

# 20 MATHS GAMES

5 - 8 year olds



Fun | Simple | Minimal Equipment

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# Introduction

Whether you're a parent thrown into teaching your young children at home, or you're a teacher looking for simple classroom ideas, these maths games will help.

These games are tried and tested with my own children (aged 5 and 6) and/or past students (aged 5-10).

The games were chosen as they:

- Require equipment you probably have at home
- Are easy to understand and play
- Help children learn and reinforce basic mathematical skills and understandings
- Are fun
- Include variations to make them easier or harder

The 20 games can be repeated over and over. If you played one game per day on weekdays, that will cover you for about a month!

Teaching young children maths doesn't have to be complicated and it doesn't have to involve worksheets.

Good luck!

*Kathleen*



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# Equipment

Here's the equipment used in the maths games:



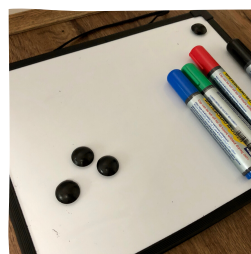
**DICE:** Even better if you can get more than just 6 sided dice (check eBay for cheap packs of mixed dice!).



**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.

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
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51	52	53	54	55	56	57	58	59	60
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91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

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

# List of Games

1. **Nim** -- strategy
2. **Reach 21** -- counting and strategy
3. **Reach the Target: Skip counting** -- skip counting
4. **Higher or Lower** -- counting and number confidence
5. **Mountain** -- number recognition
6. **Double Trouble Race** -- doubles, counting, writing numbers
7. **Mega Noughts and Crosses** -- strategy, addition
8. **Snake** -- addition
9. **Tug of War** -- number lines, addition and subtraction
10. **Subtraction Towers** -- subtraction
11. **Spiral Race** -- addition
12. **I Spy** -- addition
13. **Race to 100** -- addition, place value
14. **Bundles** -- place value, addition
15. **Triple Digit Challenge** -- place value
16. **Place Value Duel** -- place value
17. **Place Value Bingo** -- place value
18. **Odd and Even Freeze** -- odd and even numbers
19. **Array Game** -- multiplication
20. **Maths Treasure Hunt** -- mixed revision

# 1. Nim

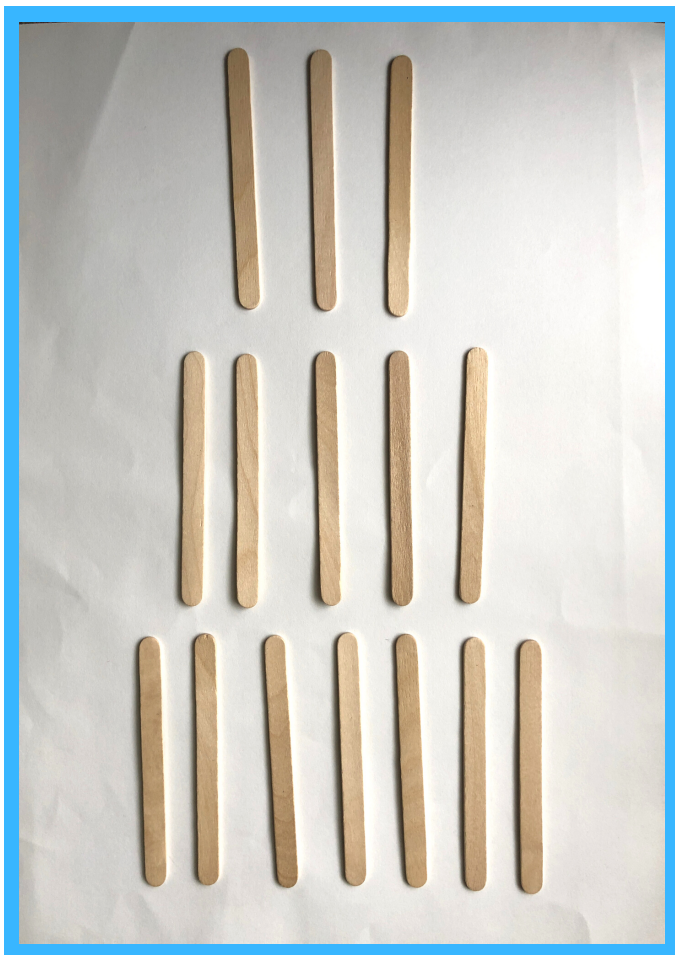
*Ancient 2 player strategy game. Great for a warm up!*

## Equipment

- 15 objects e.g. counters, icy pole sticks, matches, rocks etc.
- Paper or whiteboard to keep a tally of wins (optional)

## How to Play

- Set up 3 rows of objects as shown below (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 loser is the person who is forced to take the last object.
- Keep a tally of who wins. Discuss strategies after a few games.



## 2. Reach 21

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

### Equipment

- Paper or whiteboard to keep a tally of wins (optional)

### 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.
- In the example below, 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

- Keep a tally of who wins the games if you wish.
- Discuss winning strategies. What works and what doesn't?

### Variations

- Try making a higher target number, e.g. 30.

# 3. Reach the Target: Skip Counting

*Variation on Reach 21 that incorporates skip counting.*

## Equipment

- Paper or whiteboard to keep a tally of wins (optional)

## 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. For example:

**Player A:** 10, 20

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

**Player A:** 60

**Player B:** 70, 80

**Player A:** 90, 100

- In the above example, Player A wins.
- Keep a tally of who wins the games if you wish.
- Discuss winning strategies. What works and what doesn't?

