

Fraction

# Fractions: Lesson 2

Part

Identifying, representing and comparing unit fractions

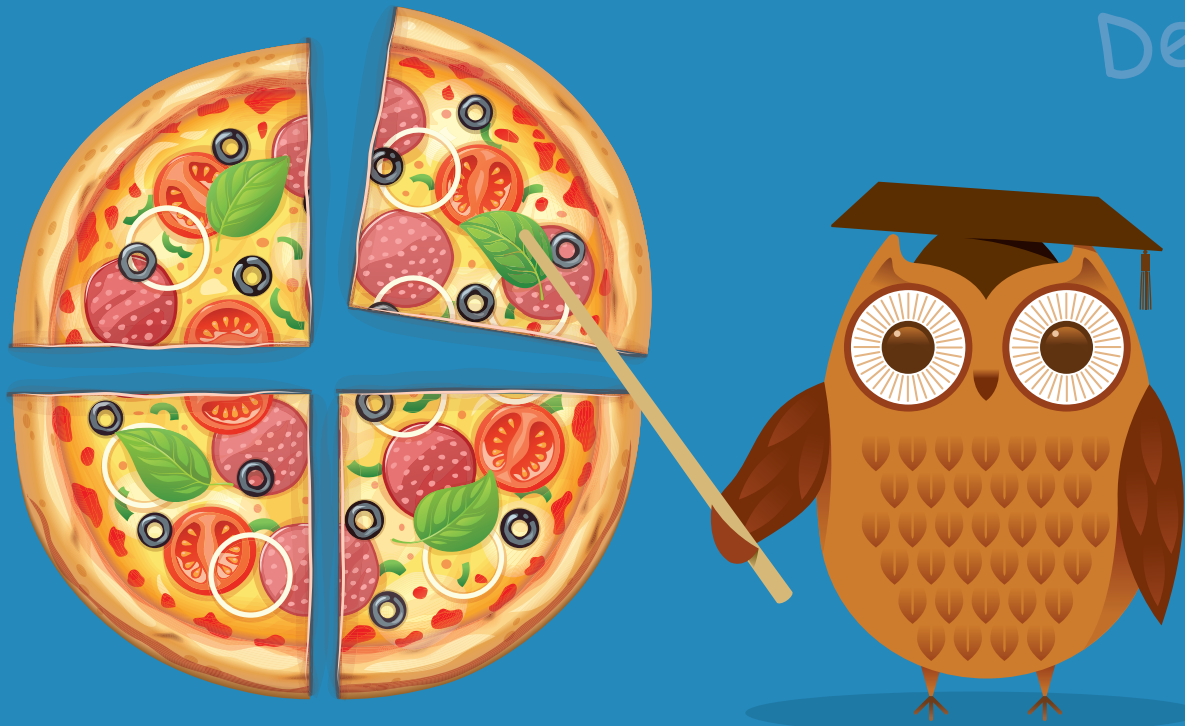
Maths KS2 Years 3 and 4

Dividing  
Bar

Denominator

One  
third

One  
sixth



# Maths Lesson 2: Fractions

Identifying, representing and comparing unit fractions

## Maths

### Key Stage 2 Years 3 and 4

#### Learning Objectives:

To deepen understanding that:

- a whole can be divided into any number of equal parts and the equal parts do not need to look the same
- fraction notation can be used to describe an equal part of the whole. One equal part of a whole is called a unit fraction.
- fractional notation can be applied to represent one part of a whole in different contexts.
- To solve problems that involve fractions.

#### Keywords from Lesson 1

Part. Whole. Fraction. Equal parts. Unequal parts. One half. One quarter.

#### Keywords for Lesson 2

**Dividing bar. Denominator. Numerator. One third. One sixth.**

These can also be found in printable format at the end of this PDF.

#### You will need the following resources for this lesson:

Scissors

Pupil whiteboards (if available)

Handout 1 to be used with Activity 1

Handout 2 (4 pages) to be used with Activity 2

Handout 3 to be used with Activity 3

Spinner with pencil

Paperclip

A manipulative, such as Cuisenaire rods, numicon plates, multi-link cubes or Lego cubes.



Throughout this lesson, ask the children to discuss the answers before you explain and before any answers are demonstrated on the PowerPoint.

