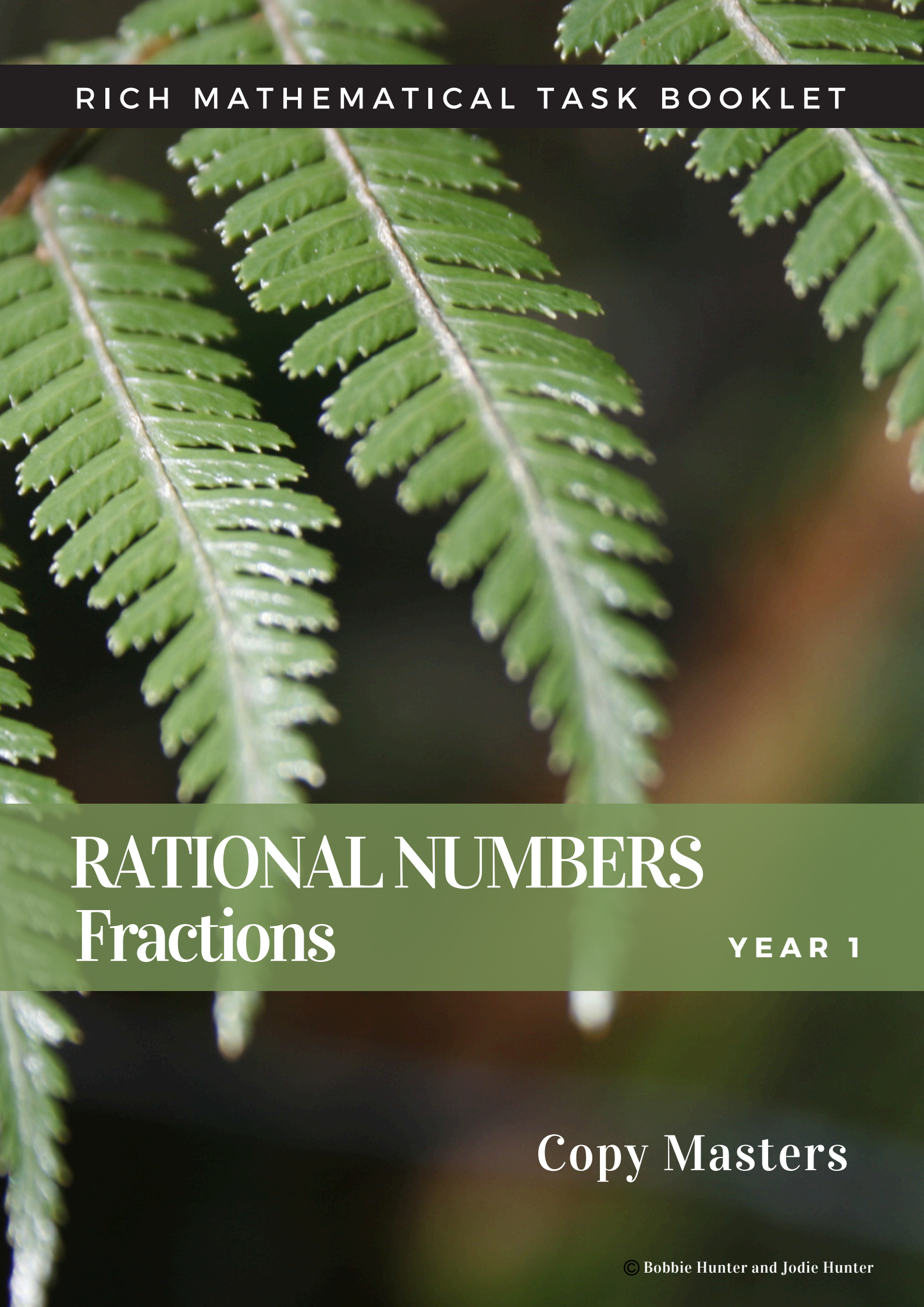


RICH MATHEMATICAL TASK BOOKLET

RATIONAL NUMBERS
Fractions

YEAR 1

Copy Masters

Task 1

You are sharing one whole sandwich with your friend. Show what you would do so that you both have the same amount of sandwich to eat.