# 4. Higher or Lower

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

## Equipment

- None required but if the child needs help, use a number chart and cross off (or cover) the numbers that are guessed

## 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.

<del>0</del>	<del>1</del>	<del>2</del>	<del>3</del>	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	<del>89</del>
<del>90</del>	<del>91</del>	<del>92</del>	<del>93</del>	<del>94</del>	<del>95</del>	<del>96</del>	<del>97</del>	<del>98</del>	<del>99</del>



# 5. Mountain

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

## Equipment

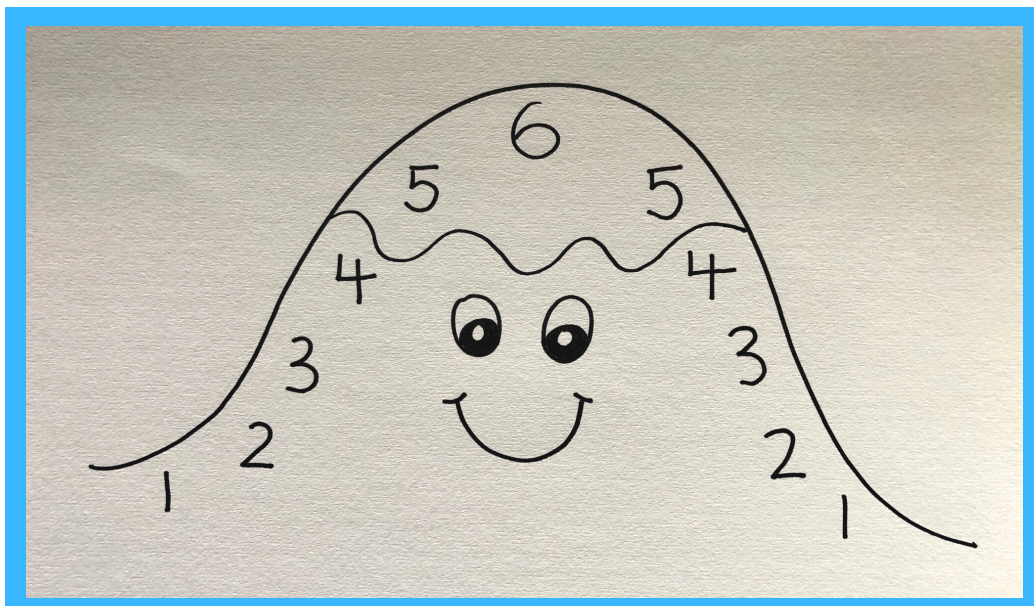
- Paper or whiteboards and markers
- 1 six sided dice

## 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.

## Variations

- For a harder version, make the mountain higher (e.g. 10+) and introduce 2 or 3 dice. Players can add the numbers on the dice.



# 6. Double Trouble Race

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

## Equipment

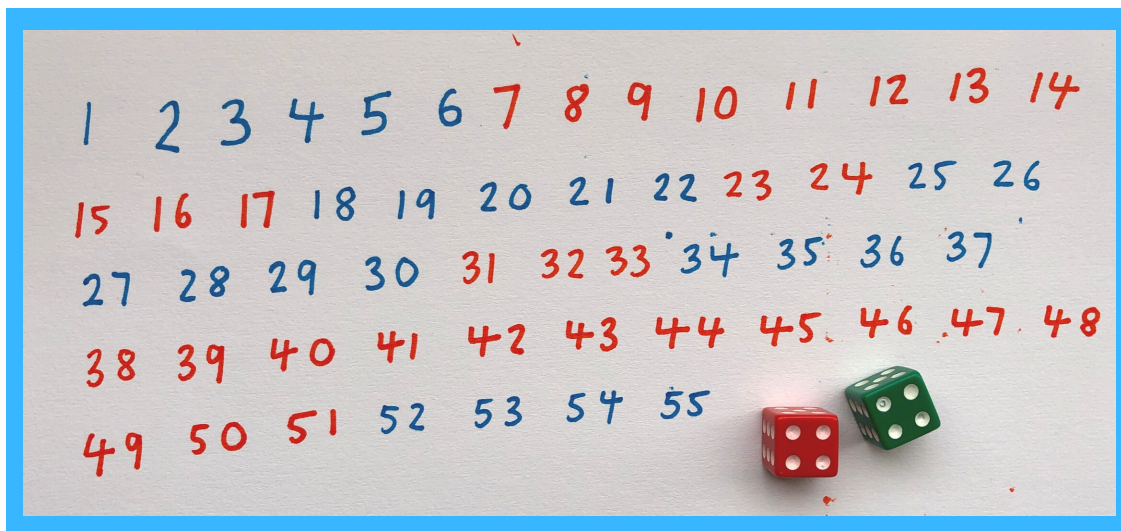
- Paper or whiteboards and markers
- 2 six sided dice

## 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.

## Variations

- Children who are less confident writing numbers could have an adult write all the numbers lightly in pencil and they trace over them (the number range could also be reduced, e.g. 0-30).
- Referring to a number chart can also help with letter formation.
- Play backwards writing the numbers from 100 to 0.



