

Let's Investigate

FOOD!



Hi! I hope you enjoy exploring math with us this year. I created these pages for my children and I am happy to share them with you, so your family can enjoy them also. I have tried to include a variety of activities that can be used with children of all ages. Just print off the activities that you think will suit your children. Most of the activities are investigative, so you won't need an answer book. If you get stuck please email me and I will be happy to help. If the activities are research based questions I will provide links to help with finding the answers. I have also included a list of books, or web pages, you might enjoy to explore while looking at the topic. I hope you enjoy these investigations!

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Or

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Front cover picture: Rawson, W. W. *Success in Market Gardening: A New Growers' Manual* (Boston, MA: W.W. Rawson, 1892)

It's time to sort into categories! The 5 main food groups are: Grains, Vegetables, Fruit, Meat (or meat alternative), Dairy (or dairy alternative).

As you eat today write down each food into the table below.

<i>Grains</i>	<i>Vegetables</i>	<i>Fruit</i>	<i>Meat</i>	<i>Dairy</i>

Paste pictures of food on a paper plate to make a pie chart of the recommended amounts of each type of food you should eat to have a healthy diet. Use the infograph at <https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating> to help you.

Sometimes when we are talking about food we will say how many Calories the food has. Have you heard the word Calorie before? Do you know what it means? It is a measure of energy, we are saying how much energy that food will give us to use. (Scientists define a Calorie as the amount of heat needed to raise one gram of water by one degrees)

Have a look at some food packages and see if you can find out how many calories are in that item. Look for a number with Cal written after it in the Nutrition Information. Write what you find here

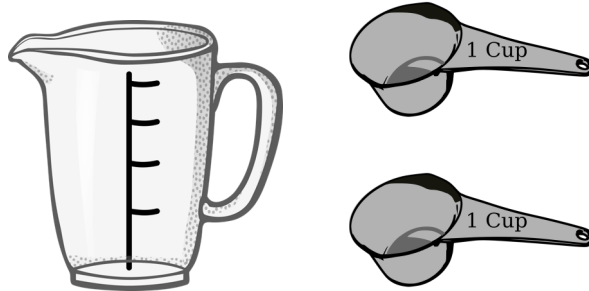


Does $1 + 1$ Always equal 2?

Do this experiment.

You will need:

- A 2 cup measuring jug
- Two 1 cup measuring cups
- Rice and water



Measure 1 cup of rice and pour it into the 2cup measuring jug. Measure 1 cup of water and pour it into the 2cup measuring jug. How much do you have in the measuring jug? Did 1cup of rice plus 1cup of water equal 2cups?

Explain what you did and what you notice.

When we are cooking we can use liquid measurement, or we can use dry measurement. We can measure using spoons, cups and jugs or by weight.

Look around the kitchen, draw the measuring equipment you find.



Look at the measurements on the items. Write down some measurements.

What can we do if we need more?

I have friends coming over and I'm sure they are going to be super hungry. I want to make enough for us all to have 3 Honey Joys each. There are going to be 8 of us. How many Honey Joys do I need to make?



Challenge: Find a recipe for a batch of cookies. Half the recipe and bake it. Did they turn out? Were your measurements correct?

This Honey Joy recipe makes 12

Ingredients

90g Butter/margarine

1/3 cup sugar

1TBS honey

4 cups cornflakes

1. Preheat oven to 150°C.

2. Place 12 paper cases in a muffin tray

3. Melt butter, sugar and honey together in a saucepan.

4. Add cornflakes and mix well.

5. Spoon into paper patty cases.

6. Bake in a slow oven 150°C for 10 minutes.

To make 24 I will need to double the recipe

Butter/margarine

cup sugar

Honey

cups cornflakes



How Much Does it Cost?

Can you work out how much it will cost to feed your family from food bought at a take away restaurant?

First get a menu with prices from a local restaurant.

Decide what you will need to order. Calculate the amount it will cost.

Paste the menu in your math journal.

Write down the things you ordered and how you calculated the amount it would cost.



How Much Does it Cost?

Look through a grocery catalogue, can you find items that cost LESS than \$20. Cut some out and paste them below:

< \$20

Advanced Math Activities

☞ Go to [this page](#) to find a math activity based on the cranberry harvest.

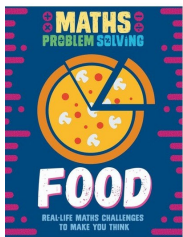
☞ Can you create your own recipe? A good way is to follow a basic recipe and add your own twist. Get creative in the kitchen and make your own recipe. I've include some basic recipes that you can start with. Use the recipe cards to record your yummy creation.

Research: Find out the history of TimTams. Add a time line to your math journal.

