	6																		
1	↓	9																		
3	↘	6																		
1	↙	9																		
The pairs are multiplied and then added.																				
$3 \times 6 = 18$ $1 \times 9 = 9$ Total $(18+9)=27$	$3 \times 1=3$ $6 \times 9=54$ Total $(3+54)=57$	$3 \times 9=27$ $1 \times 6=6$ Total $(27+6)=33$																		

☐ The winner is the player who makes the largest total.

Variations

- Aim for the largest/smallest, even/odd number etc.

For example:

Player A		Player B									
 	<table border="1"> <tr> <td>3</td> <td>5</td> </tr> <tr> <td>4</td> <td>1</td> </tr> </table>	3	5	4	1	 	<table border="1"> <tr> <td>2</td> <td>2</td> </tr> <tr> <td>6</td> <td>3</td> </tr> </table>	2	2	6	3
3	5										
4	1										
2	2										
6	3										
<table border="1"> <tr> <td>3</td> <td>5</td> </tr> <tr> <td>4</td> <td>1</td> </tr> </table>	3	5	4	1	$3 \times 5 = 15$ $4 \times 1 = 4$ Total = 19	<table border="1"> <tr> <td>2</td> <td>2</td> </tr> <tr> <td>6</td> <td>3</td> </tr> </table>	2	2	6	3	$2 \times 2 = 4$ $6 \times 3 = 18$ Total = 22
3	5										
4	1										
2	2										
6	3										
<table border="1"> <tr> <td>3</td> <td>5</td> </tr> <tr> <td>4</td> <td>1</td> </tr> </table>	3	5	4	1	$3 \times 4 = 12$ $5 \times 1 = 5$ Total = 17	<table border="1"> <tr> <td>2</td> <td>2</td> </tr> <tr> <td>6</td> <td>3</td> </tr> </table>	2	2	6	3	$2 \times 6 = 12$ $2 \times 3 = 6$ Total = 18
3	5										
4	1										
2	2										
6	3										
<table border="1"> <tr> <td>3</td> <td>5</td> </tr> <tr> <td>4</td> <td>1</td> </tr> </table>	3	5	4	1	$3 \times 1 = 3$ $4 \times 5 = 20$ Total = 23 	<table border="1"> <tr> <td>2</td> <td>2</td> </tr> <tr> <td>6</td> <td>3</td> </tr> </table>	2	2	6	3	$2 \times 3 = 6$ $2 \times 6 = 12$ Total = 18
3	5										
4	1										
2	2										
6	3										
<p>The largest total is 23, so the winner is Player A</p>											



Card Activities

Snap + /- 1

What you will need: A deck of cards with the picture cards removed. Ace may equal to one or eleven.

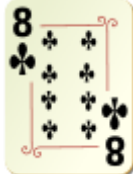

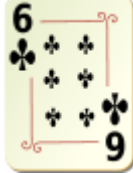
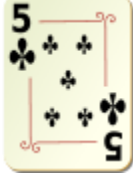
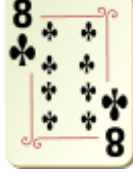

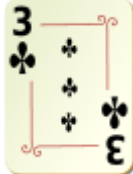



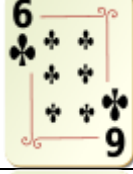


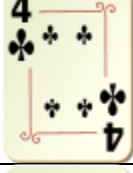


Rules

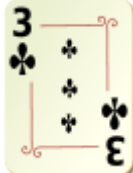

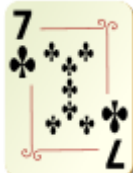

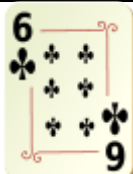
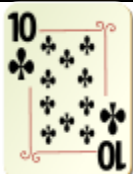
- ♣ The game is played along similar lines to "snap".
- ♣ The game is for two players.
- ♣ One player deals all the cards face down to the players
- ♣ Each player turns over their top card. Instead of slapping the pile of cards when the values on the two cards match, the pile of cards should be slapped when the values differ by one (+ 1 or -1). For example if a 7 is placed on the pile and then an 8 is discarded on top, a player may slap the pile and pick up all the cards. If an 8 was on the pile and a 7 was discarded then the pile of cards could also be slapped (more examples on p.8-9).
- ♣ The winner is the player with the most cards after a period of time or the player who ends up with all the cards.

Variations

- ♣ The players can change it to *Snap +2 or -2* (snap when the values differ by two).

For example:

	Player A	Player B	
Snap + 1			SNAP
Snap - 1			SNAP
Snap + 1			<u>DO NOT SNAP</u>
Snap + 1 or - 1 (variations)			SNAP
			SNAP
Snap + 2			SNAP
Snap - 2			SNAP
Snap - 2			<u>DO NOT SNAP</u>

Snap +2 or - 2 (variations)			SNAP
			SNAP
			<u>DO NOT SNAP</u>

Reference

Swan, P. (1998). *Card Capers. Developing mathematics from playing cards.* A-Z Type: Bunbury.





