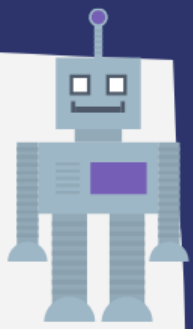

MATHS GAMES
fun & engaging maths games for children
Fun I Simple I Minimal equipment
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# 20 MATHS GAMES



These games can be repeated over and over again and many can be varied to make them easier or more challenging.

20 Maths Games is Adapted from Kathleenamorris.com

Free eBook: 20 Maths Games

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# EQUIPMENT



**DICE**: Even better if you can get more than just 6 sided dice (check eBay for cheap packs of mixed dice!).



**CARDS**: Regular playing cards are fine or use the numbered cards from a pack of UNO.



**COUNTERS**: These can be mini figurines, pasta, buttons, pom poms, rocks, or other small objects.



**WHITEBOARDS**: Mini whiteboards are great for game boards, calculations, and scoring.



**PAPER:** A pack of plain A4 (letter) paper is always useful as a whiteboard alternative.



**BLOCKS**: LEGO, Duplo, or Mega Bloks can be used in a variety of maths activities.



**ICY POLE STICKS:** Straws are an alternative. Rubber bands are handy too to make bundles.



**NUMBER CHART:** There's a 1-120 chart at the back to print. It can help children add, subtract, count.

# NIM

*Ancient 2 player strategy game. Great for a warm up!*

## EQUIPMENT

- 15 objects e.g. counters, icy pole sticks,
- Paper or whiteboard to keep a tally of wins

## HOW TO PLAY

- Set up 3 rows of objects as shown (rows of 3, 5, and 7).
- Players take turns removing objects from any one of the rows.
- You can take however many objects you like from a row, but only from that row.
- The losing person is the one who is forced to take the last object.
- Discuss strategies after a few games.



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# REACH 21

*Mental counting strategy game for 2-3 players.*

## EQUIPMENT

- Paper or whiteboard to keep a tally of wins

## HOW TO PLAY

- The goal of this game is to be the first person to say 21.
- Players count out loud to 21, alternating numbers.
- Players take it in turns to say 1, 2 or 3 numbers in order.
- Discuss strategies after a few games.

*In the example , Player B wins:*

| |
|---|
| **Player A:** 1, 2 |
| **Player B:** 3, 4, 5 |
| **Player A:** 6, 7 |
| **Player B:** 8, 9, 10 |
| **Player A:** 11 |
| **Player B:** 12, 13, 14 |
| **Player A:** 15, 16 |
| **Player B:** 17 |
| **Player A:** 18, 19, 20 |
| **Player B:** 21 |

## VARIATIONS

Try making a higher target such as 40.

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# REACH THE TARGET

*Variation on Reach 21 that incorporates skip counting.*

## EQUIPMENT

- Paper or whiteboard to keep a tally of wins

## HOW TO PLAY

- Select a target number, e.g. 100.
- Select a number to count by, e.g. 2s, 5s or 10s.
- Players skip count out loud to the target number, alternating numbers.
- The goal is to be the player who says the target number.
- Players count on by saying the next 1, 2 or 3 numbers in the skip counting sequence.
- Discuss winning strategies. What works and what doesn't?

**Player A:** 10, 20

**Player B:** 30, 40, 50

**Player A:** 60

**Player B:** 70, 80

**Player A:** 90, 100

# HIGHER OR LOWER

*Guess the number game to help children develop basic counting skills and number confidence. 2+ players.*



## EQUIPMENT

- No equipment required

## HOW TO PLAY

- First decide on the number range, e.g. 1-100 or 1-1000.
- Player One thinks of a number and secretly writes it down.
- Player Two take turns guessing the number.
- Player One responds with "higher" or "lower".
- The guessing continues until the secret number is revealed.

## VARIATIONS

Play with the whole family taking in turns to have a guess. Each player should listen carefully to guesses.






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# MOUNTAIN

*Simple 2-3 player game to learn about number recognition.*

## EQUIPMENT

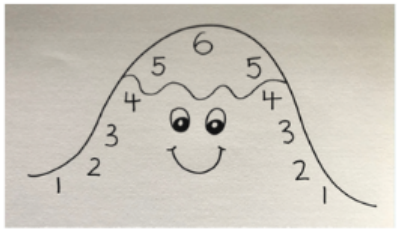
- Paper or whiteboards and markers
- 1 six sided dice



## HOW TO PLAY

- First draw a mountain gameboard for each player as shown below (funny face optional!)
- The object of the game is to be the first to climb your mountain, in number order, and then descend the other side.Player One rolls the dice and hopes for a 1 in order to cross the number 1 off the mountain. Players must ascend in order, so cannot cross off the 2 until they have crossed off 1.
- Play continues until someone has made it all the way up their mountain and down the other side in the correct order.








