

Are you having fun doing maths already?

Family games you play at home

We spent some time this year thinking about the easiest ways to support maths learning at home. One of those is playing games. Lots of games you play at home support maths learning – whether it's specific concepts, such as those relating to shape or number, or skills like logic and perseverance.

But people often don't give the games credit for that! And then the games, which are fun, can come to be seen as a waste of time when really they've got all sorts of learning within them.

So to encourage you to keep that game-play going, we thought we would summarise that hidden learning in a handy sheet. We're very far from covering all games here. So if there are more maths games you'd like us to add, please let us know.

Board games

<i>Ludo</i>	Counting. Numbers to six. Adding, if played with two dice. Strategy (which counter should I move?). Probability (will a six come up?)
<i>Snakes and Ladders</i>	Numbers to 100, and their relationships (higher/lower, and the board is laid out in rows of 10 so you can see patterns of the 2, 5 and 10 times tables if you look for them). Counting. Subtracting (how far did that annoying snake take me?).
<i>Scrabble</i>	Addition and multiplication in working out scores
<i>Monopoly</i>	Handling money. Addition and subtraction. Probability and strategy (how likely is it that I'll land there? Where do people land the most? Better to spend all my money on one big property or buy several small ones?)
<i>Chess</i>	Movement by rule in 2D space – patterns, transformations. Strategy and abstract thinking

Where's the maths? in family games you play at home.

www.mathsontoaast.org.uk
www.bletchleypark.org.uk
@mathsontoaast @BParkEd

	/visualisation – the ability to think several moves ahead. Logic.
<i>Checkerboard games (in general)</i>	Movement by rule in 2D space – patterns, transformations. Strategy and abstract thinking – the ability to think several moves ahead. Logic.
<i>Mastermind</i>	Logical reasoning and strategy (which guess will eliminate most possibilities?); systematic working (eliminating possibilities, recording results of investigation).
<i>Guess who?</i>	As for Mastermind. You can play a version of Guess Who? with numbers, too – just make some replacement cards, and you'll end up practising 'higher than' 'lower than', times tables and more.
<i>Mancala</i>	There are a lot of versions of Mancala from around the world. However you play you'll use counting and logic.
Proprietary card games	
<i>Set</i>	Recognition of 'same' and 'different' in deliberately confusing contexts. Set relates to set theory which is in A Level maths, but can be played from about 7 up.
<i>24</i>	Addition, multiplication, subtraction, division – fluency in number operations and awareness of different strategies for reaching the same number.
<i>Snap</i>	Early recognition of 'same' in simple context (depending on cards, you may also be practising number)
<i>Racko</i>	Numbers from 1-60. Ordering numbers. Probability.

Card games

Card games in general – e.g. whist, rummy, bridge,

Numbers to ten. Recognition of 'same' e.g. same number but different suit. Strategy. Probability – which cards are left? Which combinations are most likely to appear?

Pairs

Recognition of 'same' e.g. same number but different suit – fundamental to a concept of number. Memory skills.

99

Addition, memory, numbers to 100

Higher/Lower

Probability – which card is most likely to come next, and the unreliability of that.

Dice games

Dice games (in general)

Numbers to six / twelve. Addition of numbers to six. Probability (will a six come up? A double six?)

Pig

Addition of higher numbers. Strategy (should I quit while I'm ahead?)

Shut the box

Adding. Number bonds of numbers to 12.

Domino games

Dominoes

Numbers to six. Logic / probability / memory – will that tile come up?

'Threes and fives'

Numbers to six. Logic / probability / memory – will that tile come up?

Tetris

Tessellation of shapes. 2D grid. All the tiles are made with four squares – logical completeness.

Games played on a grid

Where's the maths? in family games you play at home.

www.mathsontoast.org.uk
www.bletchleypark.org.uk
@mathsontoast @BParkEd

<i>Battleships</i>	Co-ordinates. Logical reasoning – if I've hit one there, where might the rest be?
<i>Minesweeper</i>	As per battleships.
<i>Os and Xs</i>	Logic of 2D grid. Ever worked out a sure strategy not to lose? You used logical reasoning and you may have proved it to yourself.
<i>Connect 4</i>	Awareness of 2D space (can you see how it's like Os and Xs?)
<i>Hopscotch</i>	Counting up and down numbers. Counting with gaps, which relates to addition and subtraction.
<i>Twister</i>	You can talk about numbers with Twister – e.g. four rows, six columns, a nice visualisation of the way 24 is 6×4 or 4×6 .

This list was developed in 2014 by Maths on Toast and Bletchley Park Trust with help from #TMWYK (Talk Math with Your Kids) on Twitter. If you have more ideas please let us know!