Juice Problem You will need a ten shape and 2 shape, 3's, 4's, 6's, fraction cards

A shop sells packs of 12 juices. 4 orange, 4 mango, 4 pineapple. These are equal proportions.

Show the fraction that is orange. Find the cards. Show the fraction that is mango and pineapple. Find the cards. Show the fraction that is 2 x pineapple and 1 mango. Find the card.

Show the fraction for 1 carton. Find the card.

What would the fraction be for 10 cartons? Find the cards.



1 12	2 12	3 12	2	<u>4</u> 12	5 12	6 12
7 12	<u>8</u> 12	9 12	2	10 12	11 12	12 12
	<u>1</u> 2	1 3	<u>1</u> 4		<u>1</u> 6	
12 ÷	12 =	1	1	× 1	2 = 12	
12 -	- 6 =	2	2	2 x 6	= 12	
12 ÷	+ 4 =	3	4	x 3	= 12	
12 +	- 3 =	4	3	8 x 4	= 12	
12 ÷	+ 2 =	6	2	2 x 6	= 12	

Equivalent fractions game

You will need lots of shapes, fraction cards

Choose 1 3-shape. Put one red peg or counter on it. Find the fraction card to match Add another 3-shape. Put one red peg or counter on it. Find the fraction card to match Add another 3-shape. Put one red peg or counter on it. Find the fraction card to match Do this 4 more times.



So how do you find out what the simplest fraction of these are? You can use shapes or your memory of the times tables to help.

25/40 16/20 3/24 20/80 6/30 24/30 35/49

1	2	3	4	5	6	7
3	6	9	12	15	18	21
10	8	9	16	11	18	15
30	24	27	48	33	75	45
3 ÷	- 1 =	3	18÷	3 = 6		
6 ÷	- 3 =	2	21 ÷	3 = 7		
9 ÷	- 3 =	3	24 ÷	3 = 8		
12	÷ 3 =	4	27 ÷	3 = 9		
15 ÷	- 3 =	15 3	30 ÷ 3	3 = 10)	

Exploring tenths and hundredths game

You will need playdough or bread dough- even better! If you don't have these ten use 10-shapes, 1 – shapes (or place value blocks or Cuisenaire rods) and a baseboard or laminate.

You are having a picnic with 9 friends.

How many baguettes should you buy or make?

If you bought one baguette, what fraction of the whole bag would you get? $1 \div 10 = 1/10$. or 0.1

Show this with your dough, Numicon shapes or rods. Is this enough for a picnic? Probably not.

What fraction would you get if you bought two baguettes as a group? 2/10. This is equivalent to 2/5? 2 ÷ 10 = 2/10. or 0.2

What fraction would you get if you bought 3 baguettes as a group?

What fraction would you get if you bought 4 baguettes as a group?

1/10 + 1/10 + 1/10 + 1/10 = 4/10 = 0.4

You would get 4 x 1/10 pieces.

This is equivalent to ?/5?

Make a table of your findings up to ten friends:

lf you divided a large baguette into 100

pieces and gave each of your friends 5 pieces. What fraction would this be?

Number of baguettes	Fraction of 1 baguette that each friend gets
1	1/10
2	2/10 or 1/15
3	
4	
5	
6	
7	

		_
If you divided a large baguette into 100 pieces and gave each your friends 6 pieces. What fraction would this be?	of	
	lf ba pi ya W	you divided a large aguette into 100 eces and gave each of our friends 8 pieces. /hat fraction would his be?



1 How many ways can you shade a half?









Г

Mark in a Tiling Pattern- 5 red and 5 blue, each different if you can







Mark in a Tiling Pattern- 10 red and 10 blue, each different if you can











Shade half of each of these patterns. What do you notice?





2 How many ways can you shade a half? More to think about!



Mark in a Tiling Pattern- 5 red and 5 blue, each different if you can



Mark in a Tiling Pattern- 10 red and 10 blue, each different if you can



Shade half of each of these patterns. What do you notice?

These are all improper fractions.



3 Fill the	e table with yo	our findings				12
Number of squares	Amount of blue in halves	Amount of blue in whole or mixed number				
1	1/2	1/2				
2	2/2	1				
3	3/2				ole, mark in the halves on	
			-		in the tak ne	
					rmation mber lii	
				4	From the info this empty nu	-



What does this symbol mean?	What does this symbol mean? /
What do you now know about an proper fraction?	What do you now know about an improper fraction?

8

What does this mean?

 $\frac{1}{2} \times 10 = \frac{10}{2} = 5$

Show it with a ten shape and counters

7 Detective Game. Why are these different?

10/2 and 2/10 10/5. and 5/10 13/10. and 10/13

Make them with shapes or rods to find out.

