## Lesson 10 - Fractions - Unit and Non - Unit Fractions

NC Objective:
Recognise, find, name and write fractions $1 / 2$,
$1 / 3,1 / 4,2 / 4$ and $3 / 4$ of a length, shape, set of
objects or quantity.

Resources needed:
Differentiated Sheets
Teaching Slides

## Vocabulary:

Fractions, quantity, recognise, unit fraction, non-unit fractions halves, thirds, quarters, denominator, numerator, represent

Children are introduced to the non-unit fractions $2 / 3$ and $3 / 4$ for the first time. They also need to look at fractions where the whole is shaded and how these fractions are written. Children see that the numerator and denominator are the same when the fraction is equivalent to one whole.

## Key Questions:

How many quarters make a whole? How many thirds make a whole? What do you notice?
How many quarters are there in $3 / 4$ ?
In $3 / 4$ what does the digit 3 represent? What does the digit 4 represent?
Give me an example of a unit fraction and a non-unit fraction.

## Working Towards <br> $\star$ Working Within <br> Greater Depth

Children on this sheet are given bars already equally split to support them. They also have a choice of vocabulary to choose from.


Children on this sheet will need to split their bars equally. They also have to remember the correct vocabulary.


Children on this sheet have more missing parts to their table, along with complex shapes.

Reasoning \& Problem Solving


Complete the table.

| Fraction | Bar |  |  |  | Words |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\frac{1}{4}$ |  |  | $1$ |  |  |
| $\frac{2}{4}$ |  |  |  |  |  |
| $\frac{3}{4}$ |  |  |  | $\pm$ |  |
| $\frac{4}{4}$ |  |  |  | $1$ | one whole |



What fraction of each object is circled?


What fraction of each shape is shaded?


What type of fractions are the above called? Circle one.

## Unit fractions

Non - unit fractions

Complete the table.

| Fraction | Bar |  | Words |
| :---: | :---: | :---: | :---: |
| $\frac{1}{4}$ | $\square$ |  |  |



What fraction of each object is circled?


What fraction of each shape is shaded?


What type of fractions are the above called? Circle one.

Complete the table.

| Fraction | Bar | Words |
| :---: | :---: | :---: |
| $\frac{1}{4}$ |  |  |
| $\frac{2}{4}$ |  |  |
| $\frac{3}{4}$ |  |  |
| $\frac{4}{4}$ |  |  |
|  |  |  |



What fraction of each object is circled?


What fraction of each shape is shaded?


What type of fractions are the above called?

Complete the table.



What fraction of each object is circled?


What fraction of each shape is shaded?


What type of fractions are the above called?

Non - unit fractions

Complete the table.

| Fraction | Bar | Words |
| :---: | :---: | :---: |
| $\frac{1}{4}$ |  |  |
|  |  | two quarters |
| $\frac{3}{4}$ |  |  |
|  |  | one whole |

What fraction of each object is circled?
Two quarters, three quarters, or four quarters?


What fraction of each shape is shaded?


What type of fractions are the above called?

Complete the table.

| Fraction | Bar |  |  |
| :---: | :---: | :---: | :---: |
| $\frac{1}{\|c\|}$ | Words |  |  |
| $\frac{1}{4}$ | $\square$ |  |  |

What fraction of each object is circled?
Two quarters, three quarters, or four quarters?

$\frac{2}{4}$
What fraction of each shape is shaded?


What type of fractions are the above called?

Non - unit fractions

Sort the fractions into the table.
$\frac{2}{3} \frac{1}{4} \frac{3}{3} \frac{1}{2} \frac{3}{4} \frac{2}{2}$

|  | Unit fractions | Non - unit <br> fractions |
| :---: | :--- | :--- |
| Fractions equal <br> to 1 whole |  |  |
| Fractions less <br> than 1 whole |  |  |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?
Malachi says:
I have shaded $\frac{2}{2}$ of the shape.

Can you spot what mistake Malachi could have made?

Can these images help you find the answer?


Explain how.

Sort the fractions into the table.
$\frac{2}{3} \frac{1}{4} \frac{3}{3} \frac{1}{2} \frac{3}{4} \frac{2}{2}$

|  | Unit fractions | Non - unit <br> fractions |
| :---: | :--- | :--- |
| Fractions equal <br> to 1 whole |  |  |
| Fractions less <br> than 1 whole |  |  |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?

