

Whole

Fractions: Lesson 1

Part

Identifying wholes and parts whole using manipulatives and pictures

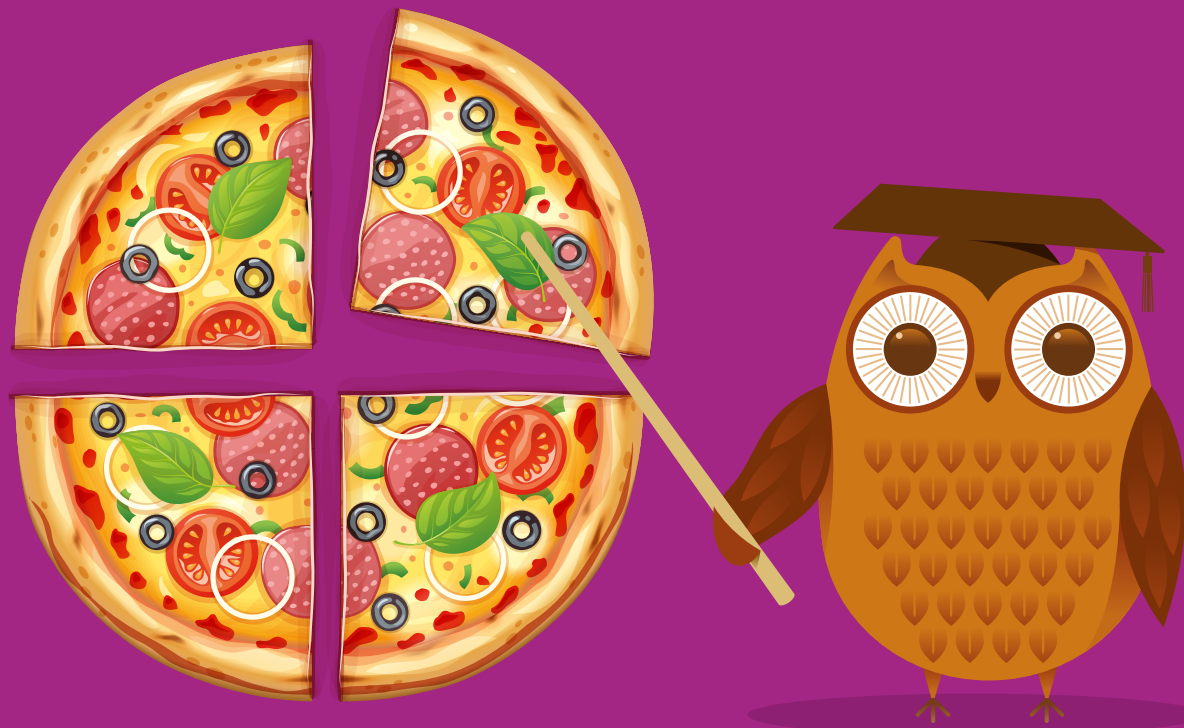
Maths KS2 Years 3 and 4

Unequal
Parts

One
quarter

One
half

Equal
Parts



Maths Lesson 1: Fractions

Identifying wholes and parts whole using manipulatives and pictures

Maths

Key Stage 2
Years 3 and 4

Learning Objectives:

To identify:

- Parts and wholes of areas, lengths and sets
- Equal and unequal parts

To investigate how the relative size of parts can be compared.

To find the whole when the size and the number of parts is known.

To solve problems that involve fractions.

Curriculum links

- Solve problems that involve fractions

Keywords

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

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

You will need the following resources for this lesson:

Scissors, glue, 30cm ruler, whiteboard pens, pens.

Handout 1: a series of shapes to accompany Activity 1 (on page 5 of this PDF).

Handout 2: card sorting game to accompany Activity 4 (on pages 6 and 7 of this PDF).

Paper strips (either A4 or A5) to accompany Activity 3.

Dice, Counters, Squares of paper.

Handout 3: a series of squares to accompany Activity 5 (coloured squares on pages 8 to 10 and a blank square (if you'd like to save ink!) on page 11 of this PDF).



