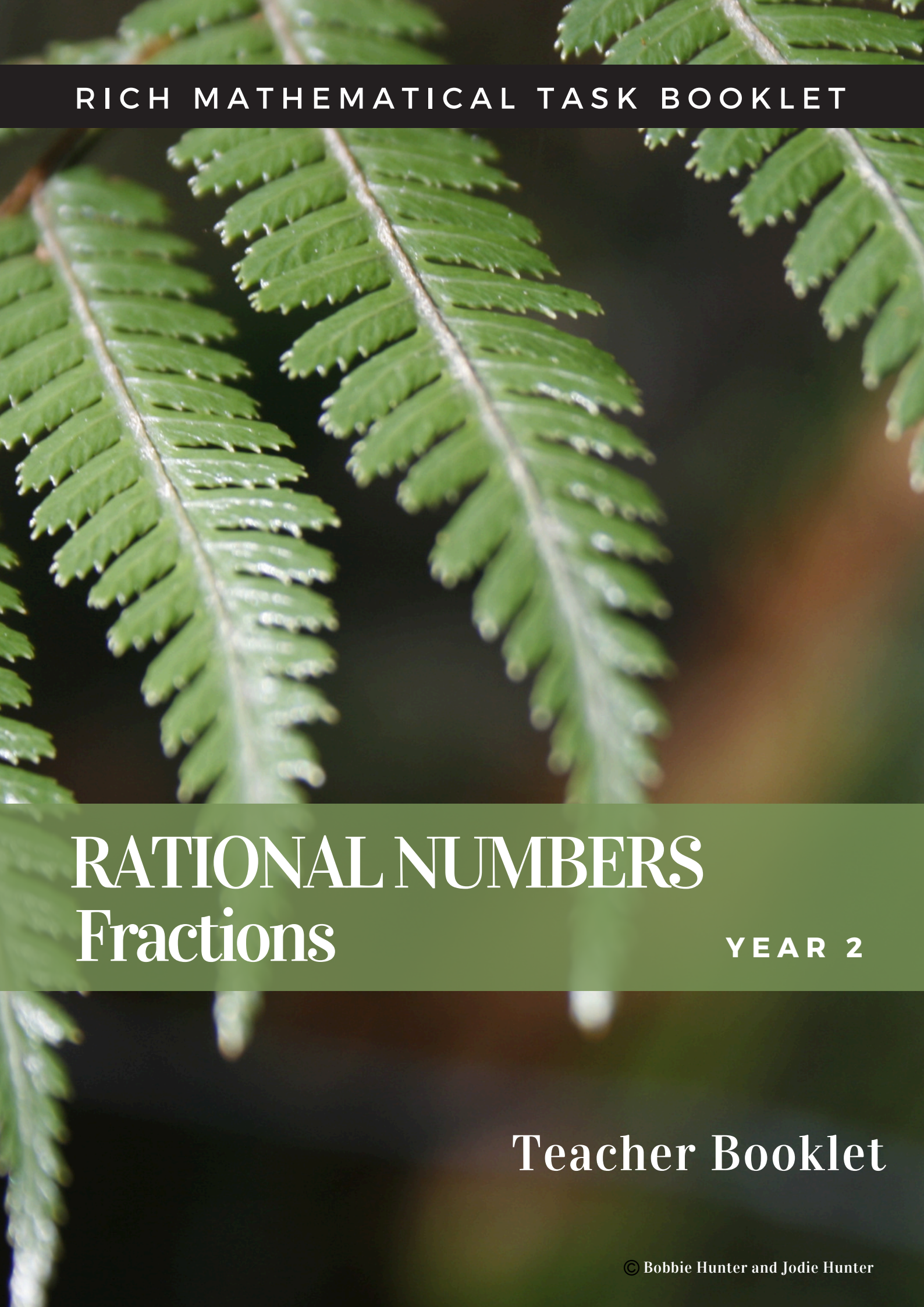


RICH MATHEMATICAL TASK BOOKLET

RATIONAL NUMBERS
Fractions

YEAR 2

Teacher Booklet

Task 1

What are all the different ways you and your buddy could halve your piece of paper?

Make sure you can explain how you know each pair of halves is equal.

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

Fold your paper strip into two equal parts.
Draw a representation to show what you did.
Be ready to explain how many folds you needed to make and how you made sure it was equal.

