A Parent's Guide

How to support your child with their mathematical development

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What is 'numeracy', and why is it so important?

"Numeracy is a life skill. Being numerate goes beyond simply 'doing sums'; it means having the confidence and competence to use numbers and think mathematically in everyday life…"

http://www.nationalnumeracy.org.uk/what-is-numeracy/index.html

Having a good level of numeracy is essential if students are to make the best of all the opportunities available to them, both whilst at school and in their future lives. There are unfortunately too many shocking statistics that describe the serious consequences of having low levels of numeracy for young people and adults. Here at NSG we are committed to ensuring all students leave us with a love of mathematics, but also with the confidence to embrace any mathematical task they may face in their future.

We believe there are 3 essential factors needed in order for a child to become fully numerate:

1. The belief that they can be, and are good at Maths.
2. The belief that Maths is relevant for their everyday life.
3. Excellent teaching. Teaching that recognises and meets the needs of every pupil.

These points cannot be achieved without consistent support and encouragement from both home and school. This booklet provides some practical advice and support on how to achieve this consistency. We hope it is helpful.

Using 'new' methods

The techniques used to teach some core mathematical skills have developed in recent years. It is quite likely that you may not recognise some of the techniques that your daughter is now using, or being taught how to use.

When helping your daughter at home you may find that they are struggling to solve a problem using a particular (and to you unfamiliar) approach. At this stage it can be tempting to show them how you work it out. This is great, but please do approach with caution. If they are already finding the work difficult introducing an unfamiliar method may add to the confusion.

In order to help we have provided your daughter with a booklet showing the methods we use at NSG. A copy of this can be found on nsg on line, maths, numeracy.

Websites

There are a wide range of internet based resources available to support your daughter's mathematical development. Some of these are games and challenges, some of them are more revision or tutorial based activities. Below are a few that we recommend:-

MyMaths and Mathswatch VLE: - cover all topics at all levels.
Manga High – lots of great games.
Coolmath4kids.com – interactive games.
BBC Bitesize – academically focused with tutorials, revision resources and games - http://www.bbc.co.uk/schools/ks3bitesize/
Maths Games - http://www.maths-games.org/
MathsGames.com - http://www.mathsgames.com/
NSG on line, maths, Numeracy workout, GCSE workout.
Subtangent.com – games, projects, worksheets and investigations - http://www.subtangent.com/maths/games.php

'Everyday Maths'

As mentioned above it is essential that we encourage students to see mathematics as part of their everyday lives, not simply as a subject they do for 3 hours a week in a classroom at school! There are lots of ways this can be done. Below are a few ideas to get you started at home:-

Shopping

Shopping is probably the most obvious example and the easiest to implement. There are endless opportunities for pupils to practice working out sale prices with percentages and fractions; adding up totals; working to a budget; understanding contracts (mobile phones); calculating change and comparing deals to work out the best value.

Cooking

The following activities contain an enormous amount of Maths: Weighing out ingredients; calculating amounts needed; using scales; estimating; following instructions and recipes; setting cooking times; using ratio to scale recipes up or down and understanding units of measurement.

Measuring and decorating

Any kind of building or decorating work at home may involve taking accurate measurements; using measuring instruments; understanding units; using ratio to mix things; calculating areas; solving word equations (e.g. the room is 7m long, each tile is 0.3m wide, how many do we need to buy?) and following or drawing scaled plans.

Booking a holiday

Involving your daughter in the process of booking a holiday would allow them interpret information from a table; read charts and graphs; calculate total costs; calculate flight times and time differences; convert between different currencies and compare offers to find the best value.

Going on a journey

Simple car journeys can be enhanced to involve reading maps; using scale; discussing compass directions; calculating time; calculating speed or petrol consumption and discussing the different units of distance.

Reading newspapers

Finally everyday newspapers contain a wide variety of graphs, charts, averages and other statistical data. Simply asking students what these things tell us will help them practice a wide range of mathematical skills.

And there are lots more…!!

Games at home

Mathematical games are a great way for students to practice their skills in a relaxed atmosphere. It is especially good for those students who find maths practice a really stressful, panic-ridden time. Below are some suggestions:

- 'Connect 4' and Chess are great games to practice logical and strategic thinking.
- Playing 'Monopoly' allows pupils the chance to add and multiply money.
- Sudoku puzzles and Brain Teasers are fantastic for problem solving.
- Making up your own version of the number challenge on Countdown is an excellent way of practising key number skills.
- Speed Tables. Using a mixed multiplication grid is a good way to encourage your child to practice their Times Tables. The benefit being that they don't just follow the usual pattern of the table, but instead think about each one

Happy Puzzling!