## Malachi says:

I have shaded $\frac{2}{2}$ of the shape.


Can you spot what mistake Malachi could have made?
Can these images help you find the answer?
$\square \quad \square$

Explain how.

Sort the fractions into the table.


|  | Unit fractions | Non - unit <br> fractions |
| :---: | :---: | :---: |
| Fractions equal <br> to 1 whole | Empty | $\frac{2}{2} \quad \frac{3}{3}$ |
| Fractions less <br> than 1 whole | $\frac{1}{2}$ | $\frac{1}{4}$ |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?
There are no unit fractions that are equal to one whole. 1/1 would fit here.

Malachi says:
I have shaded $\frac{2}{2}$ of the shape.


Can you spot what mistake Malachi could have made?

Can these images help you find the answer?
$\frac{1}{2} \square$
$\frac{2}{2}$

Explain how.

He has shaded two quarters of the shape. He may have thought that the numerator represents the number of parts that are shaded and the denominator represents the number of parts that aren't. He doesn't realise the denominator represents the whole. $2 / 2=1$

Sort the fractions into the table.
$\frac{2}{3} \frac{1}{4} \frac{3}{3} \quad \frac{1}{2} \quad \frac{3}{4} \quad \frac{2}{2}$

|  | Unit fractions | Non - unit <br> fractions |
| :---: | :---: | :---: |
| Fractions equal <br> to 1 whole | Empty | $\frac{2}{2} \frac{3}{3}$ |
| Fractions less <br> than 1 whole | $\frac{1}{2} \frac{1}{4}$ | $\frac{2}{3} \frac{3}{4}$ |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here? There are no unit fractions that are equal to one whole. 1/1 would fit here.

## Malachi says:

I have shaded $\frac{2}{2}$ of the shape.


Can you spot what mistake Malachi could have made?

Can these images help you find the answer?
$\frac{1}{2} \square$
$\frac{2}{2}$

Explain how.

He has shaded two quarters of the shape. He may have thought that the numerator represents the number of parts that are shaded and the denominator represents the number of parts that aren't. He doesn't realise the denominator represents the whole. $2 / 2=1$

Sort the fractions into the table.

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

|  | Unit fractions | Non - unit <br> fractions |
| :---: | :--- | :--- |
| Fractions equal <br> to 1 whole |  |  |
| Fractions less <br> than 1 whole |  |  |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?

## Malachi says:

I have shaded $\frac{3}{3}$ of the shape.

Can you spot what mistake Malachi could have made?
Can you shade $\frac{3}{3}$ of this shape?


What do you notice?

Sort the fractions into the table.


|  | Unit fractions | Non - unit <br> fractions |
| :---: | :--- | :--- |
| Fractions equal <br> to 1 whole |  |  |
| Fractions less <br> than 1 whole |  |  |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?

## Malachi says:

I have shaded $\frac{3}{3}$ of the shape.

Can you spot what mistake Malachi could have made?
Can you shade $\frac{3}{3}$ of this shape?


What do you notice?

Sort the fractions into the table.


|  | Unit fractions | Non - unit <br> fractions |  |
| :---: | :---: | :---: | :---: |
| Fractions equal <br> to 1 whole | Empty | $\frac{2}{2}$ | $\frac{3}{3}$ |
| Fractions less <br> than 1 whole | $\frac{1}{2}$ | $\frac{1}{3}$ | $\frac{1}{4}$ |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here? There are no unit fractions that are equal to one whole. 1/1 would fit here.

Malachi says:
I have shaded $\frac{3}{3}$ of the shape.

Can you spot what mistake Malachi could have made? Can you shade $\frac{3}{3}$ of this shape?

## $\frac{3}{3} \quad$ What do you notice?

He may have thought that the numerator represents the number of parts that are shaded and the denominator represents the number of parts that aren't. He doesn't realise the denominator represents the whole. $3 / 3=1$ whole

Sort the fractions into the table.


|  | Unit fractions | Non - unit <br> fractions |
| :---: | :---: | :---: |
| Fractions equal <br> to 1 whole | Empty | $\frac{2}{2}$ |$\frac{3}{3}$| Fractions less <br> than 1 whole | $\frac{1}{2}$ | $\frac{1}{3}$ | $\frac{1}{4}$ |
| :---: | :---: | :---: | :---: |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?
There are no unit fractions that are equal to one whole. $1 / 1$ would fit here.