PowerPoint presentation

The accompanying PowerPoint has the following learning points:

- Slides 1 and 2 introduce the lesson, the learning aims and the key words.
- Slides 3-5 introduce the key idea that **any whole can be split into parts** using stem sentences to link the wholes and the parts.
- Slides 7 to 12 reinforce the stem sentence: This sentence can be repeated with each individual item which was featured on slide 5. Ask the children to complete the sentence before animating the answers.
- Slide 13 represents the whole, as a journey to school, in a linear way.

Timings: approximately 10 minutes.

Ensure that the pupils are able to explain what is **the whole** and what is a **part of the whole**.

Activity 1

- Slide 14 introduces Activity 1: Cutting a shape into parts and sticking it back together again. Use Handout 1 for this activity, which you will find on page 5 of this PDF.
- Slide 15 asks the pupils to identify: What is the same and what is different about the cut-out shapes on the screen. Once they have identified that one shape has been cut into 4 equal pieces, ask them to look at their own cut shapes in groups.

Which shapes are cut equally and which have unequal parts?

Activity 2

- Slide 16: Activity 2 introduces the next key idea that **a whole can be divided into equal and unequal parts**. Use Handout 2 for this activity, which is a paired card game sorting the cards into 2 piles – shapes that have been split into equal and unequal parts. The handout for these cards is on pages 6 and 7 of the PDF.

Timings: approximately 10 minutes

Ask the children to sort the cards into two groups using the correct stem sentence on slide 16.

‘The whole has been divided into ... equal parts’

‘The whole has been divided into ... unequal parts.’

With the whole class, identify any which may be misleading, such as the triangle divided horizontally, etc.



Activity 3

- Slide 17 introduces Activity 3: Children will need four strips of A4 paper and a dice to fold their paper strips into either equal or unequal parts.

Timings: approximately 10 minutes.

Share the following stem sentence, 'I have folded my whole length of paper into ---- equal/unequal parts.'

Challenge activity

- Slide 18 and 19: Children will need a ruler, a whiteboard and pen to investigate how they can find the 'whole' if they know how long one part is and how many parts they have.

Explain 'if you know the length of one of the parts and also how many parts there are then you are able to copy these parts to make the whole.'

You can give the children clues:

One way is to draw a line that is a multiple of 3 and then divide this by 3.

Another way is to draw a shorter line, measure it, then draw 2 more parts the same length

- Slide 20 continues this theme. You may wish to ask pupils to come out, as part of a role play, to 'act' out this slide and to repeat using different numbers of pupils or groups.

Activity 4

- Slide 21 introduces Activity 4. You will need counters and dice for this. Ask the children to work in pairs. The stem sentence, One part is... and there are... parts so the total is... is on the slide.

Timings: approximately 10 minutes

- Slide 22 introduces the idea that different sized parts can be compared.

Activity 5: plenary

- Slide 23 is the plenary, introduced through Activity 5. You will need Handout 3 (on pages 8 to 11 of this PDF) and some scissors. Show the pupils the first part of the slide and ask them in how many ways they can combine the parts to make a whole. The slide is animated to show some of the ways they might have chosen.

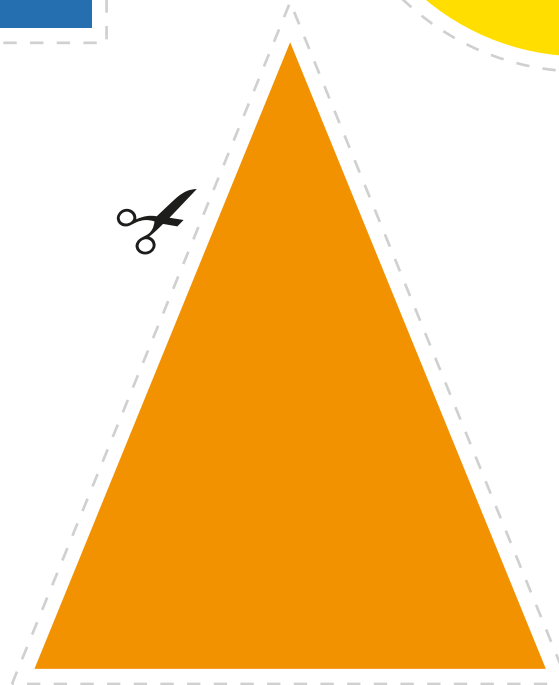
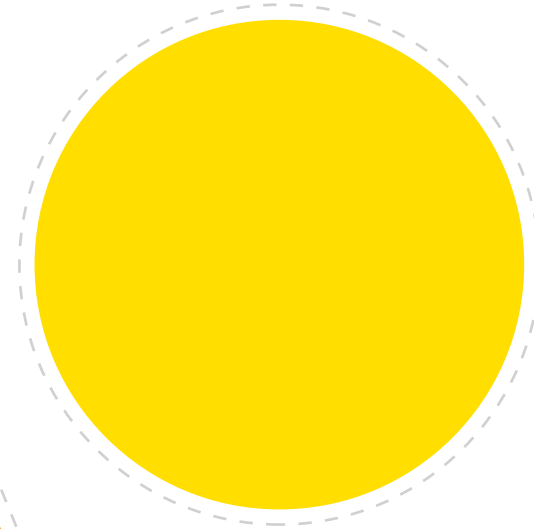
Timings: approximately 15 minutes.