# 7. Mega Noughts and Crosses

*Simple 2 player strategy game that involves addition.*

## Equipment

- Paper or whiteboards and markers

## How to Play

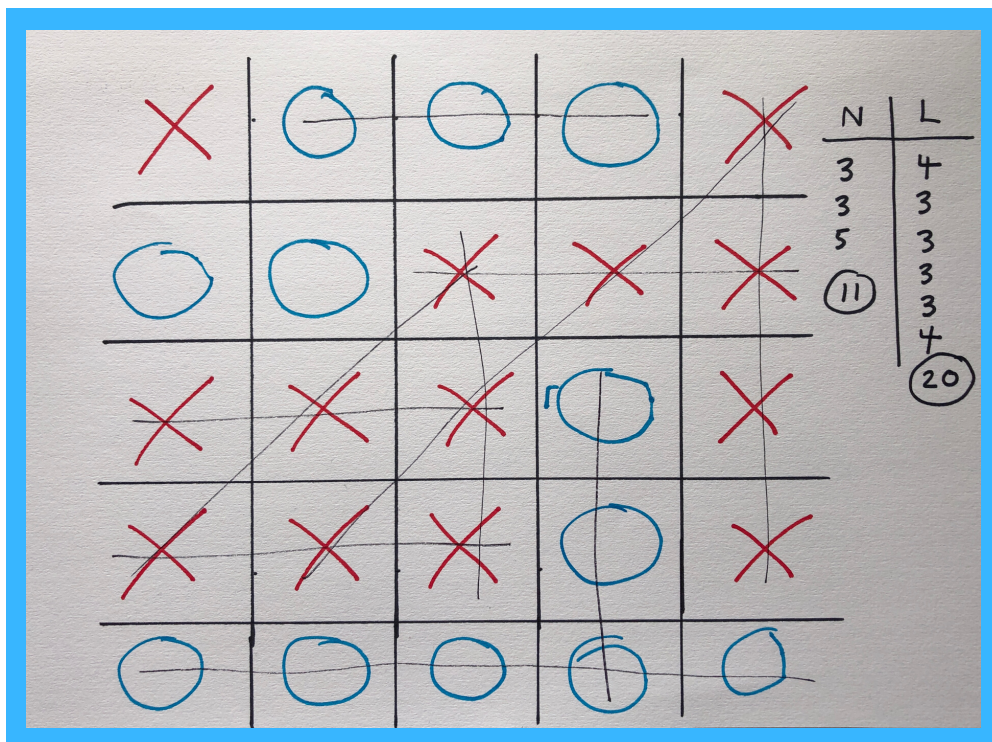
- Draw a 5 x 5 grid on paper or a whiteboard.
- Decide who is X and who is O. Players take it in turns to place either a X or a O in a square until the board is filled.
- Go through the grid to find lines of 3, 4 or 5.

**5 in a row:** 5 points

**4 in a row:** 4 points

**3 in a row:** 3 points

- Add up the total amount of points you get from the grid to see who wins. Discuss winning strategies.



# 8. Snake

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

## Equipment

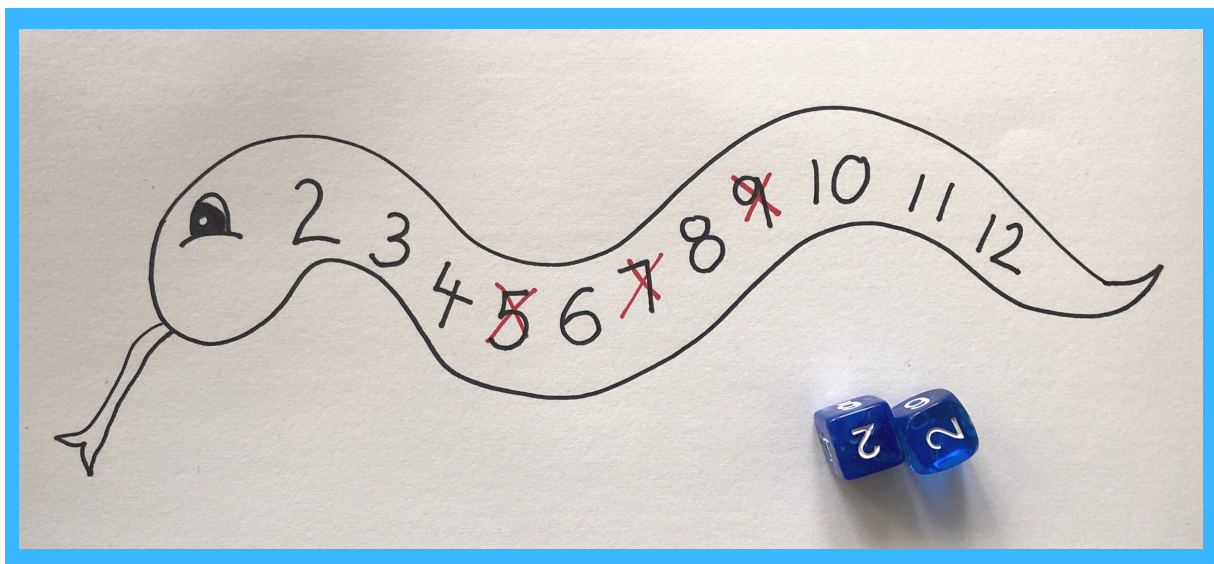
- Two pieces of paper and markers
- Two 6 sided dice

## 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.

## Variations

- Use 2 ten sided dice and write the numbers 2-20 on the snake.
- Use 2 ten sided dice and subtract the numbers instead of adding. Write 0-9 on the snake (if you have dice with the numbers 0-9).
- Draw different game boards e.g. roads, trains, snails.