Task 1 (independent)

Choose a container and fill it with water. Pour out half of the water. How much water is left?

Do the same with a different sized container. What do you notice?

Draw a picture to record your actions. Show where half is on each container.

Task 2

You and your sister want to make a special card for someone in your family, but you only have one piece of coloured card. Your parent says you have to share the card equally.

What are all the different ways you and your sister could halve your card so that you both get the same amount?

Can you explain how you know that each pair of halves of the one whole piece of coloured card are equal?

Task 2 (independent)

Look at the shape blocks.

Find the other half to make the whole.

Draw around the shape to show one half, now draw around the one whole.

Task 3

To cut out two joined paper dolls you must fold your strip paper of paper into two equal parts.

Can you explain how many folds you need to make? Did you make sure that the ends matched? Be ready to explain why?

What about if you wanted to make three joined paper dolls. Can you fold your paper strip into four equal parts? Be ready to explain how many folds you needed to make and how you made sure that each part was equal?

Task 3 (independent)

Roll playdough into two shapes that are the same size.

Cut the first shape in half. How many pieces of playdough do you have now?

Draw both playdough shapes recording what you notice.

Roll playdough into two shapes that are the same size.

Cut the first shape into quarters. How many pieces of playdough do you have now?

Draw both playdough shapes recording what you notice.

Task 4

With your buddy use the fraction tiles to find as many different ways as you can, to make one whole tile.

Record what you show using words or numbers.

Use the fraction tiles to find as many different ways as you can to make less than one whole.

Record what you show using words or numbers.

Use the fraction tiles to find as many different ways as you can to make more than one whole.

Record what you show using words or numbers.

Task 4 (independent)

Use the fraction tiles to make different combinations of one whole.

Draw your representations as bars and record in words and fractions how you made one whole.

Task 5

Jayden and Martha's nana has baked a banana bread loaf. She tells them they can have three slices of the banana bread to share but they are to make sure that they both have the same amount. How many slices of banana bread does each one get to eat?

Task 5 (independent)

Use the fraction tiles to make as many different combinations as you can of:

Less than one whole.

Less than one half.

The same as one half.

More than one half but less than a whole.

Draw your representations as bars and record in words, numbers (fractions) and equations.

Task 6

Kahoa has helped her Mum make some panikeke for their family. Mum ate one and then she said that Kahoa could share five with her three sisters, but they all had to have the same amount.

How much panikeke would they each get to eat?

What if Kahoa had to share one panikeke with her brother? How much panikeke would they each get to eat?

Task 6 (independent)

Dad has made some coconut bread. How much would you get if you had to share:

One slice of coconut bread with two people.

Two slices of coconut bread with two people.

One slice of coconut bread with four people.

Two slices of coconut bread with four people.

Two slices of coconut bread with eight people.

Four slices of coconut bread with eight people.

Draw and write how you solved the problems.

Task 7

Ayla and Zack were playing a game using their toy cars. First, they drew a start line on the ground and a finish line. Then they took turns pushing their car to see who could make their car reach the finish line.

On the first turn Ayla's car reached halfway and Zack's car reached a quarter of the way.

Whose car was closest to the finish line? Prove your explanation by drawing a picture of the line and marking on it where both cars are.

On the second turn Ayla's car reached one fourth of the line and Zack's car reached three quarters of the way.