The accompanying PowerPoint has 18 slides with the following learning points:

- Slides 1 and 2 introduce the lesson and the learning aims and the key words.
- **Slides 3 to 8 introduce** the key idea that any whole can be divided into any number of equal parts using stem sentences to link the wholes and the parts.

**Timings:** approximately 15 minutes.

Use the stem sentence, 'This is **a part**, my whole could be.....'

#### **Activity 1, handout 1 (slide 4)**

- Slide 4 introduces **Activity 1**, a paired activity, looking at fractions of an area. This activity can be completed either by drawing triangles on white boards or by using Handout 1 and scissors. If using Handout 1, cut out the triangle parts and investigate the different ways they can form a whole.

Handout 1 is on page 5 of the PDF.

- Slide 5 shows examples of the different wholes that could be made.
- Slides 6-8 ask, '**What's the same and what's different?**' considering finding a fraction of a group. Take feedback from the class and then share the stem sentence: '**If 16 cakes are the whole then a group of 2 cakes is part of the whole. The whole has been divided into 8 equal parts.**' Repeat this sentence for the other 2 cake pictures.
- Slide 9 asks the same question but this time includes a linear representation as well as a pizza. Ensure you draw out that the **whole has been divided into different equal parts**. A prompt note has been left on the PowerPoint.
- Slide 10 is an opportunity for paired talk. Use the stem sentence, '**The whole has been divided into ..... equal parts..... of the parts has been shaded**'. Model for the first image and then allow time for pairs to talk through the other images.
- **Slides 11-15 introduce** fraction notation: one equal part of a whole is called a unit fraction.

**Timings:** allow 30 minutes for this part of the lesson.

Ensure you emphasise the dividing bar as a horizontal line, like the division line.

#### **Activity 2, using Handout 2 (slide 12)**

- Slide 12 introduces **Activity 2**, a paired card game finding 3 matching cards.

Handout 2 for these cards is on pages 6 to 9 of the PDF.

There is a challenge question for this, asking pupils to create their own set of 3 cards.

**Timings:** Allow 10 minutes for this game.

- Slides 13 and 14 explain the other key fractional vocabulary for this lesson. This slide is animated in order to show:
  - 1) the **dividing line** first ,
  - 2) then the **denominator** to show how many parts the whole has been divided into,
  - 3) and finally the **numerator** which indicates how many of these equal parts.

**Activity 3, using Handout 3 (slide 15)**

- Slide 15 introduces **Activity 3**: Children will need a manipulative such as Cuisenaire rods, numicon plates, multilink cubes or Lego cubes. They will also require a spinner. A template for the spinner is on page 10 of the PDF.

**Timings:** Allow approximately 10 minutes for this game.

The two stem sentences are:

'The denominator is ... because the whole has been divided into .... Parts' and  
'The numerator is one because we are working with one part.'

- Slide 16 introduces the fractions names such as **one half, one quarter**.  
Draw out that the word sixth is like 6 and that third is a little like 3 but that half and quarter do not sound at all like 2 and 4. There is no representation for a fifth on the slide. What would this look like? A prompt note has been left on the PowerPoint.

Then explain how after a fifth the fraction names become more regular, seventh, eighth etc.

- **Slide 17 is the plenary.**

**Timings:** approximately 15 minutes. This is an opportunity for reasoning and asking questions such as:

- 1) ***How do you know?***
- 2) ***What do you notice about the shapes?***
- 3) ***What is the same and what is different about these shapes?***