# 9. Tug of War

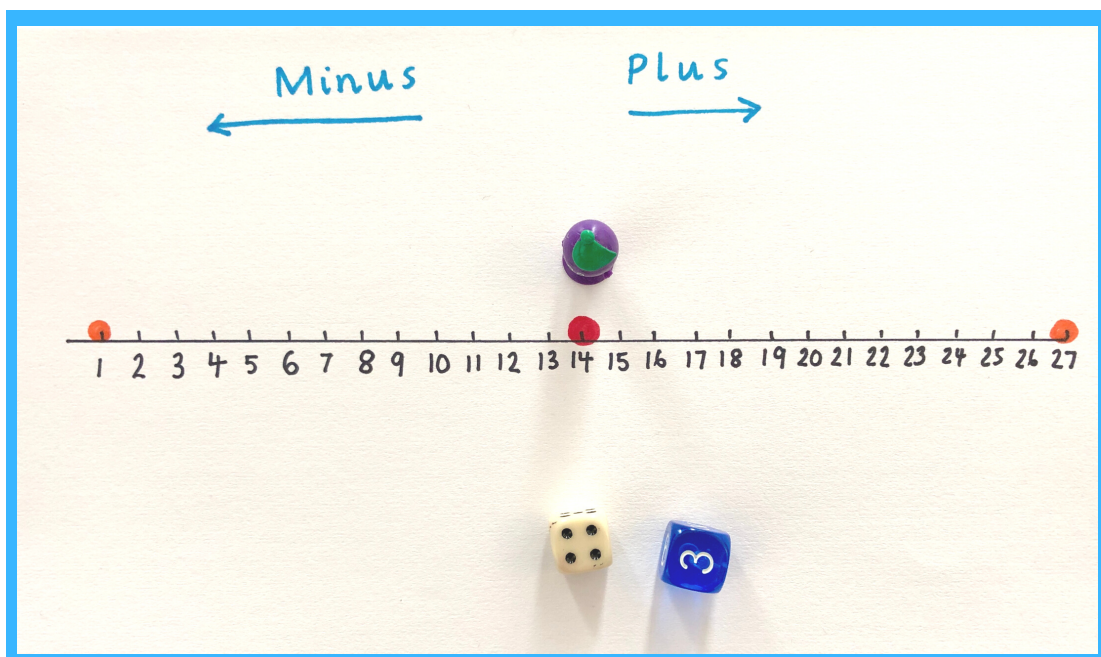
Game for 2 players to learn about number lines, addition and subtraction. Adapted from NRICH <https://nrich.maths.org/5897>

## 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.



# 10. Subtraction Towers

*Game for 2 players to practise subtraction skills.*

## Equipment

- 20 blocks per player (e.g. Duplo or LEGO)
- 1 six sided dice
- Paper or whiteboards and markers for keeping a tally (optional)

## 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.

## Variation

- Start with bigger towers for more of a challenge.



# 11. 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 or whiteboard for keeping a running total
- Number chart (optional) to help children add their 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).



# 12. I Spy

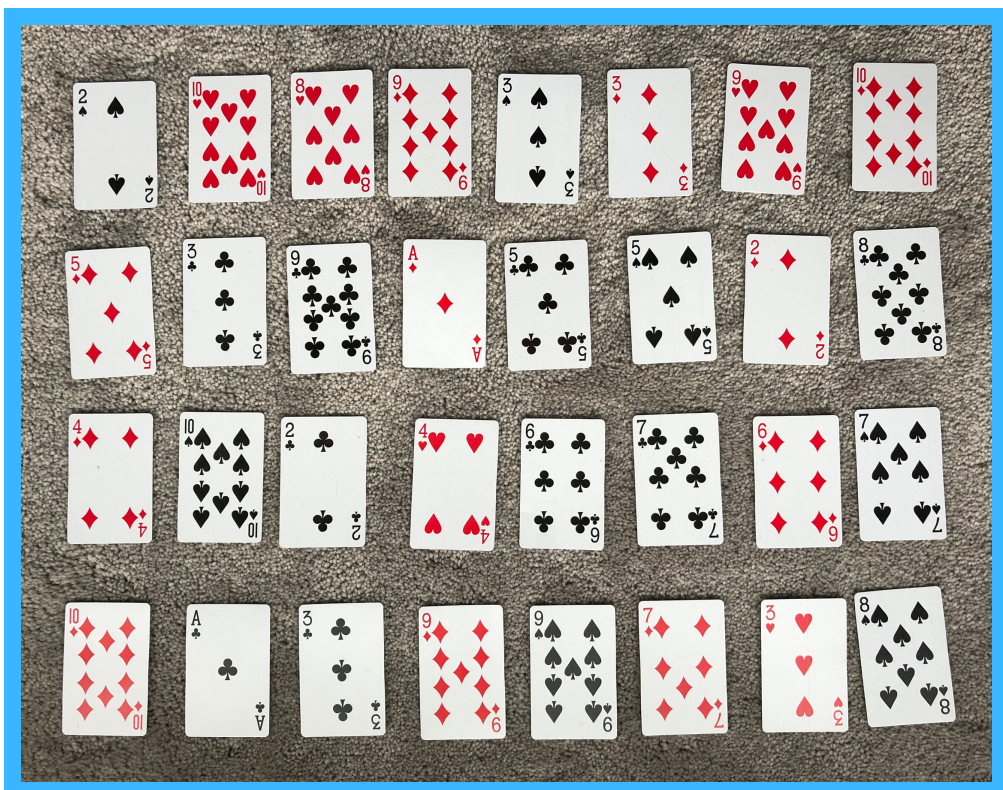
*Game for 2+ players to practice simple addition facts.*

