Helping your child with Mathematics at home

Stage 2

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Early Stage 1 – Stage 3

- Mathematics is mandatory for all students K–10.
- The **Mathematics K–10 syllabus** is divided into the strands of:
  - number and algebra
  - measurement and geometry
  - statistics and probability.
Working Mathematically

• The working mathematically components of communicating, problem solving, reasoning, understanding and fluency are integrated within the strands. The syllabus includes a section on Supporting students in mathematics with special education needs which will assist teachers adapt their programming to suit the individual needs of learners.
What is Numeracy?

• Numeracy involves using mathematical ideas effectively to participate in daily life and make sense of the world. It incorporates the use of numerical, spatial, graphical, statistical and algebraic concepts and skills in a variety of contexts and involves the critical evaluation, interpretation, application and communication of mathematical information in a range of practical situations (NSW Numeracy K-12 Policy, 2007).

• Numeracy is incorporated in the NSW Syllabuses for the Australian curriculum as a general capability alongside other learning across the curriculum areas.
Helping your child in Stage 2

- [https://www.youtube.com/watch?v=E3fLp0QADUU&t=193s](https://www.youtube.com/watch?v=E3fLp0QADUU&t=193s)
  Maths today is about understanding **number patterns**, not learning by rote.
- Saying "I was bad as maths too" is one of the **worst things** you can do as it lowers their own expectations of themselves.
- There is always more than one way to get the right answer.
- Children are taught mental strategies, like **using number lines**, to figure problems out in their heads
• Ask "What is the question asking you?"
• Practise the times tables
• Don't jump in with the answers
• Stay positive
• Talk to the teacher if your child needs more help with the homework.
Ask your child to explain how they work things out

• You could ask your child, ‘How did you get that?’ they may at first say, ‘I don't know’, but if they realise there is an expectation that they will need to explain the way they do maths, they will start thinking about it. The more they think about how they did something, the more it might make sense to them – it really contributes to that meaning-making process.
What they need to know in Stage 2

- Identify, represent and compare fractions involving halves, quarters and thirds
- record area in square centimetres using words and the abbreviation for square centimetres
- recall multiplication facts (times tables) of 2,3,5 and 10
- count forwards and backwards by tens ands hundreds, eg 1220, 1230, 1240, or 423, 323, 223
- round numbers to the nearest 10, hundred, thousand or ten thousand, eg 67 rounds to 70
- use mental strategies to divide two-digit numbers by one-digit numbers, eg 63 divided by 9 = 7 because I know that 7 x 9 = 63
- determine factors for a given number, eg factors of 12 are 1,2,3,4,6,12
• identify and name 3D objects, eg pyramids, cylinders, cones, spheres
• record area in square centimetres using words and the abbreviation for square centimetres
• record volume and capacity using the abbreviation for millilitres, eg 6ml
• recognise and describe angles, eg acute angles, obtuse angles
• recognise that there are 1000 grams in one kilogram
• measure lengths and distances using metres and centimetres
• convert between units of time, eg 60 seconds = 1 minute, 60 minutes = 1 hour
• identify and sketch 3D objects, including prisms, pyramids, cylinders and cones, and investigate their use in commercial packaging
• understand there is north, south, east and west
• organise data to create and interpret tables and graphs.
Card games to play at home

- Use the cards 1 (Ace) to 10
- Year 1 - Year 3
- **Addition snap** – Addition of number facts
- You need:
  - Cards 1(ace) – 9
  - two players
- Players divide the cards evenly. At the same time each player turns over one card. Players add the two numbers together as quickly as possible and say the answer aloud. The player who says the correct answer first, keeps the two cards. Play continues until one player collects all the cards.
24 – Addition and subtraction using mental strategies

Deal out all the cards, an equal number to each player. The person to the dealer’s left goes first and the game continues clockwise. The first person turns over a card and places it face up in the centre of the play area. The next player turns over a card and adds it to the card already played, says the sum out loud, and places the card on top of the previously played card. The next player turns over a card and adds the card to the sum of the first two cards. Play continues in this way until someone adds a card that makes 24 or more. If the sum is exactly 24 that player wins. If the sum is over 24 the value of the card is taken away from the previous total. Play continues until someone gets a total of exactly 24.
Year 1 - Year 6
Addition and subtraction – addition and subtraction facts
You need cards 1 (ace) - 10
Players divide the cards evenly between themselves and place one card face up in the middle/ The first player places down a card places the card next to the card in the middle. If it is a black card the cards are added together. If it is a red card subtract the number from the previous total.

Year 2 - Year 6
Add or subtract – Addition and subtraction
Start with a selected two digit number such as 35. Players take turns to turn over a card. If the card is black it is added to the number (35). If the card is red, the number of the card is subtracted from the number.
Play continues by adding or subtracting the card turned over from your total. The player with the highest number at the end of the game is the winner.
All ages

**Up and Down** – sequencing in ascending or descending order

You need a deck of cards 1-10

Each player is dealt four cards face up. The remaining cards are placed in a pack in the centre. The aim of the game is to be the first player to arrange the cards in ascending or descending order. Starting with play to the dealer’s left, each player takes turns to exchange cards from the pack or discard pile to arrange their four cards in order. The first player to arrange his/her cards in order is the winner of that round and receives a point. The first player to accumulate five points is the winner of the game.
**Card Calculations** – addition, subtraction, multiplication, division

You need a pack of cards 1 - 9
Each player is dealt 4 cards face up. Each player then tries to make a number sentence which gives a single digit answer using their four cards. The answer becomes the score for that player.
For example if the four cards were 2, 6, 3 and 7
Answers could be:
7 + 3 + 2 – 6 = 6 6 points
6 + 7 – 3 – 2 = 8 8 points
36 – 27 = 9 9 points
The winner is the player with the largest score after five rounds.

**Variations:**
Aim to produce the lowest score
Deal out more or less cards
Domino activities to do at home

Activity 1
Work in pairs. Each student takes a domino. Count the number of dots to determine the total. Write the number after the total and the number before. Partner checks the recording. Change roles.

Recording sheet

Activity 2
Work in pairs or small group. Dominoes are placed face down. The first player selects a domino to place on the “Follow the Leader” mat. Students take turns picking up dominoes one by one and placing them on the mat in the appropriate columns. Each student explains why they have put their domino in that space. Another student has their turn.

Recording sheet
Activity 3 Parking lot

Choose 6 number cards and place them on a table. Find dominoes that total the number on the card. Record the number sentences.

Activity 4
Work in pairs. Each pair of students is given a number between 15 and 30. Each student finds 4 dominoes that altogether have a total matching the number on the card. Students record number sentences. Use a calculator to verify partner’s total.
School A to Z
www.SCHOOLATZ.NSW.EDU.Au

Handouts

- Card games
- Dice games
- Domino games
The only way to learn mathematics is to do mathematics.

Paul Halmos