Salute- What number is my card?

- ♣ 3 players
- ♣ A pack of playing cards. (Take out all the colour cards and 10s)
- ♣ Two players collect one card each and without looking at the card and put them on their forehead.
- ♣ The third player calls out the sum of the two cards.
- ♣ The two players then call out what card they hold on their forehead by looking at the other player's cards.
- ♣ The player who calls out first wins those cards.
- ♣ Continue playing till the cards are over.



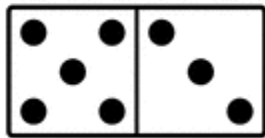
For example:

Step	Player A	Player B	Player C
1			Calls out the total is 10
2	5 and 5?	9 and 1?	No
3	2 and 8?	3 and 7?	No
4	4 and 6?		Yes- Player A is the winner and gets the two cards



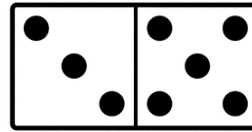
Domino

- A domino may be used to represent two different numbers.
For example:



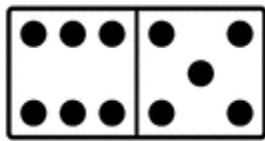
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Or

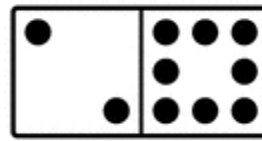


35

- The dominoes are placed face down in a pile.
- Each player takes two dominoes from the pile and tries to make the largest difference.



65

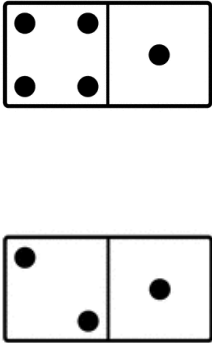
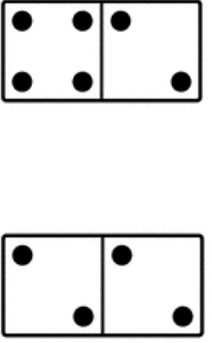


26

65 - 26 produces the largest difference

- The player who produces the largest difference wins the round and receives a point.
- Play continues until all the dominoes have been used. The winner is the player with the most points.

For example:

Player A	Player B	The winner is...
 <p>41 or 14</p> <p>21 or 12</p>	 <p>42 or 24</p> <p>22</p>	
<p>Three options:</p> <ol style="list-style-type: none"> 1. $41-21=20$ 2. $41-12=29$ (the largest difference) 3. $14-12=2$ 	<p>Two options:</p> <ol style="list-style-type: none"> 1. $42-22=20$ (the largest difference) 2. $24-22=2$ 	<p>Player A (1 point)</p>

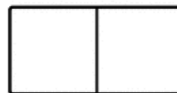
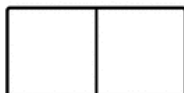
Variations

- Keep a **cumulative total** (running total) of the differences. The winner is the player with the largest total at the end of the game.
- Try to produce the smallest difference.
- Allow players to choose three dominoes from the face down pile. Players then select two of these to work with. All the dominoes are discarded at the end of the round and another three chosen.

Reference

Swan, P. (2001). *Domino Deductions. Developing mathematics from dominoes. A-Z* Type: Bunbury.

The Three Dominoes



- The dots on these three dominoes add up to 14
- Which dominoes could they represent?

*Remember dominoes which join must be match.

	$6 + 5 + 3 = 14$
--	------------------

*A domino which is placed vertically, like the one above represents a double.

- There is more than one answer.

	$4 + 3 + 7 = 14$
	$8 + 4 + 2 = 14$

Reference

Swan, P. (2001). *Domino Deductions. Developing mathematics from dominoes.* A-Z Type: Bunbury.



MATHS AT HOME

- Ask your child to weigh and measures ingredients for your recipes both in the supermarket and at home.
 - Ⓢ *In the supermarket: Can you get me 4 apples and 5 oranges? Can you get me 3 cans of beans?*
 - Ⓢ *There are two bottles of milk, one cost \$3 and the other one cost \$4. Which bottle do you think is cheaper?*
 - Ⓢ *At home: Can you measure 2 cups of milk for the pancakes?*
- Encourage estimating skills, such as predicting how long a journey will take; how long it takes to set the table; how long it takes to walk the length of your street.
 - Ⓢ *Can you draw a map and show me how we can get to the shop?*
 - Ⓢ *How long do you think it will take to walk from home to the end of our street?*
- Measure things around the home: the difference between a towel, a hand-towel and a face cloth; the size of your dining table; the amount of food for your pet each day and calculate how much it eats in a week.
- Let your child work out how much time it takes to do things or go somewhere using a timetable will give your child opportunities to calculate.

Reference:

www.minedu.govt.nz/Parents