- Slide 24 is a review slide for you to annotate on your interactive whiteboard or to collect what children reflect they have been learning about.

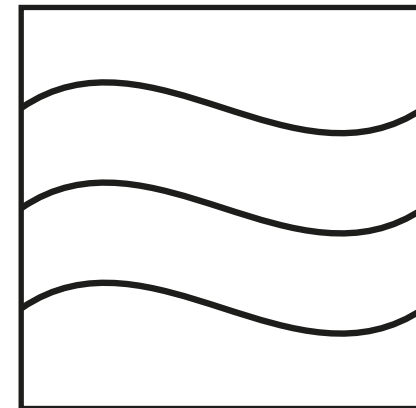
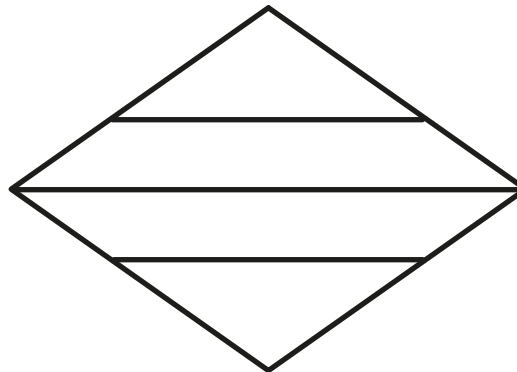
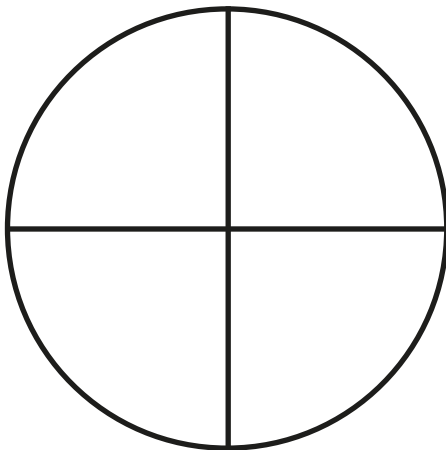
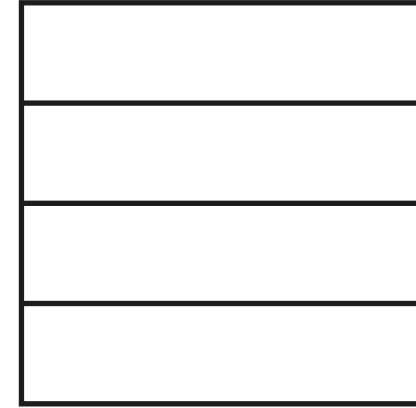
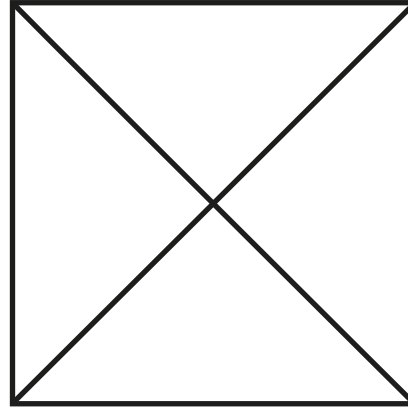
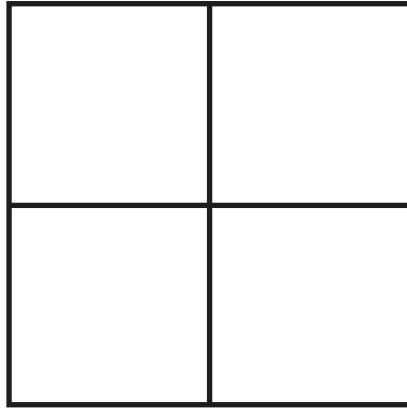
The coloured underlined ideas are the key ideas from this lesson. They indicate opportunities for pupil talk indicated throughout the PowerPoint.