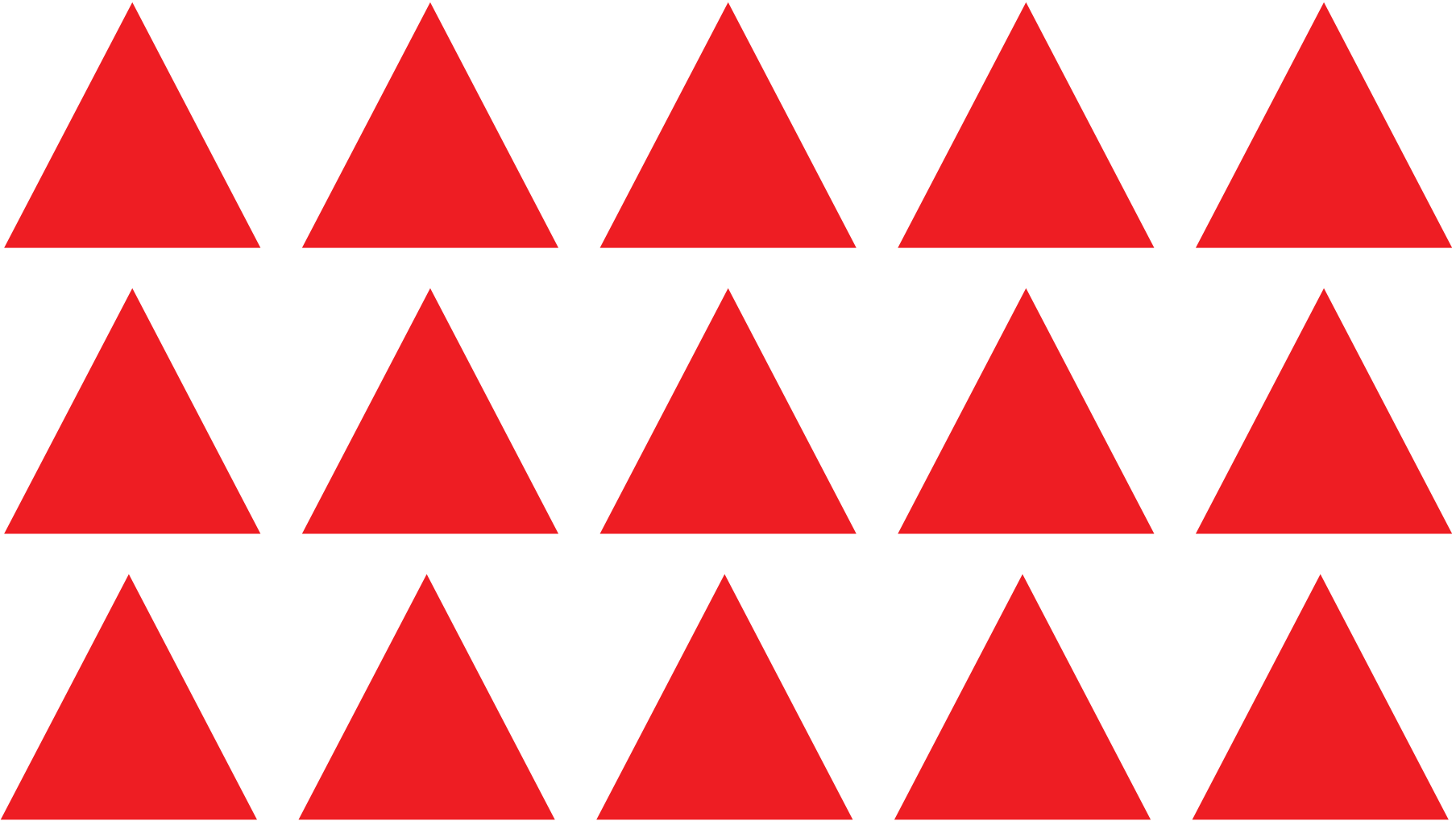
Teacher's note: the bar at the bottom showing  $\frac{1}{4}$  as  $\frac{2}{8}$  encourages children to reason why this is also a representation of a quarter. Emphasise the importance of considering both the size of the whole and the size of the parts, like the cake representation on slide 6.

- Slide 18 is a review slide for you to annotate on your Interactive Whiteboard or to collect the children's reflections on what they have learnt.

The coloured underlined are the key ideas from this lesson. There are opportunities for pupil talk indicated throughout the PowerPoint.



# Handout 1



## Handout 2

The whole has  
been divided into 3  
equal parts.  
One of them has  
been shaded.

The whole has  
been divided into 4  
equal parts.  
One of them has  
been shaded.

The whole has  
been divided into 2  
equal parts.  
One of them has  
been shaded.