You will need: Word cards and picture cards

Proper fraction

Match these

Improper fraction

Mixed number

9 Buying petrol for the lawn mower

This week I had to buy 1 1/2 litres for the lawn mower.

Show what that looks like with shapes or rods.

Last week I bought 8 ½ litres for the ride-on mower.

Show what that looks like with shapes or rods.

It's spring time soon. I will mow the lawns twice as much. How much petrol should I buy for the small mower?

How much should I buy for the ride-on mower?

Show what that looks like with shapes or rods.











8 Matching game







12 Conversions

You will need: Shapes or rods to help you if needed

Think DIVISION!

15 ÷ 4	<u>15</u> 4	3 3/4
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15 ÷ 4	<u>15</u> 4	3 3/4
19÷4	<u>19</u> 4	4 3/4
21 ÷ 4	<u>21</u> 4	5 1/4
25 ÷ 4	<u>25</u> 4	6 1/4
35 ÷ 2	<u>35</u> 2	17 1/2
38÷3	<u>38</u> 3	12 2/3
17 ÷ 3	<u>17</u> 3	5 2/3
13 ÷ 3	<u>13</u> 3	4 1/3
19÷5	<u>19</u> 5	3 4/5
13÷4	<u>13</u> 4	3 1/4
16 ÷ 5	<u>16</u> 5	3 1/5



Number, Pattern and Calculating 5 Numbers and the Number System 2, Exploring equivalence with fractions

Exploring equivalence with fractions

Practice

- Can you find three different ways to describe the amount of these tiles that is coloured blue? Can you find:
- a an improper fraction
- b a mixed number
- c a proper fraction?
- **2** a Can you draw an illustration that shows the fraction $\frac{18}{2}$?
 - **b** Can you write $\frac{18}{2}$ in another way?
- C Can you explain how you worked this out?
- 3 Can you write these numbers in other ways?
- c 38 **b** 12¹/₂

a 23

d 25¹/₇

Going deeper

- Can you draw tiles to show these fractions? You can use any design for C 27 510 • the tiles you choose. -14
- **2** Can you make an illustration that shows the fraction $\frac{q}{4}$?
- 3 a Can you explain how you did question 2 above?
- **b** Can you use your method to make an illustration that shows $4\frac{3}{4}$?
- 4 a Which Numicon Shape would be most useful for illustrating quarters?
- **b** Can you explain why, and use some of the Shapes to illustrate $\frac{15}{4}$?
- **b** Can you explain why, and use some of these rods to illustrate $2\frac{3}{4}$? 5 α Which number rod would be most useful for illustrating quarters?

Converting mixed numbers and improper fractions

Practice

- Can you write a fraction to go with this illustration?
- 2 How could you illustrate this same fraction with number rods?
- 3 a Try to find three ways of illustrating the fractions below.



- b What kind of fraction are these?
- 4 a Can you write the fractions you illustrated in question 3 in another way?
- b What kind of numbers have you written?
- c Can you explain how you worked these out?
- 5 Which Numicon Shapes and which number rods could you use to illustrate the following numbers?



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Going deeper

- **2** Explain how you could add together $4\frac{3}{5}$ and $\frac{19}{5}$. Can you write $3\frac{7}{8}$ in two other ways?
 - **3** Explain how you could subtract $\frac{19}{5}$ from $4\frac{3}{5}$.

Date

Measuring Rainfall

Date

measure the rainfall over the weekend. Harry was using a rain gauge to

On Saturday his rain gauge collected $2\frac{1}{2}$ cups, and on Sunday it collected I³/₄ cups. Can you work out how much rain fell altogether over the weekend?



 $2\frac{1}{4}$ cups on Sunday. Can you work out which weekend was the wettest? The next weekend, his rain gauge collected I_2^1 cups on Saturday and



Fill In The Fractions

Can you fill in the empty boxes below to convert the mixed numbers to improper fractions?













Number, Pattern and Calculating 5 Numbers and the Number System 2: Exploring equivalence with fractions Date: Group:

Words and terms for use in conversation

part-whole relationship, comparing, equivalent fraction, denominator, numerator, proportion, ordinal number names, for every, in every, unit fraction, proper fraction, improper fraction, mixed number, factor, common factor, multiple, times, divide, equivalence, equivalent to, scale up, scale down, reduce, simplest form

ASSESSMENT OPPORTUNITIES Look and listen for children who:	Name	Name	Name	Name	Name	Name
Use the words and terms for use in conversation effectively.						
Explain equivalences between improper fractions and mixed numbers.						
Use dividing to convert improper fractions to mixed numbers.						
Use knowledge of factors and multiples to recognize and explain equivalences between proper fractions.						
Use knowledge of multiples and factors to create equivalent fractions and illustrate these with structured apparatus.						
 Explain that, when scaling up, proportions need to be constant, so both numerator and denominator are multiplied by the same number. 						
Additional notes/ways forward.						

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