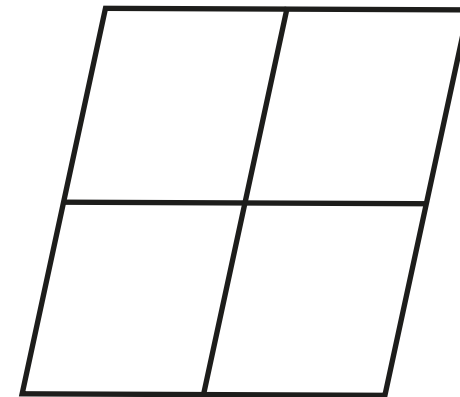
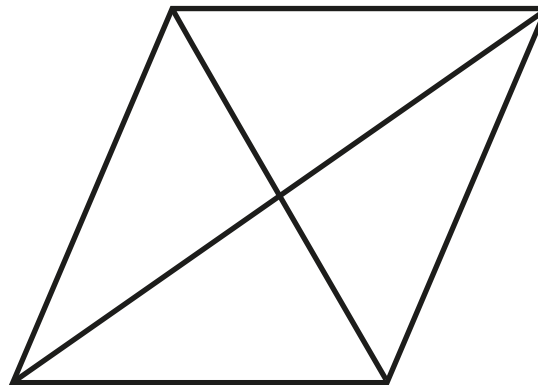
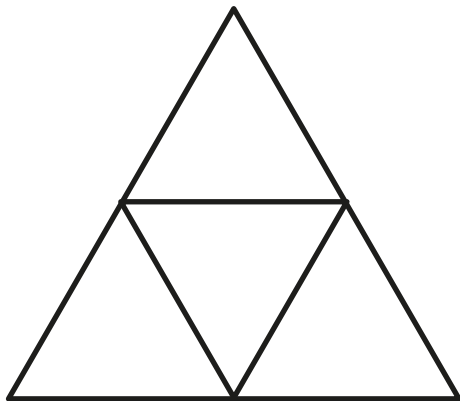
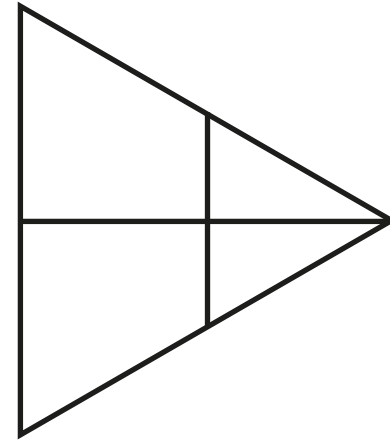
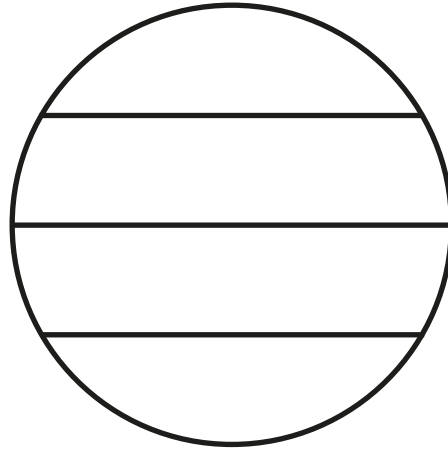
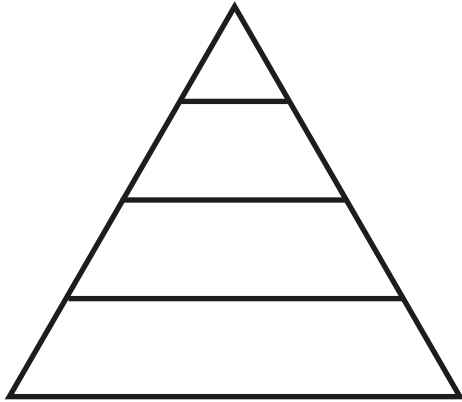
Handout 1



