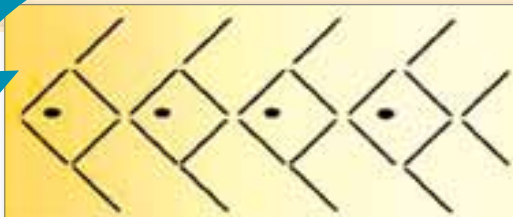# MATHEMATICS
AT SCHOOL

If your child is meeting the Mathematics Standard by the end of Year 8...

...they will be working at curriculum level 4, solving realistic problems using their growing understanding of number, algebra, geometry, measurement and statistics.

They will be able to use multiplication strategies to solve problems using fractions, decimals and percentages. They will be able explain different ways to solve problems. They will have a range of thinking strategies to help them to investigate mathematics.

Maths problems at this level might look like this:

With 26 matchsticks you can make 4 fish in this pattern.

How many fish can you make with 140 matchsticks?

Write an equation that gives the rule for the number of matchsticks you need for a given number of fish.

I worked out that one fish uses 8 matches, then every fish after that uses 6.

So 140 − 8 = 132. 132 ÷ 6 = 22. 22 + 1 = 23 fish.

If 'f' is the number of fish and 'm' is the number of matchsticks used, the equation for this is:
$6 \times f + 2 = m$

To meet the standard your child will be learning to:

- solve problems with decimals and integers using addition and subtraction
- use a range of multiplication methods to solve problems with whole numbers and fractions
- create and use tables, graphs and rules to show linear and non-linear relationships (see example problem)
- measure objects and make simple conversions between units of measure
- find perimeters and areas of rectangles, parallelograms, triangles and volumes of cuboids
- explore transformation and discuss how shapes and patterns change after a transformation
- describe locations and give directions using scales, bearings and co-ordinates
- gather and use data that gives several pieces of information (e.g., age and size)
- sort data and display in different ways, and discuss patterns and trends
- use fractions to discuss the likelihoods of outcomes involving chance.

This is a small part of the skills and knowledge your child is learning in order to meet this standard. Talk to the teacher for more information about your child's learning.

Focus on number

During Year 8, 40–60 percent of mathematics teaching time will focus on number learning.

Work together...

Help support your child's learning by building a good relationship with your child's teacher, finding out how your child is doing and working together to support their learning.

MATHEMATICS AT HOME

Talk together and have fun with numbers and patterns

Help your child:

* find and connect numbers around your home and on family outings, e.g., read the odometer on the car to see how many kilometres the car can go on a tank of petrol and how much it costs to refill to work out how much it costs per kilometre

* talk about sales in town – 15% off, 33%, 20%, half price. Look for the best value. What would the price of the item be after the discount? Is it better to buy two items and get one free or get 25% off the price of the items?

* budget pocket money and/or plan ahead to open a savings account or reach a savings target. Talk about earning interest. Calculate what interest would be earned using different savings schemes

* work out the area of your home, sports stadium or whare nui – how many square metres is it?

* talk about goals and plan ahead to budget for items for themselves or for others

* do complicated number puzzles.

The way your child is learning to solve mathematics problems may be different to when you were at school. Get them to show you how they do it and support them in their learning.

Use easy, everyday activities

Involve your child in:

* planning to help make a dish or a full meal for the family or even a community event at the hall or marae – working out the cost of making it at home versus buying it already made, planning the preparation and cooking time – and focus on the ingredients and the amounts of fat and sugar, too.

* planning what proportion of their own, or their brother's and sister's, time should be spent on tasks (like homework, sleep, TV, sport, kapa haka) to make sure there's time left for fun and family

* watching documentaries, which are full of facts and information using mathematics

* reading the newspaper to find articles or advertisements featuring graphs or tables which may be misleading.

Talk with your child's teacher to understand what they are learning in mathematics and what the learning is in the homework they're doing.

For wet afternoons/school holidays/weekends

Get together with your child and:

* play games – find new card and board games that use strategy

* calculate the chance of their favourite team winning the tournament. Investigate how many points they need and work out what their competitors need as well

* play outdoor games – skateboarding, frisbee, touch rugby, kilikiti, cricket, soccer, petanque, netball

* plan and perform a rap, dance or waiata a ringa and draw up the outline of the dance steps on graph paper

* make a present or gift for someone using scrapbooking, kōwhaiwhai, quilting, doing tivaevae, collage, painting, carving, knitting, sewing or carpentry

* plan for when you have saved $10/$20/$30 – what would be the best use of that money for a day out?

Being positive about mathematics is really important for your child's learning – even if you didn't enjoy it or do well at it yourself at school.

Support your child...

As parents, family and whānau you play a big part in your child's learning every day, and you can support and build on what they learn at school too.

www.minedu.govt.nz/Parents

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