## 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.





# 13. 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

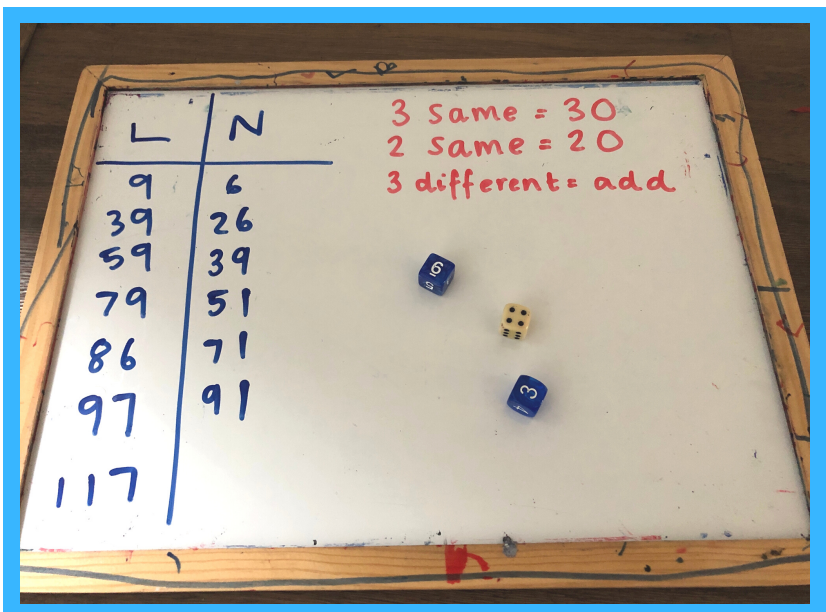
- Player One rolls 3 dice. They can then decide whether to roll all 3 again, roll 2 again or roll 1 again.
- They then add up their score based on the following.

**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.



# 14. Bundles

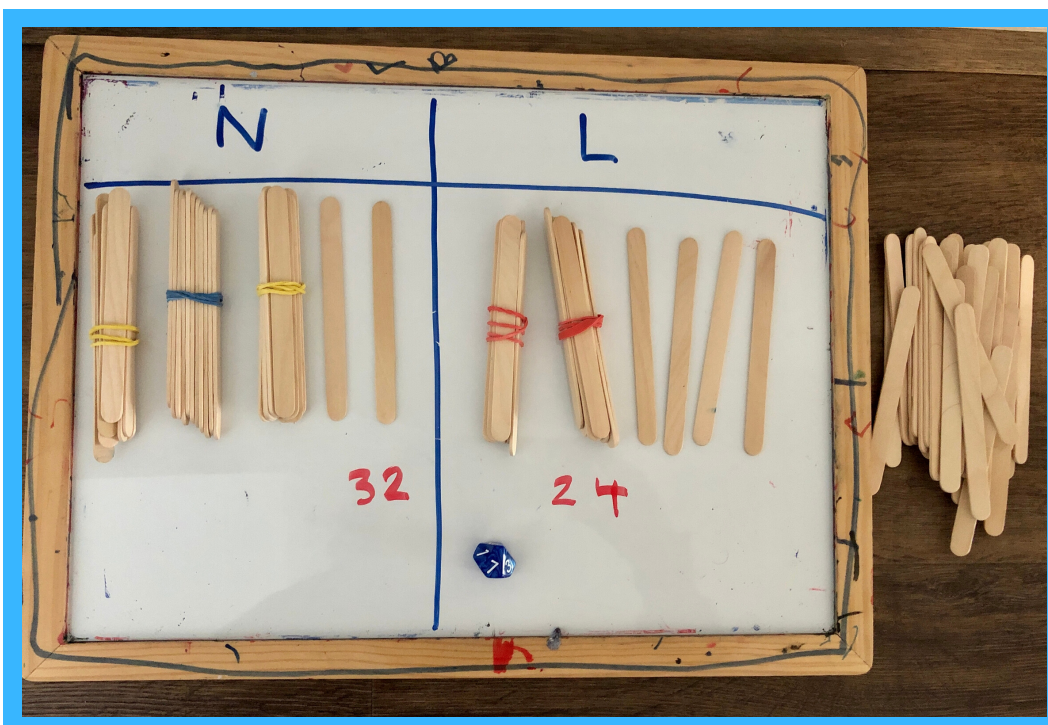
*Game for 2 to 4 players to learn about place value and addition.*

## Equipment

- Icy pole sticks or straws (about 100). Alternatively use LEGO bricks.
- Rubber bands (about 10)
- One dice (6, 8, or 10 sided)
- Paper or whiteboard to keep a tally of wins (optional)

## 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 number wins.



# 15. Triple Digit Challenge

*2 player game to reinforce place value understandings.*

## Equipment

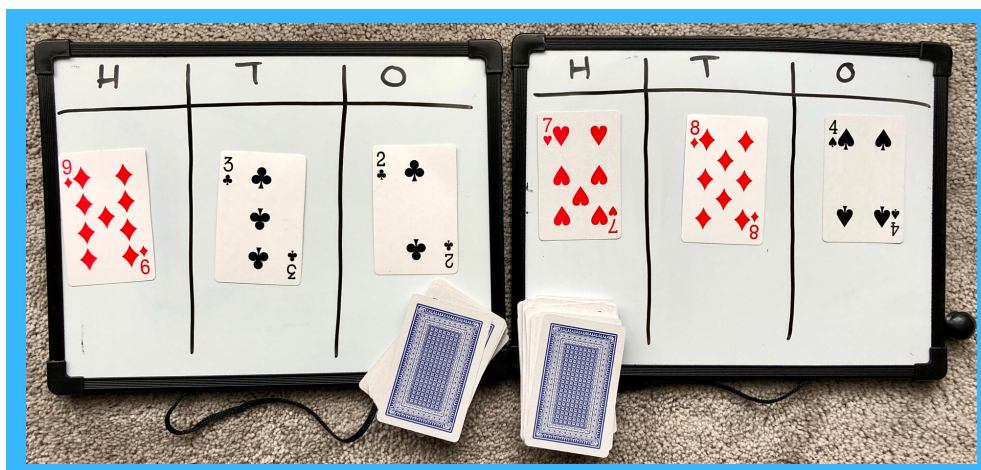
- Playing cards or UNO cards (number cards only)
- Paper or whiteboard and markers

## 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.

## Variation

- Use two columns to focus on two digit numbers or four columns to focus on numbers in the thousands.