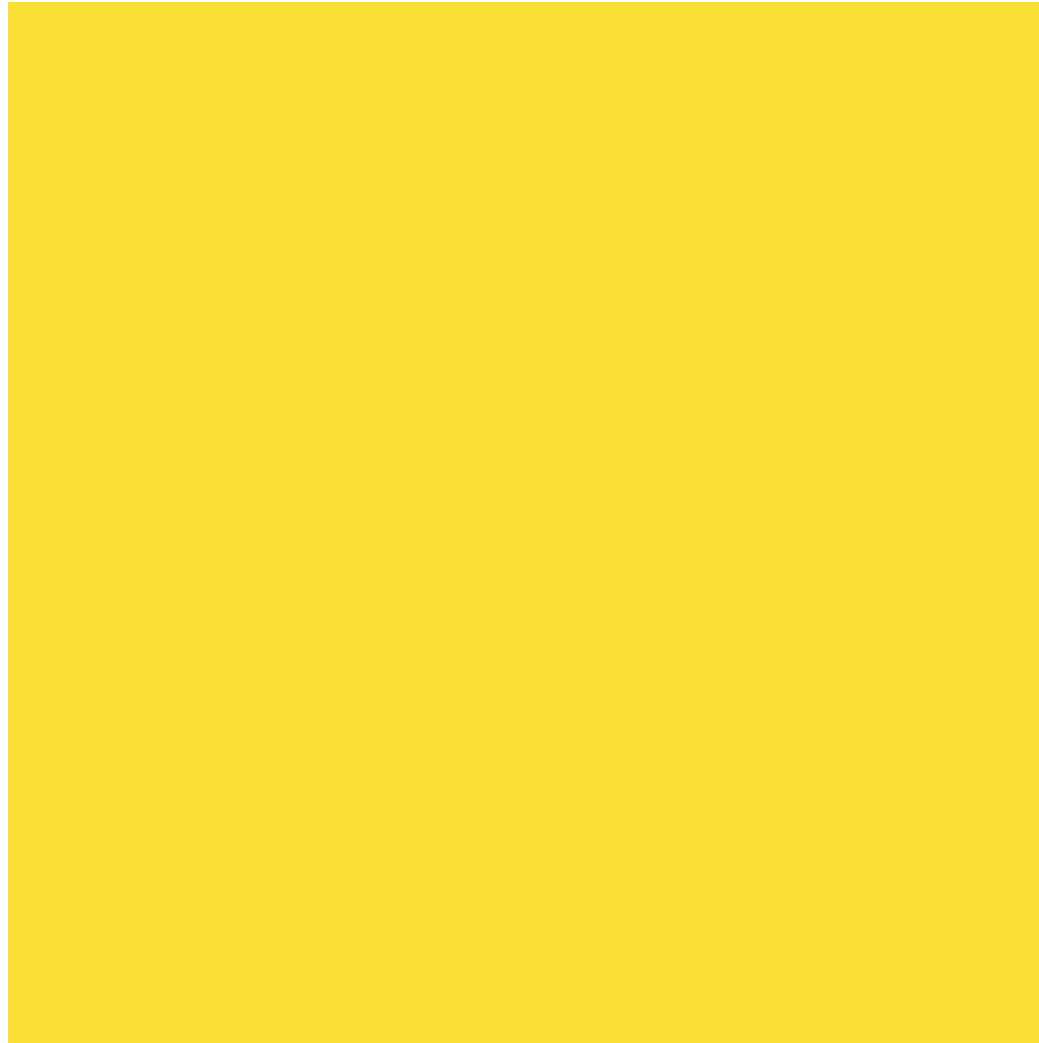
Handout 2



Handout 2 (page 2)