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# DOUBLE TROUBLE RACE

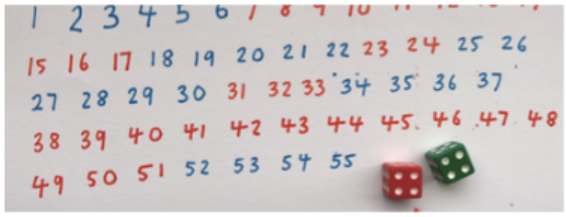
*A 2 player game to recognise doubles while practising counting and writing numbers to 100.*

## EQUIPMENT

- Paper or whiteboards
- markers 2 six sided dice

## HOW TO PLAY

- Player One starts writing the numbers 0-100 on a piece of paper or whiteboard.
- At the same time, Player Two begins rolling two dice. When Player Two gets doubles on the dice (e.g. 5 and 5), they call out, "Doubles!" and take over writing the numbers to 100.
- Player One starts rolling and takes over writing again when they roll a double, and so on.
- The player who writes 100 wins the round.




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# MEGA NOUGHTS & CROSSES

*Simple 2 player strategy game that involves addition.*

## EQUIPMENT

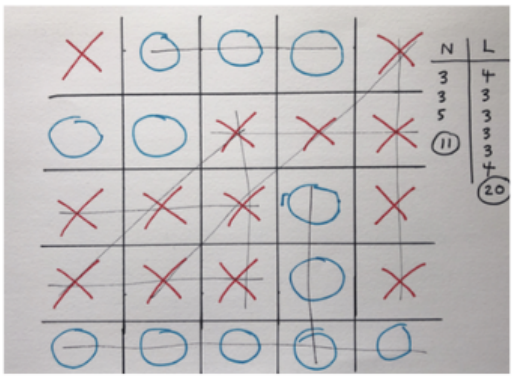
- Paper or whiteboards and markers



## HOW TO PLAY

- Draw a 5 x 5 grid on paper or a whiteboard.
- Decide who is X and who is O. Players take it in turns to place either a X or a O in a square until the board is filled.
- Go through the grid to find lines of 3, 4 or 5.
- Add up the total amount of points you get from the grid to see who wins. Discuss winning strategies.

| |
|---|
| **5 in a row:** 5 points |
| **4 in a row:** 4 points |
| **3 in a row:** 3 points |






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# SNAKE

*Game for 2 players to learn simple addition facts.*

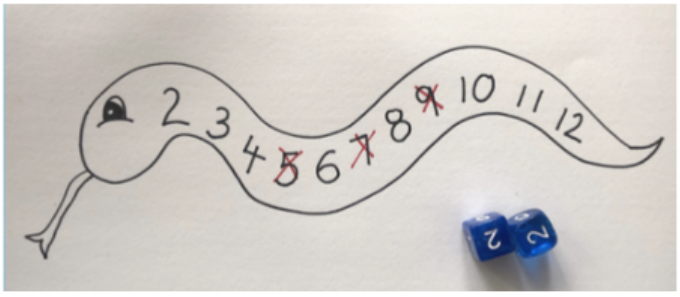


## EQUIPMENT

- Two pieces of paper and markers
- Two 6 sided dice

## HOW TO PLAY

- Draw a snake with the numbers 2-12 as shown below.
- Each player needs their own snake game board.
- Players take turns to roll two 6 sided dice. They add the numbers together and cross out the total (e.g. roll 5 and 1, cross out the 6). If your number has already been crossed out, you miss a turn. Discuss what you need (e.g. you have an 11 left so need 5 and 6). The first player to cross out all numbers on their game board wins.




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# TUG OF WAR

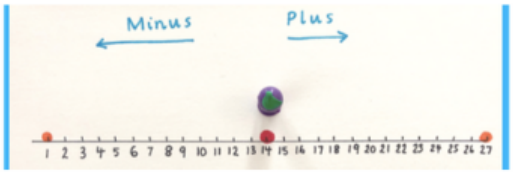
*Game for 2 players to learn about number lines, addition and subtraction.*

## EQUIPMENT

- Paper or whiteboards and markers
- A small figurine (or other sort of counter)
- Two 6 sided dice

## HOW TO PLAY

- Draw a gameboard (numberline from 1-27) as shown below.
- One player is called "Plus" and the other is called "Minus".
- The counter starts on 14. Plus moves the counter right (aiming to get to 27), Minus moves the counter left (aiming to get to 1).
- Take turns to throw the two dice and add up the two numbers. Move the counter that number of places in your direction.
- If the counter reaches 1 (or further), Minus has won and if the counter reaches 27 (or further), Plus has won.
- As you play, discuss using strategies other than "counting on". For example, if you're on 4 and roll 6, you know 4 and 6 is 10.




