40 Weeks of Math Challenges

Week 32

These visual math challenges have been created to intrigue and inspire your children. They are designed to be hands on, open-ended inquiries, to challenge them to think deeply about the world around them.

Each week a new set will be released with four levels.

• Preschool

• Years 1/2 (approx. age 6-8)

• Year 3/4 (approx ages 8-10)

• Year 5/6 (approx. ages 10-12)

I hope you enjoy exploring the ideas with your children! The challenges don't require any special resources, however your children will need a 'Math Journal' to record their discoveries. Any notebook will work, but if you can, try to encourage them to use a Grid book.

You are welcome to freely print these cards for your family but please respect our creative copyright and link back to the original file on our web page to share with others. Thanks, Jo

Find me on Instagram @jo_mathinnature and Nature Study Australia

Ratio

Definition:

Says how much there is of one thing compared to another.

1. Look at the picture, what do you notice?

2. Can you show the ratio of 3:1? Use buttons, blocks, cars or something else you can find.

3. Now make your own ratio, show it with your buttons, blocks...

4. Can you make a ratio pattern with beads on a string?

Ratio

Definition:

Says how much there is of one thing compared to another.

1. I think the best way to learn about ratios is by cooking. At the end of these cards you will find some recipes that are based on ratios.

2. Choose one of the recipes and copy it into your math journal and then have fun baking and eating!

Ratio

Definition:

Says how much there is of one thing compared to another.

1. Look at the picture, what notice?

2. When we write ratios we use numbers to show how many or how much compared to something else. Like these swans, how many adult black swans do you count? How many cygnets? The ratio is 1:4

3. Take a photo showing a ratio. Tell someone why it is a ratio and what the ratio is.

4. Write about ratios in your math journal.

Ratio

Definition:

Says how much there is of one thing compared to another.

1. A cricket can jump 20-30 times it's body length! As a ratio we would write this as 1:20 or 1:30.

2. Research crickets and write down some data about them as ratios in your math journal.

3. Some things to compare - front legs to back legs, antennae to body length, cricket species vs grasshopper species.

Let's Cook with Ratios !

1:2:3 Shortbread

1 Part SUGAR (100g)

2 Parts BUTTER (200g) Softened

3 Parts FLOUR (300g)

Mix all the ingredients together. Press into a shortbread tin. Bake till golden. Cool slice and enjoy!

1:1:2:3:4 Cake

1 Part BUTTER (1 Cup) softened

1 Parts MILK (1 Cup)

2 Parts SUGAR (2 Cups)

3 PartS SR FLOUR (3 Cups Flour)

4 EGGS

Grease a large Bundt pan or two small round tins.

Mix butter and sugar, add eggs.

Mix in flour and milk.

Bake in a 180 degree oven.

1:1:1:1 Quatre Quarts

French cake

 1 Part SUGAR (180g)

1 Parts BUTTER (180g) melted

1 Parts Self Raising FLOUR (180g)

1 Part EGG (by weight approx 3 large eggs)

Seperate eggs.

Whisk egg yolks and sugar. Add melted butter.

Mix in flour.

Whisk egg whites and fold into batter.

Pour into a greased loaf tin. Bake for 45min in a 190 degree oven.

2:1:1 Pancakes

2 EGGS

1 cup MILK

1 cup FLOUR

Mix all the ingredients together. Place spoonfuls of batter in a frying pan. Flip when cooked on one side. When both sides are brown remove from pan.

Enjoy with butter and maple syrup. Great hot of cold!