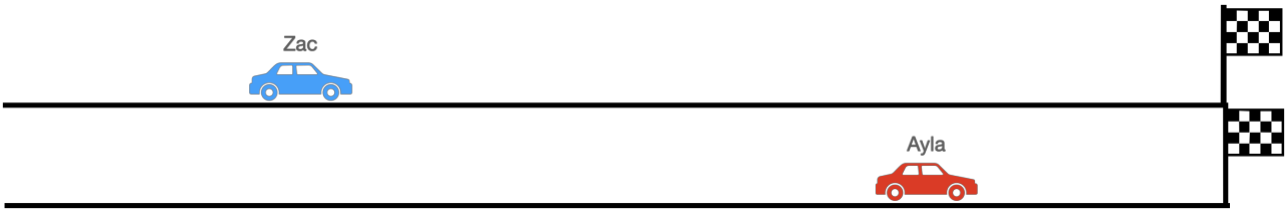
Whose car was closest to the finish line? Prove your explanation by drawing a picture of the line and marking on it where both cars are.

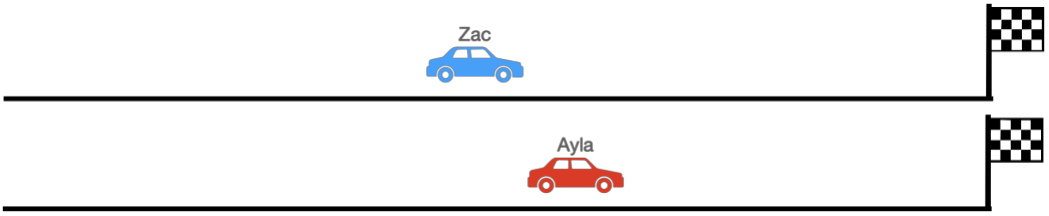
On the third turn Ayla's car reached four fourth of the line and Zack's car reached two halves of the way.

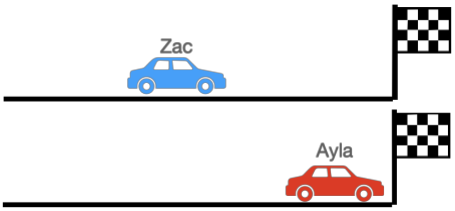
Whose car was closest to the finish line? Prove your explanation by drawing a picture of the line and marking on it where both cars are.

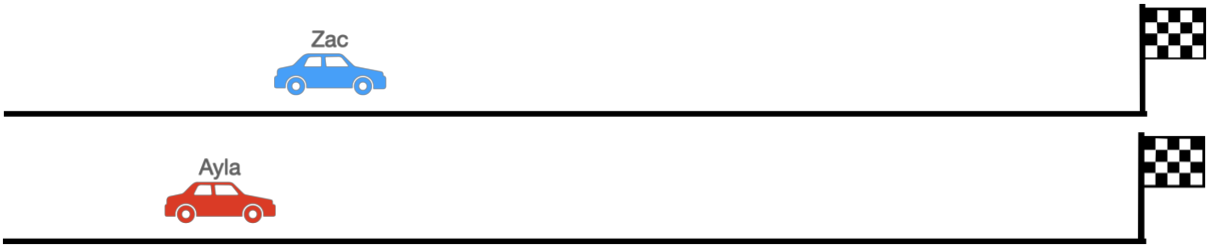
Task 7 (independent)

Whose car got the closest to the finish line? What fraction of the line did their car reach?









Task 8

Who has more? Who has less?

Alefosio has a quarter of a plate of ota'ika and Kailoa has a half of a plate of ota'ika. Who has more? Who has less?

Be ready to explain and justify your explanation using a drawing.

Alefosio has three half plates of ota'ika and Kailoa has a four quarters of a plate of ota'ika. Who has more? Who has less?

Be ready to explain and justify your explanation using a drawing.

Alefosio has six quarters of a plate of ota'ika and Kailoa has five halves of a plate of ota'ika. Who has more? Who has less?

Be ready to explain and justify your explanation using a drawing.

Task 8 (independent)

Look at the fractions below and draw a representation for each one.

Now use the symbols > (greater than), < (less than), = (equal) to make the number sentences true.

