Roseneath School

A vibrant, inclusive school where children love to learn

Maths Home Learning Booklet 7

Name:_____

Date Received: _____

Date Completed: _____

Booklet 7:
Level 4/Stage 8

Welcome to your Home Learning Maths Challenge!

These challenges are focused on some of the maths basic facts and knowledge that you can learn "off by heart". These facts are the building blocks of how you can solve mathematics problems.

There are lots of maths facts, and lots of them link to others. The booklets each build on the knowledge you have learnt before, so that you build up your learning step by step. You might already know some of what is in this booklet, and *almost know* other parts.

Knowing these facts off by heart (straight away without having to count or work it out bit by bit) makes problem solving more speedy. It is also helpful to learn HOW to learn things off by heart. We have given you some ideas of how you might practise and learn these facts until you can say the answers automatically. Find the ways that work best for you. Be creative and design your own ways to learn maths facts, and tell us your ideas of HOW you learn things.

What to do:

This booklet might take you a short time, or it might take you a long time to master. Work at your own pace, and when you think you know all of these facts "off by heart", ask someone in your family to test you. You need to be able to 'blurt out' the answer in 3 seconds or less. As you learn these facts, highlight the ones you know pink. When they are all pink you can show us, and we can celebrate with you, and you can get the next booklet!

A note for parents

We have based these booklets on the New Zealand Mathematics Curriculum, and they are a progression of some key number knowledge. Students work on this knowledge at school too, as well as using this knowledge as they learn strategies for solving more complex questions, and other 'strands' of mathematics such as algebra, geometry and statistics.

We have designed these booklets so that you can support your child in their learning in a way that suits your family. You might dip in and out of these booklets from time to time as your schedule permits, or have this as the basis of regular homework, or just use it as a reference of the sort of learning your child is doing at school. When your child can answer examples of the knowledge in this booklet with 'automatic' recall, encourage them to let us know so that we can celebrate, and then they can move onto the next booklet.

The home learning booklets are all available on the school website, and we can provide you a paper copy of any booklet you would like to look at!

Let us know what you think, we will be updating these each year so it will be great to hear anything that works well, or what would help improve them!

Maths is part of Everyday Life

Everyone uses maths in their everyday life, so it is important for your child's future that they are successful in mathematics. Maths is everywhere!

Make it fun!

Games in the car

Car Cricket - Assign numbers to different vehicles eg 1 - car, 2 - van, 4 - motorbike, 6 - bus, trailers and trucks are out. Add up the number of vehicles that pass the car from the other direction until you get out (for example 4 cars, a motorbike, a bus and a truck would be 4 + 4 + 6 = 14. The person that hits 100 or gets the highest score wins.

Pick a number - someone chooses a number between 0 and 100. The other people have to guess what the number is by saying things like "is the number bigger than 50?", "is the number between 20 and 40".

Spot a number - start at 1 and try and spot numbers in sequence- go as high as you can!

Count the cars - each person in the car chooses a different colour. Count the cars coming towards you. Use this as a base to talk about basic statistics concepts, like colour have we seen the most? The least?

Number Plates - Take turns at reading the numbers on number plates- older children can say the number as a whole number (e.g. three hundred and fifty two). You can then move onto adding the 3 numerals together (3+5+2= 10) or spotting number patterns

Out and about

Tablet/phone combinations - change the number combination on a family device from time to time to help them practise number patterns, for example you might tell them the code includes multiples of 7. Please ensure that you have not set your device to delete your data after too many incorrect attempts!

Shopping - Get your children involved in shopping by asking them to pay with money, create an online shopping order within a budget, working out what is the cheapest item, estimating the cost of groceries, comparing fruit and vegetable prices, using the scales to weigh produce. Setting a budget provides opportunities to talk about price and money management.

Around the house

Cooking - Help your children learn about fractions, estimation, and time by including them in cooking. Doubling and halving, tripling or thirding recipes can create more of a challenge.

Kaboom game - create a math game using ice block sticks by writing a number problem on one end of each stick, and also create some ice block sticks that say *kaboom*. Pick a stick out of a jar and say the answer to number problem on the stick. If you get it right keep the stick, if you draw a *kaboom* all your sticks go back in the jar. The person with the most sticks at the end of the game wins.

Games - Hopscotch, Card games, Board games, Puzzles (jigsaws, logic puzzles, spatial and geometric puzzles).

Watching/Playing sport - Distances, times, scores… sport is filled with numbers! Whether you are watching sport on TV or checking scores on the internet there are lots of opportunities to explore the results and statistics together with your child.

Building things - this is a practical way to develop skills in measuring, geometry, spatial awareness.

Your child also has a mathletics.com subscription, and can work on tasks at their level at home. Their login and password is available through their class teacher.

Here are some links to other activity ideas if you would like more inspiration:
https://nzmaths.co.nz/number-knowledge-activities (Click on the Stage 7-8 activities)
https://nzmaths.co.nz/maths-kete (try the activities with 'harder' options)
https://maths.prototec.co.nz/ (Click on the Stage 8 button)

Booklet 7/Stage 8 Number Knowledge

By this stage you know all of your times tables and their division facts from 1x1 through to 10x10 and you can instantly recall the answer with the question posed in any arrangement (6x7=? 8x? =64, what times 9 equals 63?).
You can say factors and multiples of numbers

Highlight the box pink when you know it

I can …

Instantly know 1/10s, 1/100s and 1/1000s in decimals

How many tenths in 23.5? 235
How many tenths in 9.35? 93 or 93.5

I can …

Instantly multiply decimals by 10

$4.5 \times 10 =$ ___
$26.4 \times 10 =$ ___

I can …

Instantly round decimals to the nearest tenth or one hundredth
e.g.
Round to the nearest tenth
*62.384 is **62.4***
Round to the nearest hundredth
*342.647 is **342.65***

I can …

Instantly divide decimals by a power of 10

$6.42 \div 10 =$
$73.45 \div 10 =$

I can …

Instantly know 1/10s, 1/100s and 1/1000s in decimals

How many tenths in 23.5? 235
How many tenths in 9.35? 93 or 93.5

I can …

Say the highest common factor (HCF) for pairs of numbers e.g.

48 and 36 (HCF is 12)
24 and 48 (HCF is 24)

I can …

Say the lowest common multiple (LCM) for pairs of numbers

6 and 8 (LCM is 24)
3 and 5 (LCM is 15)