# 16. Place Value Duel

*2 player game to reinforce place value understandings.*

## Equipment

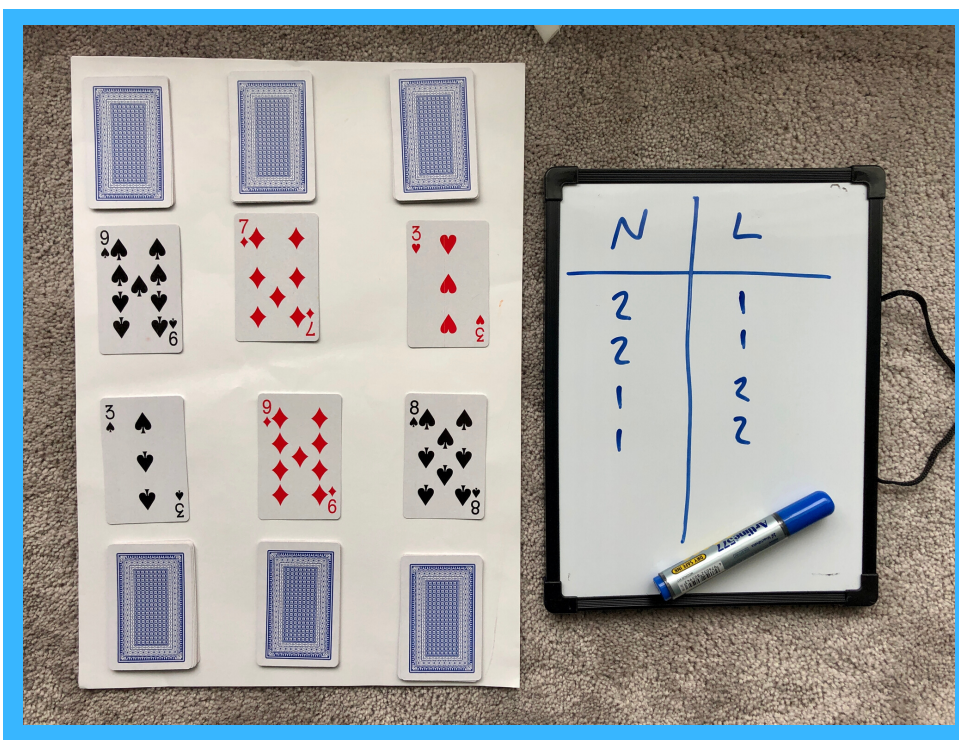
- A deck of playing cards or UNO cards (number cards only)
- Paper or whiteboard and markers for keeping a tally

## 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.

## Variation

- Use 2 cards to reinforce numbers up to 100 or 4 cards to reinforce numbers in the thousands.



# 17. Place Value Bingo

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

## Equipment

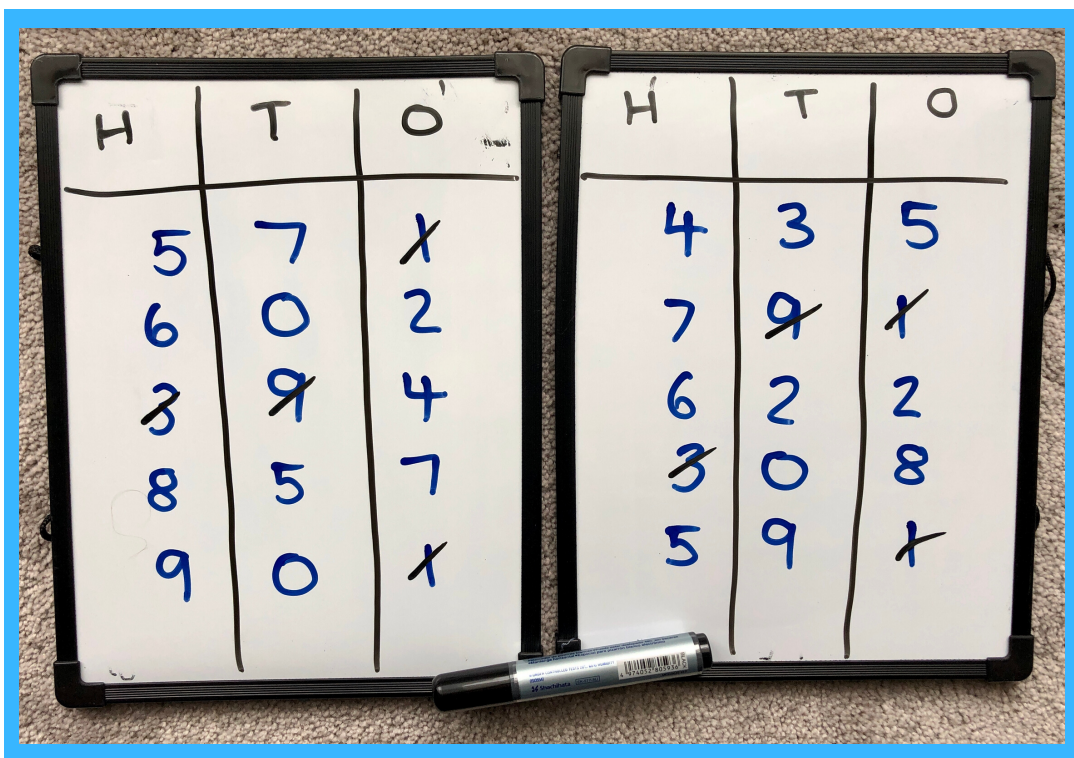
- Each player needs a whiteboard or paper and markers.