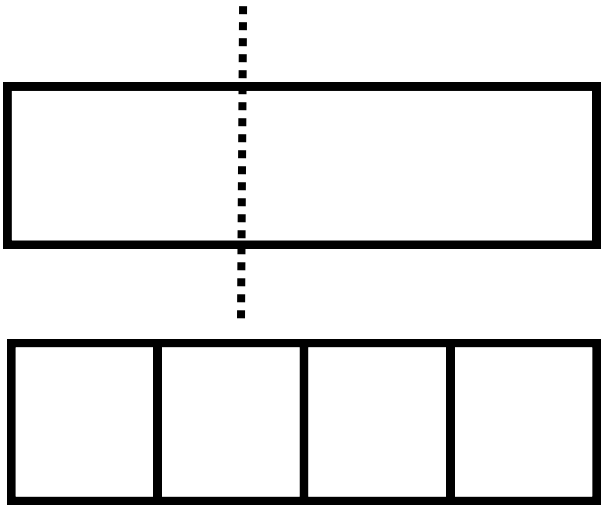
Fold your paper strip into four equal parts.
Draw a representation to show what you did.
Be ready to explain how many folds you needed to make and how you made sure that each part was equal.

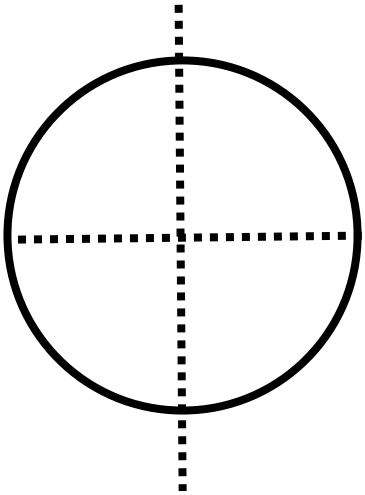
Fold your paper strip into eight equal parts.
Draw a representation to show what you did.
Be ready to explain how many folds you needed to make and how you made sure it was equal.

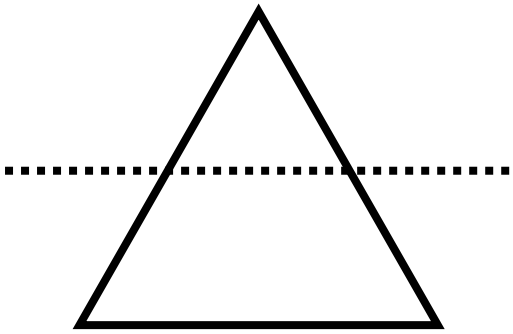
Task 2 (independent)

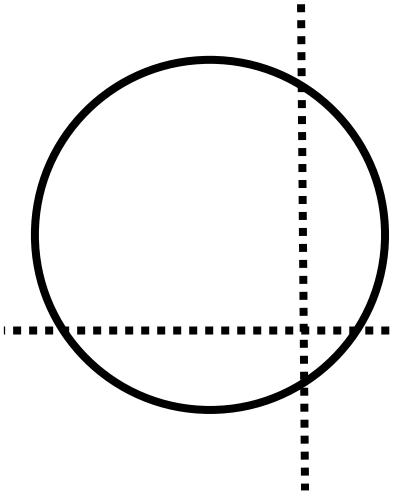
Identify the fractions that are equally cut into halves, quarters or eighths.

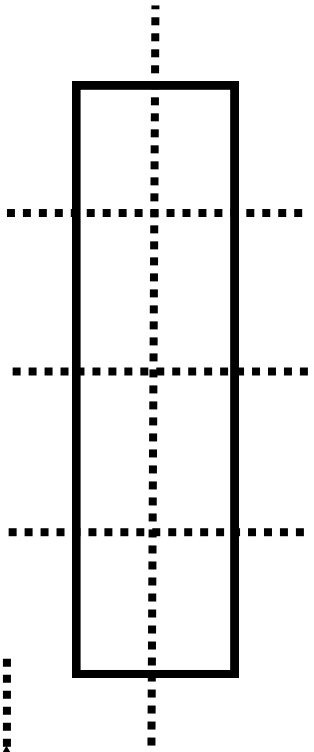
Write the fraction name on or near the shape.