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# SUBTRACTION TOWERS

*Game for 2 players to practise subtraction skills.*

## EQUIPMENT

- 20 blocks per player (e.g. Duplo or LEGO)
- 1 six sided dice

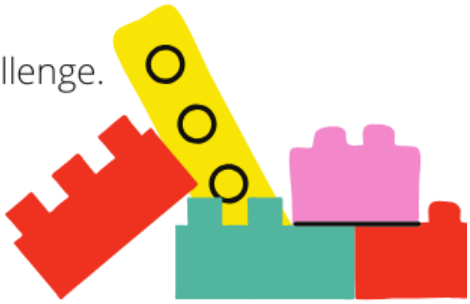


## HOW TO PLAY

- Each player stacks 20 blocks into a tower.
- Players take turns to roll a dice and remove that number of blocks. They should state the number that remains, e.g. "I had 20 and took away 5. Now I have 15".
- Play continues until someone removes all of their blocks. The last roll should be the exact number needed to get to zero.

## VARIATIONS

Start with bigger towers for more of a challenge.





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# SPIRAL RACE

*Game for 2+ players to practice adding one digit numbers to two digit numbers.*

## EQUIPMENT

- Playing cards or UNO cards (numeral cards only)
- 1 six sided dice
- Figurines smaller than the size of a card
- Paper/whiteboard for keeping a running total
- Number chart (optional) to help children add totals

## HOW TO PLAY

- Arrange all playing cards in one spiral. Players position their figurines in the centre of the spiral.
- Take turns to roll a dice and move your figurine that many cards around the spiral.The number on the card you land on is your points. Keep a running total. A number chart can be used if needed.
- The winner is the person with the highest score when everyone reaches the end of the spiral (add a special "end" card if you like).



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# I SPY

*Game for 2+ players to practice simple addition facts.*

## EQUIPMENT

- Playing cards or UNO cards (numeral cards only)

## HOW TO PLAY

- Arrange the cards face up in an array, either 10 x 4 or 8 x 5.
- Player One challenges the other player to find two cards next to each other that add to make a particular number (E.g. “I spy with my little eye two cards that add to make _____.”)
- Player Two looks for 2 cards that add to make the number. The two cards can be next to each other either horizontally or vertically. They pick them up and add them to their pile.
- There can be more than one solution. If Player Two misses any pairs that add to the number, Player One can claim them. Players alternate taking turns and continue until all cards are gone. The winner is the player with the most cards at the end. Rearrange the cards into an array as you play to fill any gaps.



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# RACE TO 100

*Game for 2 players to learn addition and place value (adding tens).*

## EQUIPMENT

- Paper or whiteboard and markers
- 3 six sided dice
- Number chart or calculator (optional)

## HOW TO PLAY

- Player One rolls 3 dice. They can then decide whether to roll all 3 again, roll 2 again or roll 1 again.
- They then add up their score based on the following.

**30 points:** For getting 3 numbers the same

**20 points:** For getting 2 numbers the same

**Add the 3 numbers:** If they're all different

- Player Two then has a turn. They roll 3 dice and can roll 3, 2, or 1 dice again. They then write their score and keep a running total. The first player to score over 100 wins.
- Use a number chart or calculator to keep track if needed.



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# BUNDLES

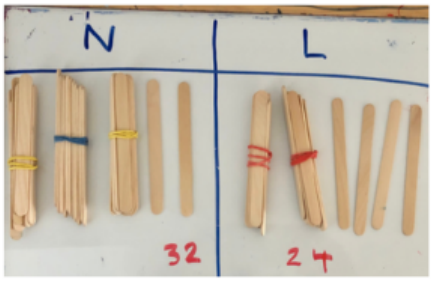
*Game for 2 to 4 players to learn about place value and addition.*

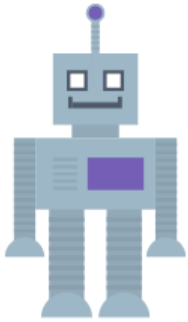
## EQUIPMENT

- Icy pole sticks, straws or LEGO (about 100).
- Rubber bands (about 10)
- One dice (6, 8, or 10 sided)

## HOW TO PLAY

- Decide what the target number is going to be (50 is a good target number to begin with. Try 100 for a longer game).
- Players take turns to roll the dice and take that number of icy pole sticks.When a player has ten loose sticks they can create a bundle of ten using a rubber band.
- During play, discuss place value, e.g. "I have 4 bundles of 10, that's 40, and 5 more is 45".The first player to reach the target numbe wins.