## 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.

## Variation

- Make the game more simple by using 2 digit numbers (1-99) or more complex with 4 digit number (1000-9999).



# 18. Odd and Even Freeze

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

## Equipment

- 10 to 20 small toys or figurines to demonstrate (optional)
- A deck of playing cards or UNO cards (number cards only)
- Paper or whiteboard and markers for keeping a tally

## How to Play

- Ensure children know what odd and even means. E.g. get out 4 figurines -- do they all have a partner? Yes. 4 is an even number. What about 7 figurines. Do they all have a partner? No. 7 is odd.
- 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 his or her 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 finds any mistakes in the first player's even and odd piles, they earn the point on the tally.
- After five or ten rounds, see who has the most points.



# 19. Array Game

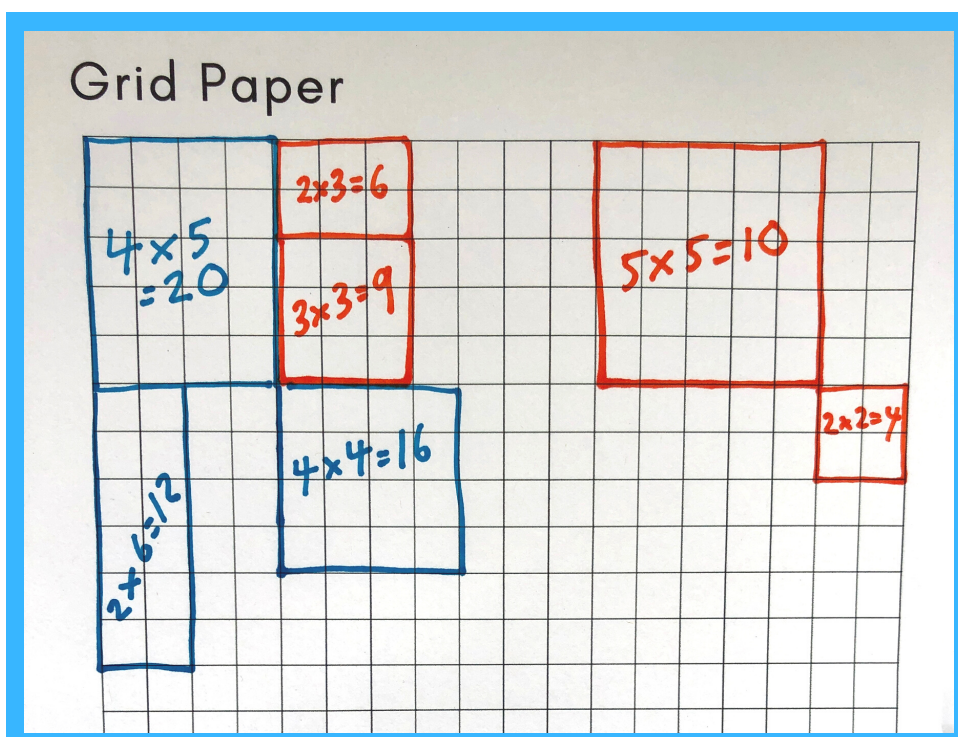
*Game for 2-3 players to learn about basic multiplication.*

## Equipment

- Grid paper (you can print the grid at the back or rule up your own)
- 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. The player who filled in the biggest area wins.
- Discuss the concept of arrays/multiplication as you play.



# 20. Maths Treasure Hunt

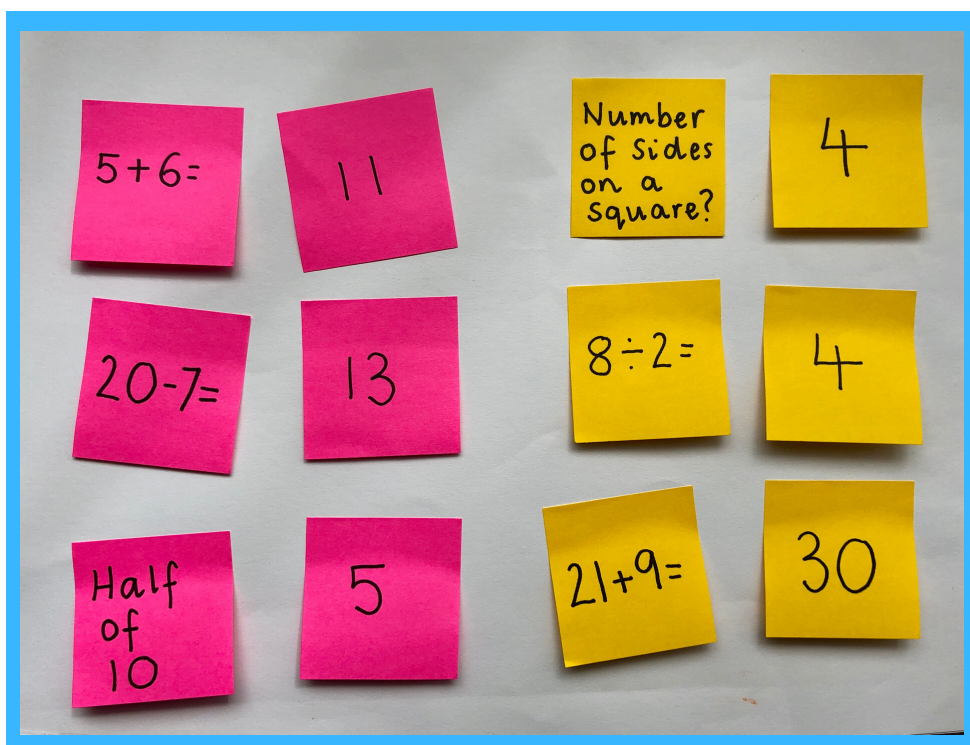
*Practise any maths operations in a fun race around the house.*