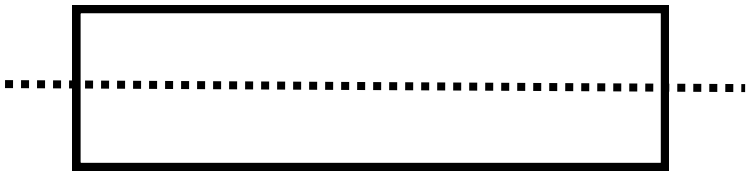


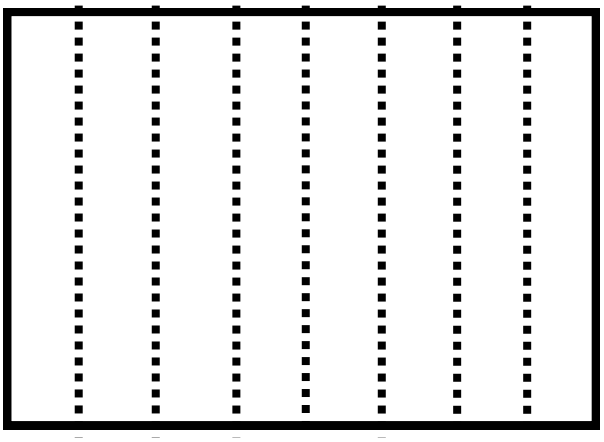


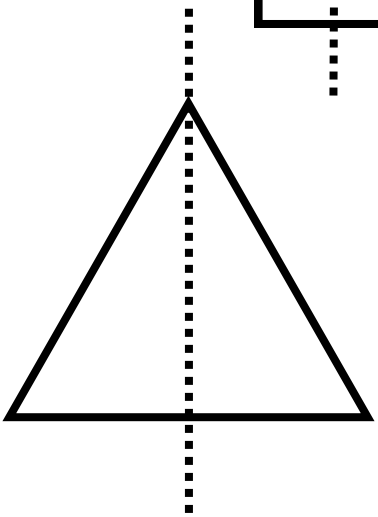












$\frac{1}{2}$ half	$\frac{1}{4}$ quarter	$\frac{1}{8}$ eighths

Task 3

Use the fraction tiles to find as many different ways as you can to make 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.

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.

Task 3 (independent)

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

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

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

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

Task 4

What comes between 0 and 1?

Put your marker on the tape on the floor where you think half is. Be ready to explain and justify how you can prove the accuracy of where your marker is.

Now divide the tape into four equal parts and put the markers where you think they should be.

Be ready to explain and justify how you can prove the accuracy of where your marker is.

Look at our number line which goes from 0 to 10.

What numbers would go between 1 and 2?

What numbers would go between 2 and 3?

Can you put in any other numbers which would go halfway between the whole numbers?

Draw a picture of the number-line from 0 to 1.

Mark $\frac{1}{4}$ on the number-line.

Mark $\frac{2}{4}$ on the number-line.

Mark $\frac{3}{4}$ on the number-line.

Draw a number-line from 0 to 10.

Mark $2\frac{1}{2}$ on the number-line.

Mark $5\frac{1}{2}$ on the number-line.

Mark $3\frac{1}{4}$ on the number-line.

Task 4 (independent)

Mark on the numberline where you think the following mixed numbers would be.

$3\frac{1}{2}$, $19\frac{1}{2}$, $1\frac{1}{2}$, $10\frac{1}{2}$, $15\frac{1}{2}$, $5\frac{1}{2}$,

Draw your own numberline from 0 to 10. Mark on it all the whole numbers from 0 to 10.

Now mark on it all the mixed numbers from $\frac{1}{2}$, to $9\frac{1}{2}$.

Task 5

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

How many panipopo did they each get to eat?

What about if Rebekah had to share one panipopo with her sisters? How much panipopo would they get to eat?

What about if Rebekah had to share three panipopo with her sisters? How much panipopo would they get to eat?

Task 5 (independent)

Dad has made some banana muffins. How much would you get if you had to share:

Two banana muffins with four people.

Two banana muffins with eight people.

Four banana muffins with eight people.

Six banana muffins with four people.

Six banana muffins with eight people.

Draw and write how you solved the problems.

Task 6

Bayley and Leoni have baked cookies to share with their friends.
If there were 6 cookies and four people, how much would they each get?

If there were 10 cookies to share equally and eight people, how much would they each get?

If there were 12 cookies to share equally and eight people, how much would they each get?

Task 6 (independent)

Hemi and Carter have baked cookies to share with their friends.

If there were 3 cookies and two people, how much would they each get?

If there were 6 cookies to share equally and four people, how much would they each get?

If there were 17 cookies to share equally and eight people, how much would they each get?

Task 7

Hone and Rangi both have a chocolate bar.

Hone has eaten $\frac{3}{4}$ of his bar and Rangi has eaten $\frac{1}{2}$ of her bar.