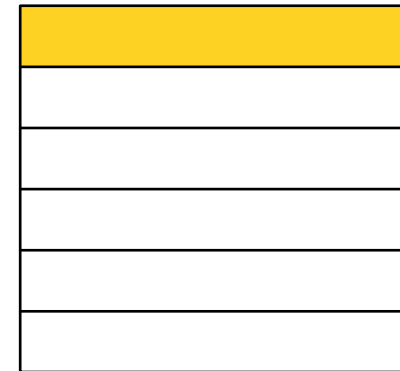
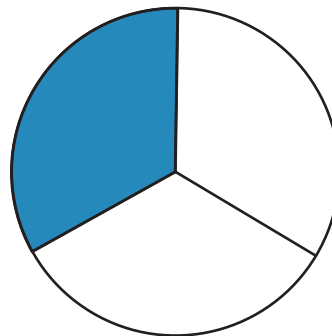
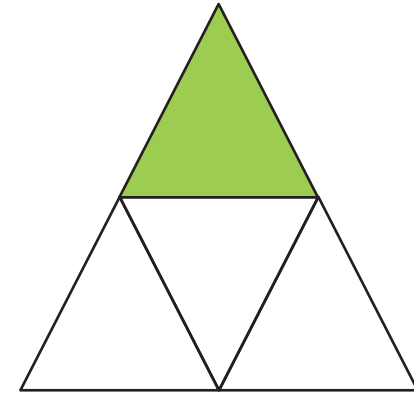
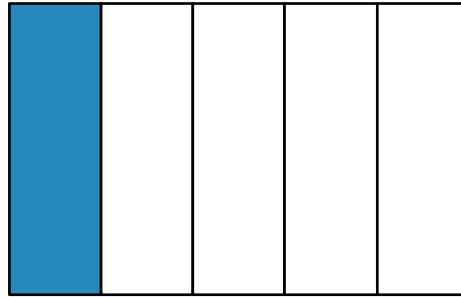
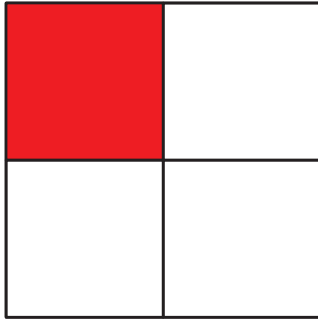
The whole has  
been divided into 6  
equal parts.  
One of them has  
been shaded.

The whole has  
been divided into 5  
equal parts.  
One of them has  
been shaded.

The whole has  
been divided into 4  
equal parts.  
One of them has  
been shaded.



## Handout 2 (page 2)



## Handout 2 (page 3)

|               |               |               |
|---------------|---------------|---------------|
| $\frac{1}{2}$ | $\frac{1}{3}$ | $\frac{1}{4}$ |
| $\frac{1}{6}$ | $\frac{1}{4}$ | $\frac{1}{5}$ |