## Malachi says:

I have shaded $\frac{3}{3}$ of the shape.


Can you shade $\frac{3}{3}$ of this shape?
$\frac{3}{3} \quad$ What do you notice?
He may have thought that the numerator represents the number of parts that are shaded and the denominator represents the number of parts that aren't. He doesn't realise the denominator represents the whole. $3 / 3=1$ whole

Sort the fractions into the table.


|  | Unit fractions | Non - unit <br> fractions |
| :---: | :--- | :--- |
| Fractions equal <br> to 1 whole |  |  |
| Fractions less <br> than 1 whole |  |  |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?
In what field are the smallest fractions? Explain.

## Malachi says: <br> I have shaded $\frac{4}{4}$ of the shape. <br> 

Can you spot what mistake Malachi could have made?

Can you shade $\frac{8}{8}$ of the same shape?
What has stayed the same? What has changed?
What do you notice?

Sort the fractions into the table.


|  | Unit fractions | Non - unit <br> fractions |
| :---: | :--- | :--- |
| Fractions equal <br> to 1 whole |  |  |
| Fractions less <br> than 1 whole |  |  |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?
In what field are the smallest fractions? Explain.

## Malachi says:

I have shaded $\frac{4}{4}$ of the shape.

Can you spot what mistake Malachi could have made?

Can you shade $\frac{8}{8}$ of the same shape?
What has stayed the same? What has changed? What do you notice?

Sort the fractions into the table.


|  | Unit fractions | Non - unit <br> fractions |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Fractions equal <br> to 1 whole | Empty | $\frac{2}{2}$ | $\frac{4}{4}$ | $\frac{7}{7}$ |
| Fractions less <br> than 1 whole | $\frac{1}{2}$ | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{2}{3}$ |$\frac{3}{4} \quad$|  |
| :---: |

What do you notice?
Are there any boxes in the table empty? Why?
What fraction could you write here?
In what field are the smallest fractions? Explain.
There are no unit fractions that are equal to one whole. 1/1 would fit here.
Bottom left field contains the smallest fractions.

## Malachi says:

I have shaded $\frac{4}{4}$ of the shape.
俏
Can you spot what mistake Malachi could have made? Can you shade $\frac{8}{8}$ of the same shape?
What has stayed the same? What has changed?
What do you notice?
He may have thought that the numerator represents the number of parts that are shaded and the denominator represents the number of parts that aren't.
He doesn't realise the denominator represents the whole. The numerator and denominator are the same when the fraction is equivalent to one whole. $\quad 4 / 4=1 ; 8 / 8=1$
Different - The number of parts the whole is divided into.

Sort the fractions into the table.
$\frac{2}{3} \frac{1}{4} \frac{4}{4} \frac{1}{2} \frac{3}{4} \frac{2}{2} \frac{1}{3} \frac{7}{7}$

|  | Unit fractions | Non-unit <br> fractions |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Fractions equal <br> to 1 whole | Empty | $\frac{2}{2}$ | $\frac{4}{4}$ | $\frac{7}{7}$ |  |
| Fractions less <br> than 1 whole | $\frac{1}{2}$ | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{2}{3}$ | $\frac{3}{4}$ |

## What do you notice?

Are there any boxes in the table empty? Why? What fraction could you write here? In what field are the smallest fractions? Explain. There are no unit fractions that are equal to one whole. $1 / 1$ would fit here.
Bottom left field contains the smallest fractions.

Malachi says:
I have shaded $\frac{4}{4}$ of the shape.


Can you spot what mistake Malachi could have made?
Can you shade $\frac{8}{8}$ of the same shape?
What has stayed the same? What has changed? What do you notice?
He may have thought that the numerator represents the number of parts that are shaded and the denominator represents the number of parts that aren't.
He doesn't realise the denominator represents the whole. The numerator and denominator are the same when the fraction is equivalent to one whole. $\quad 4 / 4=1 ; 8 / 8=1$
Different - The number of parts the whole is divided into.