## Equipment

- 20 sticky notes or cut up pieces of paper per player
- Pens or markers

## How to Play

- An adult or different child writes out 10 maths questions on sticky notes (or paper) 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).

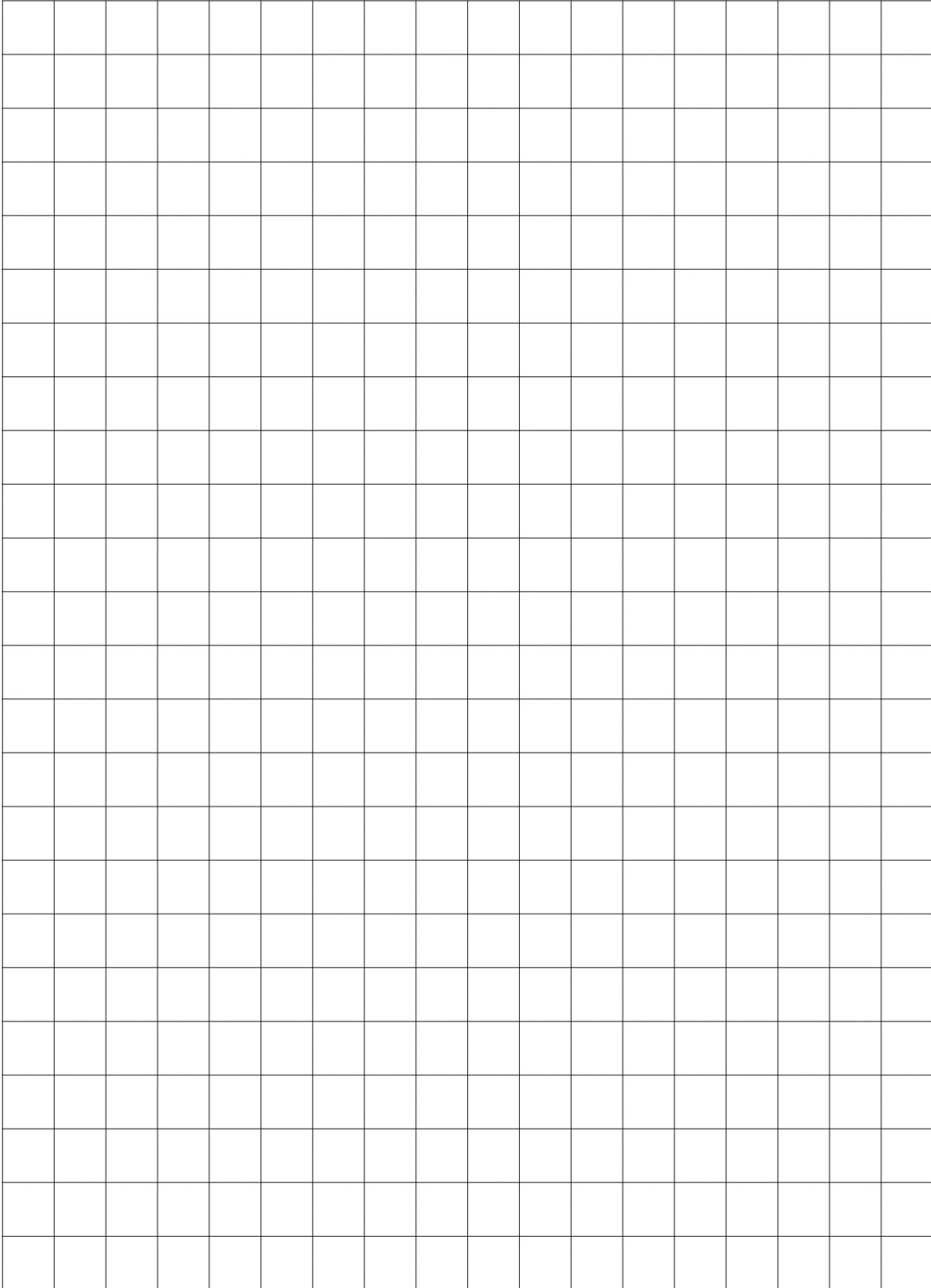




# Number Chart

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61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
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# Grid Paper



# About The Author

My name is Kathleen Morris. I'm a primary school teacher, mum and educational blogger from Victoria, Australia.

You can follow my blog where I publish easy to understand resources to help teachers create digitally literate global learners.

My blog: <http://www.kathleenamorris.com>

My email newsletter: <https://www.subscribepage.com/kathleen>

You'll also find me hanging out on Twitter a lot. I am @kathleen\_morris

# About This Book

I created this book to share some of my favourite maths games with my friends and professional learning network during the global pandemic.

The suggested age range (5-8) is just a guide and it's expected that teachers and caregivers will be able to judge which games will suit individual children. Many of the games can be varied to make them easier or harder. Get creative!

As is the nature of maths games, it's impossible to credit an original creator when they've been used and adapted in classrooms for years.

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