$\frac{1}{2}$ ___ $\frac{2}{2}$

$\frac{5}{4}$ ___ $\frac{2}{2}$

$\frac{2}{2}$ ___ $\frac{2}{4}$

$\frac{4}{4}$ ___ $\frac{3}{4}$

$\frac{3}{4}$ ___ $\frac{1}{2}$

$\frac{1}{2}$ ___ $\frac{1}{4}$

Task 9

Mr Grinling is sharing a bag of marshmallows with Mrs Grinling.
The bag has 10 marshmallows.
They each get half the bag so how many marshmallows do they get?

Mr Grinling is sharing a bag of jelly-beans with Mrs Grinling.
The bag has 14 jelly-beans.
They each get half the bag so how many jelly-beans do they get?

Mr Grinling is sharing a bag of jet-planes with Mrs Grinling.
The bag has 18 jet-planes.
They each get half the bag so how many jet-planes do they get?

Task 9 (independent)

Mr Grinling has some bags of marbles.

There are 8 marbles in a bag. One half of the marbles are blue. How many marbles are blue?

There are 12 marbles in a bag. One half of the marbles are red. How many marbles are red?

There are 4 marbles in a bag. One half of the marbles are green. How many marbles are green?

There are 16 marbles in a bag. One half of the marbles are yellow. How many marbles are yellow?

Task 10

The Grinlings are celebrating Mrs Grinling's birthday.

Mr Grinling bakes a cake and has 16 M&Ms to decorate the cake.

Mr Grinling cut the cake in two and shared the M&Ms equally.

What fraction of the M&Ms would there be on each side?

How many M&Ms would be on each side?

Mr Grinling bakes a cake and has 16 M&Ms to decorate the cake.

Mr Grinling cut the cake in four and shared the M&Ms equally.

What fraction of the M&Ms would there be on each side?

How many M&Ms would be on each side?

Mr Grinling bakes a cake and has 20 M&Ms to decorate the cake.

Mr Grinling cut the cake in four and shared the M&Ms equally.

What fraction of the M&Ms would there be on each side?

How many M&Ms would be on each side?

Task 10 (independent)

The Grinlings are celebrating Mrs Grinling's birthday.

Mr Grinling bakes a cake and has 14 M&Ms to decorate the cake.

Mr Grinling cut the cake in two and shared the M&Ms equally.

What fraction of the M&Ms would there be on each side?

How many M&Ms would be on each side?

Mr Grinling bakes a cake and has 12 M&Ms to decorate the cake.

Mr Grinling cut the cake in four and shared the M&Ms equally.

What fraction of the M&Ms would there be on each side**?**

Task 11

Look at the pairs of fractions and identify which is the biggest number and which is the smallest number. Make sure you justify your thinking in at least two different ways (e.g., drawing, fraction pieces, or a number-line)

$\frac{1}{2}$ or $\frac{1}{4}$

$\frac{1}{3}$ or $\frac{1}{4}$

$\frac{1}{3}$ or $\frac{1}{2}$

$\frac{1}{2}$ or $\frac{3}{4}$

$\frac{3}{4}$ or $\frac{2}{2}$

$\frac{4}{4}$ or $\frac{4}{3}$

$\frac{2}{4}$ or $\frac{3}{3}$

$\frac{3}{2}$ or $\frac{3}{4}$

$1\frac{1}{2}$ or $1\frac{1}{4}$

$2\frac{3}{4}$ or 2

Task 11 (independent)

Sepi ate one quarter of a liquorice strap; Mara ate two halves of a liquorice strap.

Who ate the most? Why?

Josie ate one half of a liquorice strap; Lee ate three quarters of a liquorice strap.

Who ate the most? Why?

Moana ate one half of a liquorice strap; Eli ate two quarters of a liquorice strap.

Who ate the most? Why?

Now write your own fraction problems and ask a classmate to solve them.

Task 12 (optional task)

Use the fraction tiles to find as many different ways as you can to make the same number as three halves.

Record what you show using words or numbers. Be ready to explain and justify how they make more than a whole.

Use the fraction tiles to find as many different ways as you can to make the same number as six quarters.

Record what you show using words or numbers. Be ready to explain and justify how they make more than one whole.