Fraction Workshop

Wylde Green Primary School
Aims

To introduce the age expectations for fractions

To provide information that you can use to help your children be confident in understanding fractions
Why are fractions so important?

Let’s collect together our ideas

Where do you see fractions being used?

Where do you use fractions?
Common images for fractions?
What is a fraction?

When an object is divided into equal parts then each part is called a fraction.

2 \hspace{1cm} \text{NUMERATOR} \hspace{2cm} - \text{the number of the equal parts that are being considered}

5 \hspace{1cm} \text{DENOMINATOR} \hspace{2cm} (downstairs) \hspace{2cm} - \text{the number of the equal parts that the object has been split into}
Understanding fractions.

As with other concepts, we start with real concrete objects and problems.
Understanding fractions.

Children then move to understanding pictorial representation of fractions.
Understanding fractions.

Finally children are able to move to the abstract concept of fractions

\[ \frac{3}{4} + \frac{1}{4} = 1 \]

\[ 1 \text{ of } 20 = 4 \]

\[ 5 \]
Understanding fractions.

How many ways can you represent a fraction?

Show me half?

Can you....

Build it?

Draw it?

Write it?
Why are fractions tricky?

Fractions are parts of a whole and are represented by parts of shapes or quantities.
Why are fractions tricky?

Fractions come in different forms.

There are 3 types of fractions:
- **Proper fractions** – the numerator is smaller than the denominator
  - 1/4
- **Improper fractions** – the numerator is bigger than the denominator
  - 7/4
- **Mixed numbers/fractions** – have a whole number and a fraction
  - 2 1/4
Why are fractions tricky?

Fractions are numbers.
Why are fractions tricky?

A fraction represents an operation.

\[
\frac{1}{2} \text{ is } 1 \div 2 = 0.5
\]

\[
\frac{1}{5} \text{ of } 20 \text{ is } 20 \div 5 = 4
\]
Progression in fractions through Primary School

**Year 1**
- children are able to recognise ½ and a 1/4

**Year 2**
- children are able to recognise the fractions ½, ¼, 2/4 and ¾ in length, shape and quantity
- children understand fractions as division: ½ of 6 = 3
Progression in fractions through Primary School

Year 3

Children are able to:

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 (first steps to understand decimal numbers).

- understand unit fractions and non-unit fractions with small denominators and can find fractions of shape and quantity

- use diagrams to recognise equivalent fractions with small denominators

- add and subtract fractions with the same denominator within one whole [for example, \( \frac{5}{7} + \frac{1}{7} = \frac{6}{7} \) ]

- compare and order unit fractions, and fractions with the same denominator
Progression in fractions through Primary School

Year 4

Children are able to:

- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten

- solve problems involving increasingly harder fractions with quantity, money and measure

- recognise and write decimal equivalents of any number of tenths or hundredths

- recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$

- continue to add and subtract fractions with the same denominator

- recognise families of common equivalent fractions
Progression in fractions through Primary School

Year 5

Children are able to:

- compare and order fractions whose denominators are all multiples of the same number
- recognise mixed numbers and improper fractions and convert from one to another
- add and subtract fractions with the same denominator and denominators that are multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$]
- recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per hundred’, and write percentages as a fraction with denominator 100, and as a decimal
Progression in fractions through Primary School

**Year 6**

Children are able to:

- use common factors to simplify fractions; use common multiples to express fractions in the same denomination

- compare and order fractions, including fractions >1

- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

- multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, \( \frac{1}{4} \times \frac{1}{2} = \frac{1}{8} \)]

- divide proper fractions by whole numbers [for example, \( \frac{1}{3} \div 2 = \frac{1}{6} \)]
Now let’s practise
Thank-you for attending our workshop today

Please fill in the evaluation sheets provided