Research the different flavours and compare their nutritional value, weight and servings per packet, Create a favourite Tim Tam flavour survey with your family and put your data into a graph.

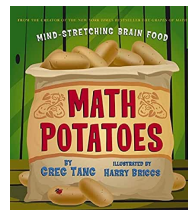
<https://www.arnotts.com/our-story>

Books, videos and links that you might find helpful...



Maths Problem Solving—Food

~ Anita Loughrey



Math Potatoes

~ Greg Tang

Video Links

[What is a Calorie ~ Emma Bryce](#)

[Find the Figures in Your Food ~ Math All Around Us](#)

[How to Measure Ingredients ~ Allrecipes](#)

Links

[Cooking Measurement ~ Math is Fun](#)

[Cooking Measurement Convertor ~ The Calculator Site](#)

[Preschool Math Worksheets](#)

Math Skills and Terms to learn this month:

Measurement: Energy: Calorie and Kilojoule, Weight and Volume: g, kg, mL, L.

Money: Calculate the cost of a recipe. Calculate the cost from a menu.

Less Than: Learn the symbol and practice finding amounts $< \$20$.

Ratio: Learn what ratios are and how to calculate them by adjusting the recipe amounts for more or less people. Create your own recipes.

Graphing Data: Using data gathered this month create a simple pie graph showing the main food groups you ate this month.



Measuring Jug



Measuring Cups



Measuring Spoons



Scales



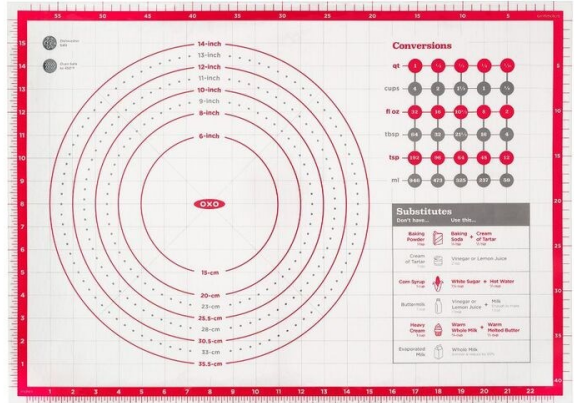
Digital Scales



Kitchen Thermometer



Kitchen Timer



Pastry Rolling Mat

Measurement Chart

cup

1/4 cup

1/3 cup

1/2 cup

1 cup

metric

60ml

80ml

125ml

250ml

spoon

1/4 teaspoon

1/2 teaspoon

1 teaspoon

2 teaspoons

metric

1.25ml

2.5ml

5ml

10ml

1 tablespoon (equal to 4 teaspoons) 20ml



Basic Cookie Dough (for 4 different cookies)

Ingredients

2 1/2 Cups Butter
 2 Cups Sugar
 2 Eggs
 1/4 Cup milk
 2 tsp vanilla essence
 7 cups all purpose flour
 4 tsp baking powder
 1 tsp salt

Method

- Cream butter and sugar, add eggs.
- Combine flour, baking powder and salt.
- Mix into butter mixture with milk and vanilla essence.
- Divide into 4 portions. Flavour as you wish.
- Bake at 180° C until brown.

Basic Sweet Muffins

Ingredients

2 1/4 Cups SR flour
 3/4 Cup sugar
 1 egg
 1/2 Cup vegetable oil
 3/4 Cup milk

Method

- Preheat oven to 180° C
- Place flour and sugar into a bowl.
- Mix egg, oil and milk in a jug.
- Make a well in the dry ingredients, pour in the egg mixture.
- Mix until combined.
- Pour into a greased or lined muffin tray.
- Cook for 15-20min at 180° C

Basic Gluten Free Sweet Muffin Recipe

Ingredients

2 1/2 Cups SR Flour
 2/3 cup sugar
 1/2 Cup baby rice cereal
 1 tsp xanthan gum
 1 1/2 Cups buttermilk
 2 eggs lightly beaten
 2 TBSP olive oil

Method

- *Preheat oven to 200° C*
- *Sift dry ingredients into a bowl.*
- *Mix wet ingredients lightly.*
- *Make a well in the dry ingredients, pour in the wet and mix until just combined.*
- *Pour into a greased muffin tray.*
- *Cook at 200° C for 15-20min*

Basic Cookie Dough—Gluten Free

Ingredients

1/2 Cup butter
 2 TBSP water
 1/4 Cup sugar
 1 tsp vanilla essence
 1 cup Gluten Free all purpose flour

Method

Mix the first four ingredients together.
Mix in the flour.
Spoon amounts on a cookie tray.
Cook at 180° C