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# TRIPLE DIGIT CHALLENGE

*2 player game to reinforce place value understandings.*

## EQUIPMENT

- Playing cards or UNO cards (number cards only)
- Paper or whiteboard and markers




## HOW TO PLAY

- Each player divides their paper or whiteboard into three columns labelled hundreds, tens and ones.
- Each player has a pile of cards placed face down.
- Both players take one card each from their pile and puts it in their hundreds, tens or ones column. Once the card is in place, it can't be moved. Players need to decide the best strategy (i.e. larger digits should go in the hundreds column).Both players select a second card and place it in one of their two remaining columns.
- Players pick up a third card and complete their three digit number. Each player reads their number aloud and the person with the largest number earns a point.Keep a tally. The first to score ten points is the winner.



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# PLACE VALUE DUEL

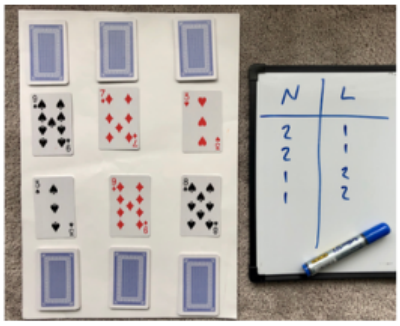
*2 player game to reinforce place value understandings.*

## EQUIPMENT

- A deck of playing cards or UNO cards (number cards)
- Paper or whiteboard and markers for keeping a tally

## HOW TO PLAY

- Each player has half of the pack of cards.
- Each player deals their cards into 3 piles (face down).
- At the same time, both players turn over the top cards from each of their 3 piles to make a 3 digit number. They read their number aloud.
- The player with the largest number wins the round. They receive two points on the tally and the loser gets one.
- Play until all cards have been used. Add up the points on the tally.




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# PLACE VALUE BINGO

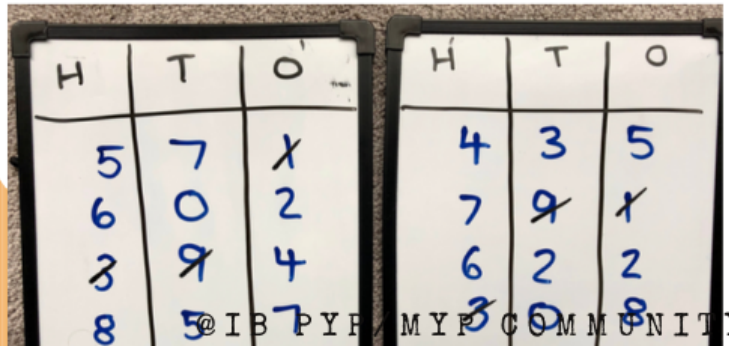
*A place value game that requires at least 2 players and a caller.*

## EQUIPMENT

- Each player needs a whiteboard or paper and markers.

## HOW TO PLAY

- Each player writes down 5 three digit numbers and reads them aloud (100-999).
- Without looking at the player's numbers, the caller says a digit and a place value column, e.g. "5 in the tens column", "9 in the ones column", "1 in the hundreds column".The caller should write down what they say to keep track.
- Players cross out their digits as they're called out.
- The first player to cross out all 5 complete numbers is the winner.




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# ODD & EVEN FREEZE

*2 player game to learn to recognise odd and even numbers.*

**EQUIPMENT**

- 10 to 20 small toys or figurines to demonstrate
- A deck of playing cards or UNO cards

## HOW TO PLAY

- Ensure children know what odd and even means.
- Split the deck of cards in half and give one half to each player. The cards should be face down.
- When someone says "go", the players begin sorting their cards into piles of even and odd cards as fast as they can.
- The first player to sort their cards yells, "Freeze!"
- The opponent stops sorting and checks the first player's piles to make sure there are no mistakes. If there are no mistakes, the first player wins and gets a point on the tally.If the opponent fi any mistakes in the first player's even and odd piles, they e point on the tally.
- After five or ten rounds, see who has the most points.




