

Maths help at home

Talk about and involve children in the situations in which you use maths in everyday life;

Play games involving numbers and/or logic, such as card games, dominoes, darts, draughts, chess etc.; stimulate their thinking at times of boredom, (such as when travelling), with mental activities;

Everyday situations:

- Talking about time, referring to the clock at different times throughout the day, (preferably a clock with hands), setting times for certain events, e.g. 'We'll have lunch at 1 o'clock.', timing events, e.g. 'How long will it take to wash the dishes?'
- Weighing, measuring capacity and timing when cooking. Converting a recipe for 4 people to one for 6 people.
- Talking about time, e.g. How long is it until lunch time? The journey takes $2\frac{1}{2}$ hours, when will we arrive? We need to be there at 2.00 pm, when do we need to leave home?
- Handling amounts of money when shopping, working out total costs, working out change, checking receipts. Working out prices of sale items, e.g. 20% off. Managing pocket money and saving for things.
- Discussing and comparing house prices from newspaper house sales pages.
- Working out how much petrol will be used on a journey, working out average speed for a journey, costing journeys or holidays etc.

Play activities/games:

- Playing games involving matching, recognising numbers and shapes or counting such as snap, pairs, dominoes, board and dice games (e.g. snakes and ladders).
- Card games such as sevens, cribbage, pontoon etc.
- Any games involving calculating scores, e.g. scrabble, quoits, darts, bowling.
- Beat the calculator. In pairs, one with a calculator, one without, each works out the answer to a calculation aiming for the one without the calculator to say the answer first.
- Games involving strategic thinking/logic, e.g. draughts, chess, mastermind.

Mental activities:

- Counting in multiples, e.g. as you climb stairs, walk to the local shop etc.
- Simple addition/subtraction calculations, e.g. $5 + 2$, $10 - 7$, developing to $15 + 2$, $25 + 2$, $25 + 12$, $20 - 7$, $30 - 7$, $30 - 17$ and beyond. 'What's $32 + 14$? How did you work it out?'
- 'The answer is 10 (or any number), what's the question?'
Possible responses: 8 plus 2, 1 million divided by one hundred thousand, 5×2 , $25 - 15$, the number before 11, 9999 subtract 9989. This is a brilliant activity because: there's no failure; it stimulates thinking about and stretching knowledge of numbers and mathematical relationships; it's good fun.
- Ask 'progressive' calculations, e.g. $7 + 6$, $17 + 6$, $27 + 6$, $47 + 6$, $147 + 6$; 5×2 , 50×2 , 500×2 , 500×20 .
- Working out 2-digit additions and subtractions, multiplying and dividing 2-digit numbers by 1 digit numbers mentally. Talk about how to make it easier, e.g. for $28 + 15$, call it 30 add 13 and that's easy; for 16×4 , double 16, then double 32.

Online activities:

www.mathszone.co.uk

www.coolmathgames.org.uk

www.bbc.co.uk/bitesize/ks2/maths/

www.games.co.uk/games/math/

www.primarygames.com/math.php

www.sheppardsoftware.com/math.htm

www.coolmath4kids.com/

www.sumdog.com (pupils have their own logins)

Games to play with a deck of cards:

<p><u>Product (Multiplication) War</u></p> <p>Turn up two cards and multiply.</p> <p><u>Advanced Product War</u></p> <p>Turn up three (or four) cards and multiply.</p> 	<p><u>2-Card Addition War</u></p> <p>Players turn up two cards for each skirmish.</p> <p>The highest sum wins.</p> <p><u>Advanced Addition War</u></p> <p>Turn up three (or four) cards for each skirmish and add them together.</p> 	<p><u>Subtraction War</u></p> <p>Players turn up two cards and subtract the smaller number from the larger.</p> <p>This time, the greatest difference wins the skirmish.</p> 	<p><u>Improper Fraction War</u></p> <p>Turn up two cards and make a fraction, using the larger card as the numerator. Now 5 and 8 will be 8/5</p> <p>Greatest fraction wins.</p> 	<p><u>Advanced Wild War</u></p> <p>Black cards are positive numbers; red cards are negative numbers.</p> <p>Players turn up four cards (or five) and may do whatever math manipulation they wish with the numbers.</p> <p>The greatest answer wins the skirmish.</p> 
---	--	--	---	--

Games to play with Dice:

Pig: Mental Addition and Critical Thinking

The goal of Pig is to be the first player to get to 100. The game is played with a pair of dice, and requires a paper and pencil for scoring.

The first player rolls the dice, calculates the sum (mentally), then rolls again if he or she wants to. The next sum is added to the first. The player can roll as often as s/he wants to before play goes to the next turn.

However, if a 1 comes up on one of the dice before the player decides to stop rolling, the player scores 0 for that round. The play goes to the next player. Worse still, if a 1 comes up on both of the dice, the turn ends and the player's entire total falls to 0.

Going to Boston: Math Facts

This game requires three dice and pencil & paper.

In one turn, the first player rolls all three dice. The highest roll is put aside. The next two dice are rolled and the highest number is put aside again. The last dice is rolled, then all three dice are added together. The winner is whoever gets to a predetermined amount first, such as 100.

Variations on the game are adding the first two dice and multiplying the sum by the third; using any combination of addition, subtraction, multiplication or division to get the highest number possible, or just using two dice to practice basic math facts (addition, subtraction or multiplication).

Target cards (1+ players)

Choose four digits between 1-9 (some can be the same). Choose a target number between 1- 19. The aim is to make the target number using all four digits using any of the four operations (addition, subtraction, multiplication and division). All the digits must be used but they can only be used once. For example:

Target: **17** . Numbers: **4,5,5,8**

$$4 \times 5 = 20$$

$$8 - 5 = 3$$

$$20 - 3 = 17$$

Big Deal (2+ players)

The aim is to gain the highest score. There are four rounds. Take it in turns to roll a die. Each time the die is rolled, all players must put the digit shown on the die into one of the boxes. Players must continue this until all the boxes for the row are filled. If the number sentence is correct, then the player is awarded the amount shown in the left hand column in points. Once all four rounds are complete, players must add all their individual points to make a final total. The highest total wins. Players must think tactically as to where they might position the digits to maximize their scores.

$$\square\square < \square\square$$

$$\square\square < \square\square$$

$$\square\square < \square\square$$

$$\square\square\square < \square\square\square$$