Who has eaten the most?

Hone and Rangi both have a chocolate bar.

Hone has eaten $\frac{2}{4}$ of his bar and Rangi has eaten $\frac{3}{8}$ of her bar.

Who has eaten the most?

Hone and Rangi both have a chocolate bar.

Hone has eaten $\frac{3}{4}$ of his bar and Rangi has eaten $\frac{7}{8}$ of her bar.

Who has eaten the most?

Task 7 (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.

$\frac{1}{2}$ ——— $\frac{2}{3}$

$\frac{5}{4}$ ——— $\frac{2}{2}$

$1\frac{1}{2}$ ——— $1\frac{2}{3}$

$\frac{4}{4}$ ——— $\frac{3}{3}$

$\frac{3}{3}$ ——— $\frac{3}{2}$

$\frac{3}{2}$ ——— $1\frac{2}{4}$

Task 8

For your birthday, you have a cake to decorate with 16 M & Ms. You 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?

For your birthday, you have a cake to decorate with 16 M & Ms. You 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?

For your birthday, you have cake to decorate with 16 M & Ms. You cut the cake in eight 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 8 (independent)

There are 10 marbles in a bag. One half of the marbles are blue.
How many marbles are blue?

There are 24 marbles in a bag. One half of the marbles are blue.
How many marbles are blue?

There are 30 marbles in a bag. One half of the marbles are blue.
How many marbles are blue?

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

There are 20 marbles in a bag. One quarter of the marbles are red.
How many marbles are red?

There are 28 marbles in a bag. One quarter of the marbles are red.
How many marbles are red?

Task 9

Mere and Harmony are playing with their toy cars, and they decide to use boxes for garages. They have 16 little cars.
They share them equally between 4 garages.
What fraction of the cars would be in each garage?
How many cars would be in each garage?

Mere and Harmony are playing with their toy cars, and they decide to use boxes for garages. They have 44 little cars.
They share them equally between 4 garages.
What fraction of the cars would be in each garage?
How many cars would be in each garage?

Mere and Harmony are playing with their toy cars, and they decide to use boxes for garages. They have 32 little cars.
They share them equally between 8 garages.
What fraction of the cars would be in each garage?
How many cars would be in each garage?

Task 9 (independent)

Make three playdough loaves.

Share the loaves equally between 8 friends.

What do you notice?

Record your thinking and show how you worked out how much of each loaf each friend got.

Make four playdough loaves.

Share the loaves equally between 8 friends.

What do you notice?

Record your thinking and show how you worked out how much of each loaf each friend got.

Make six playdough loaves.

Share the loaves equally between 8 friends.

What do you notice?

Record your thinking and show how you worked out how much of each loaf each friend got.

Task 10

Jason has read $\frac{1}{2}$ of his book and is at page 14. How many pages in the book?

Chaewon has $\frac{1}{4}$ of a bag of lollies left and now has 6 lollies. How many lollies did she have to start with?

Kesi has given away $\frac{1}{4}$ of his sticker collection which is 15 stickers. How many stickers did he start with?

Task 10 (independent)

Lily has spent $\frac{1}{2}$ her pocket money and has $5 left. How much money did she start with?

Jason has read $\frac{1}{2}$ of his book and is at page 12. How many pages in the book?

Chaewon has $\frac{1}{4}$ of a bag of lollies left and now has 11 lollies. How many lollies did she have to start with?

Kesi has given away $\frac{1}{4}$ of his sticker collection which is 21 stickers. How many stickers did he start with?

Task 11 (optional task)

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, number-line)

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

$\frac{1}{8}$ or $\frac{1}{4}$

$\frac{3}{8}$ or $\frac{1}{2}$

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

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

$\frac{4}{4}$ or $\frac{9}{8}$

$\frac{2}{4}$ or $\frac{8}{8}$

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

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

$2\frac{3}{4}$ or $2\frac{7}{8}$

Task 11 (independent)

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

Who ate the most? Why?

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

Who ate the most? Why?

Moana ate one half of a liquorice strap; Eli ate four eighths 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)

There are two children in Teremoana's family. Their mother gives them half a banana each.

How many bananas does she use?

There are four children in Teremoana's family. Their mother gives them half a banana each.

How many bananas does she use?

There are six children in Teremoana's family. Their mother gives them half a banana each.

How many bananas does she use?

There are seven children in Teremoana's family. Their mother gives them half a banana each.

How many bananas does she use?