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 $2 \times$ 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.

| $\frac{1}{12}$ | $\frac{2}{12}$ | $\frac{3}{12}$ | $\frac{4}{12}$ | $\frac{5}{12}$ | $\frac{6}{12}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\frac{7}{12}$ | $\frac{8}{12}$ | 9 | $\frac{9}{12}$ | $\frac{10}{12}$ | $\frac{11}{12}$ |
| 12 | $\frac{12}{12}$ |  |  |  |  |
| 1 | $\frac{1}{2}$ | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{1}{6}$ |  |
| 1 | 2 | 3 | 4 |  |  |
| $12 \div 12=1$ | $1 \times 12=12$ |  |  |  |  |
| $12 \div 6=2$ | $2 \times 6=12$ |  |  |  |  |
| $12 \div 4=3$ | $4 \times 3=12$ |  |  |  |  |
| $12 \div 3=4$ | $3 \times 4=12$ |  |  |  |  |
| $12 \div 2=6$ | $2 \times 6=12$ |  |  |  |  |

## 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.


What do you notice about all the denominators?
What do you notice about all the numerators?
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.
$\begin{array}{lllllll}25 / 40 & 16 / 20 & 3 / 24 & 20 / 80 & 6 / 30 & 24 / 30 & 35 / 49\end{array}$

| $\frac{1}{3}$ | $\frac{2}{6}$ | $\frac{3}{9}$ | $\frac{4}{12}$ | $\frac{5}{15}$ | $\frac{6}{18}$ | $\frac{7}{21}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | 8 | 9 | 16 | $\frac{11}{}$ | $\frac{18}{15}$ | $\frac{15}{45}$ |
| 30 | 24 | 27 | 48 | 33 | 75 | 4 |


| $3 \div 1=3$ | $18 \div 3=6$ |
| :---: | :---: |
| $6 \div 3=2$ | $21 \div 3=7$ |
| $9 \div 3=3$ | $24 \div 3=8$ |
| $12 \div 3=4$ | $27 \div 3=9$ |
| $15 \div 3=15$ | $30 \div 3=10$ |

## 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 ?/5?
$2 \div 10=2 / 10$. 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 $4 \times 1 / 10$ pieces.
This is equivalent to ?/5?
Make a table of your findings up to ten friends:

If 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 <br> that each friend gets |
| :---: | :---: |
| 1 | $1 / 10$ |
| 2 | $2 / 10$ or $1 / 15$ |
| 3 |  |
| 4 |  |
| 5 |  |
| 7 |  |
| 7 |  |

If you divided a large baguette into 100 pieces and gave each of your friends 8 pieces.
What fraction would this be?

1 How many ways can you shade a half?

|  |
| :---: |

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

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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!

| The first square shows | $\frac{2}{2}$ | Add together the first and second square | $\frac{4}{2}$ | Add together the first, and second and third square | 2 | Add together the first, and second and third square | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

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

| The first pattern shows | $\frac{5}{10}$ | Add together the first and second pattern | $\frac{10}{10}$ | Add together the first, and second and third pattern | $\frac{15}{10}$ | Add together the first, and second and third pattern | $\frac{20}{10}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

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

| The first square shows | $\frac{10}{20}$ | Add together the first and second square | $\frac{20}{20}$ | Add together the first, and second and third square | $\frac{30}{20}$ | Add together the first, and second and third square | $\frac{40}{20}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

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


Write the mixed number below


Fill the table with your findings

| Number of <br> squares | Amount of <br> blue in <br> halves | Amount of <br> blue in <br> whole or <br> mixed <br> number |
| :---: | :---: | :---: |
| 1 | $1 / 2$ | $1 / 2$ |
| 2 | $2 / 2$ | 1 |
| 3 | $3 / 2$ |  |
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5

## Quizz time

What does this symbol mean?

$$
\div
$$

What do you now know about an proper fraction?

What do you now know about an improper fraction?

What does this mean?

$$
1 / 2 \times 10=10 / 2=5
$$

Show it with a ten shape and counters


7 Detective Game.
Why are these different?
$10 / 2$ and $2 / 10 \quad 10 / 5$. and $5 / 10 \quad 13 / 10$. and $10 / 13$

Make them with shapes or rods to find out.

8 Match these
You will need: Word cards and picture cards


9 Buying petrol for the lawn mower

This week I had to buy $11 / 2$ litres for the lawn mower.


Show what that looks like with shapes or rods.
Last week I bought $81 / 2$ 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.



11 More, or less, or equal
Cut out the strips but leave the blank ones whole. Follow the scissor icon!
The shaded pieces show the fractions and the blank ones show how the fractions fit.

Start with the twelfths first and position them along the blank section with the smallest parts. - The top row. See * Now do the same with the sixths. See **
Do the same with the thirds. See ***
Now explore different combinations noticing equivalent
 fractions. $2 / 12=1 / 6$. and $4 / 12=2 / 16=1 / 3$ See ${ }^{* * * *}$

## 12 Conversions

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


| $15 \div 4$ | $\frac{15}{4}$ | 3 3/4 |
| :---: | :---: | :---: |
| $19 \div 4$ | $\frac{19}{4}$ | $43 / 4$ |
| $21 \div 4$ | $\frac{21}{4}$ | $51 / 4$ |
| $25 \div 4$ | $\frac{25}{4}$ | 6 1/4 |
| $35 \div 2$ | $\frac{35}{2}$ | 17 1/2 |
| $38 \div 3$ | $\frac{38}{3}$ | 12 2/3 |
| $17 \div 3$ | $\frac{17}{3}$ | $52 / 3$ |
| $13 \div 3$ | $\frac{13}{3}$ | $41 / 3$ |
| $19 \div 5$ | $\frac{19}{5}$ | $34 / 5$ |
| $13 \div 4$ | $\frac{13}{4}$ | $31 / 4$ |
| $16 \div 5$ | $\frac{16}{5}$ | $31 / 5$ |

Name

## More, Equal or Less?


$\frac{1}{3} \frac{1}{3}$

| $\frac{4}{12}$ | $\frac{3}{6}$ | $\frac{8}{12}$ | $\frac{1}{6}$ | $\frac{1}{3}$ | $\frac{2}{6}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\frac{10}{12}$ | $\frac{5}{6}$ | $\frac{6}{12}$ | $\frac{2}{12}$ | $\frac{4}{6}$ | $\frac{2}{3}$ |

Explorine equivalence with
Practice
I 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?

| Can you write these numbers in other ways? |
| :--- |
| a $\frac{23}{2}$ |$\quad$ b $12 \frac{1}{2} \quad$ c $\frac{38}{2}$

[^0]

## 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 <br> 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.

## Number, Pattern and Calculating 5 <br> Numbers and the Number System 2: Exploring equivalence with fractions Date: <br> 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

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
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Additional notes/ways forward.

## Number, Pattern and Calculating 5 <br> Numbers and the Number System 2: Exploring equivalence with fractions <br> 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

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - 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.


[^0]:    Going deeper
    I Can you draw tiles to show these fractions? You can use any design for
    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 $\frac{15}{4}$ ? 5 a Which number rod would be most useful for illustrating quarters? b Can you explain why, and use some of these rods to illustrate $2 \frac{3}{4}$ ?