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# ARRAYS

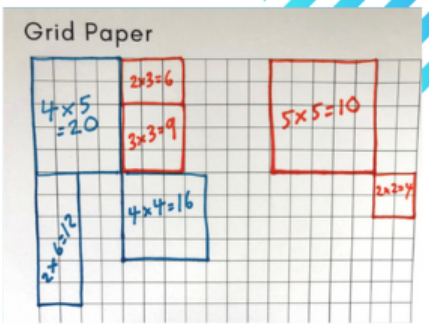
*Game for 2-3 players to learn about basic multiplication.*

## EQUIPMENT

- Grid paper
- A different colour marker for each player
- 2 six sided dice

## HOW TO PLAY

- Player One rolls the two dice and draws a rectangle that represents the array of the two numbers rolled (e.g. if a 2 and a 5 was rolled, they'd claim a rectangle that's 2 x 5 squares, or 5 x 2 squares).
- Player Two rolls the dice and does the same.
- Players keep taking turns to fill up the board.
- Skip a turn if you cannot draw a square/rectangle.
- At the end, count how many squares were filled in by each player. They player who filled in the biggest area wins.
- Discuss the concept of arrays/multiplication as you play.






# TREASURE HUNT

*Practise any maths operations in a fun race around the house.*

## EQUIPMENT

- 20 sticky notes
- Pens or markers

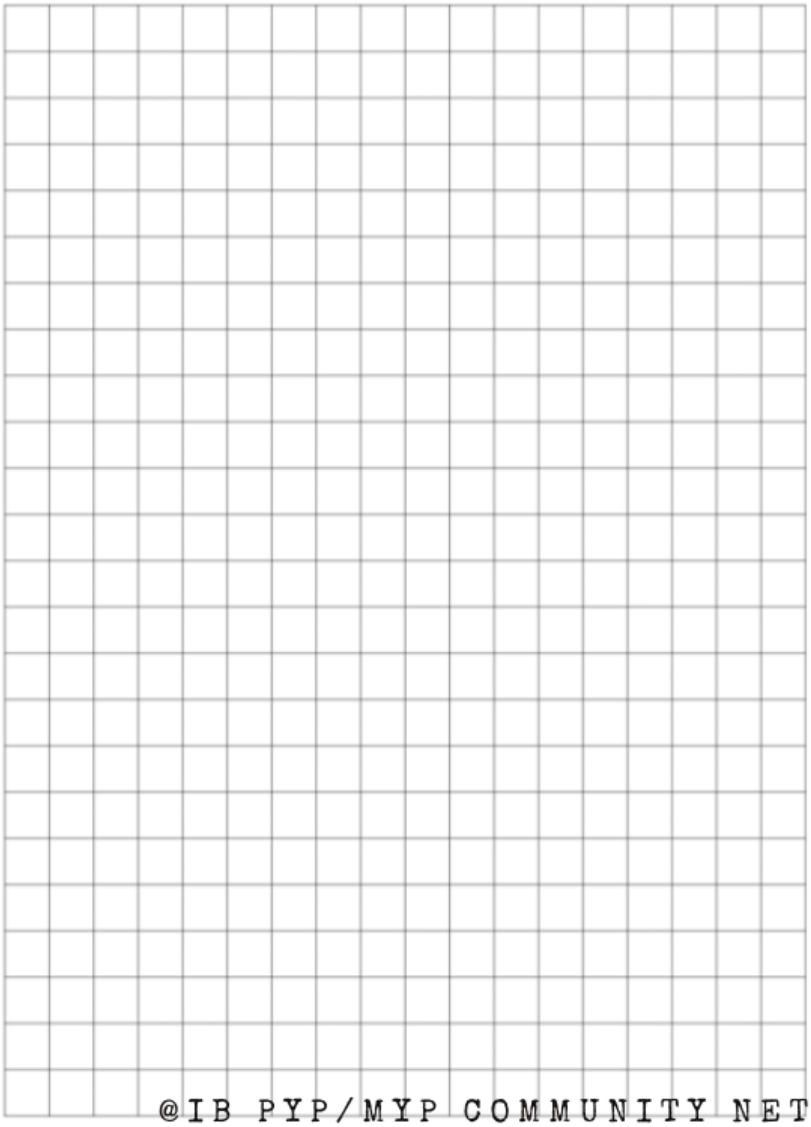


## HOW TO PLAY

- Writes out 10 maths questions on sticky notes with the answers on different sticky notes.
- If two children are playing, use a different coloured sticky note or different coloured pen/marker to distinguish each child.
- Hide the questions and answers around the house or yard. If two children are playing, they can hide each other's clues.
- Say "Go" and have players race to find their questions/answers.
- The child who finds and matches their questions and answers first wins. If one child is playing, they could try to find their questions/answers and match them in a certain amount of time (e.g. 5 minutes or 10 minutes).

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# Grid Paper



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