Handout 3



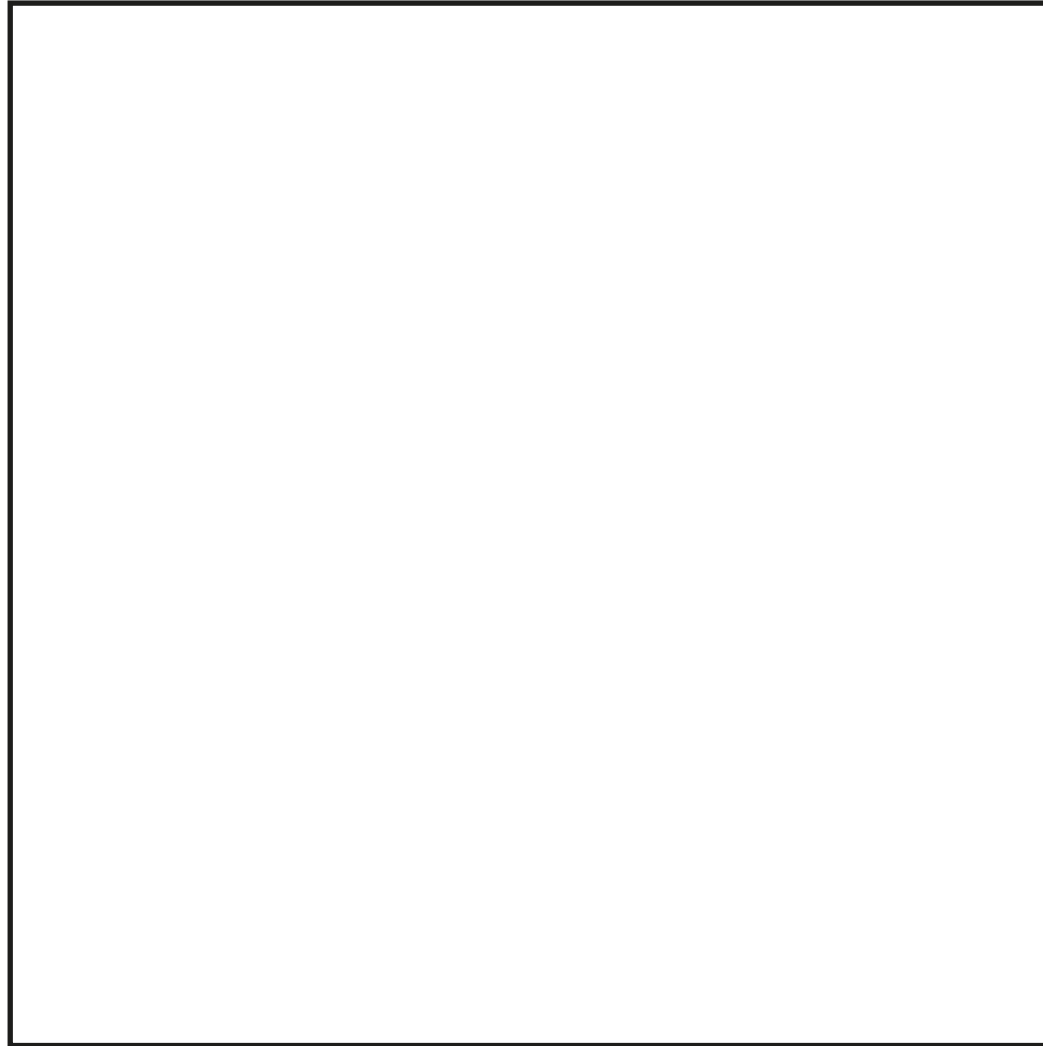
Handout 3 (page 2)



Handout 3 (page 3)



Handout 3 (page 4)



Fractions: Keywords Flashcards



Part

Whole

Fraction

**Equal
parts**

**Unequal
parts**

**One
half**

**One
quarter**



Part



Whole



Fraction



Equal parts



Unequal parts



One half



One quarter