## Handout 2 (page 4)

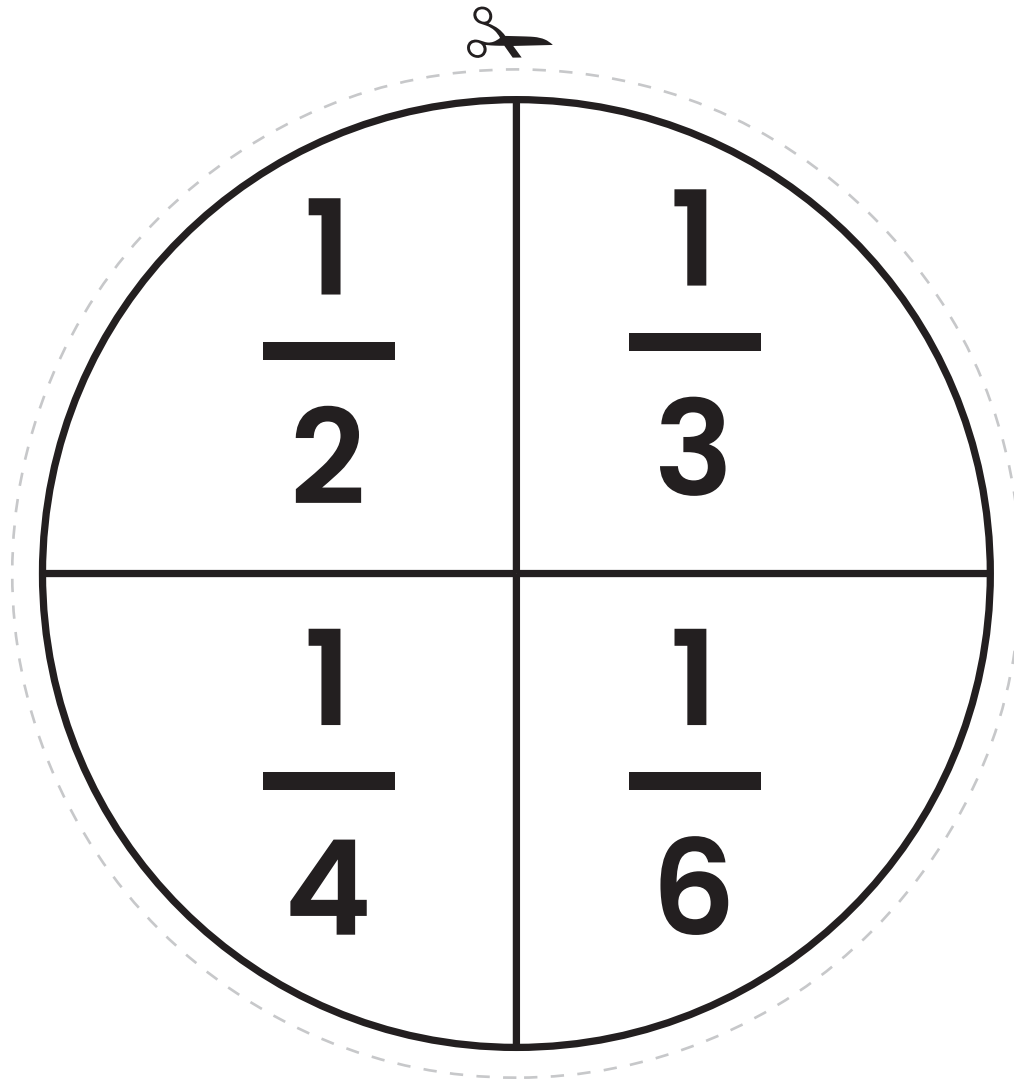
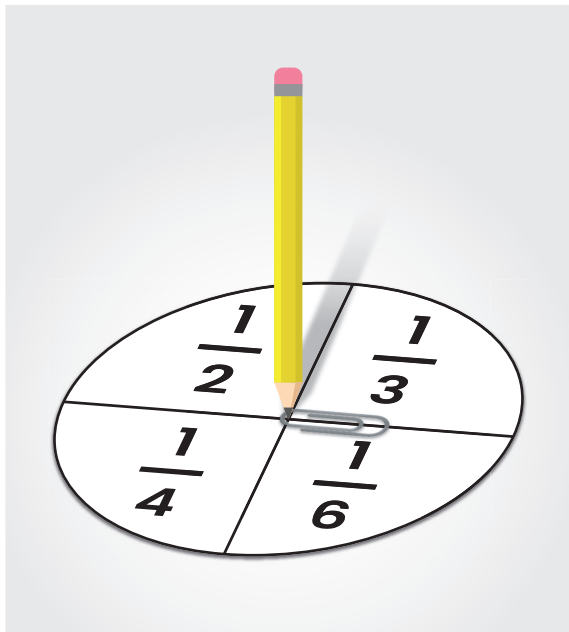
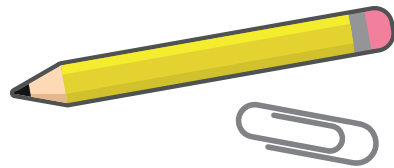
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|  |  |  |
|  |  |  |



## Handout 3

Spinner for Activity 3.  
This can be cut out and used with a  
paper clip and a pencil.

You will need:



# Fractions: Keywords Flashcards



**Part**

**Whole**

**Fraction**

**Equal  
parts**

**Unequal  
parts**

**One  
half**



# Fractions: Keywords Flashcards



**One  
quarter**

**Dividing  
bar**

**Denominator**

**Numerator**

**One  
third**

**One  
sixth**



# Dividing bar



# Denominator



# Numerator



# One third



**One  
sixth**

