CENTRES FOR EXCELLENCE IN MATHS

FE centre resource

Pearson

Lesson plan

Basic fractions

1. Lesson objectives

- Understand what a fraction is and be able to link this to proportion
- Find a fraction of an amount
- Find the whole amount from a fraction
- Find a half without finding the whole by drawing a bar model

2. GCSE curriculum

Fractions, decimals and percentages

N2 apply the four operations, including formal written methods, to integers, decimals and simple fractions (proper and improper), and mixed numbers
N12 interpret fractions as operators

3. Lesson plan

This is an overview of the lesson. More notes can be found in the notes in the lesson slides.

Activity	Purpose of this activity	Time (min)	Guidance	Materials
Introduction	To understand what a fraction is	20	Briefly introduce the context of the lesson and the objectives. Break into small groups. Each group completes a Frayer model and thinks about what a fraction is. Encourage learners to represent their ideas visually. Learners record their ideas in each of the four sections. Ask groups to swap their Frayer models. Display a model on the board, requesting feedback from class. Discuss mathematical language commonly used when discussing the topic of fractions – numerator, denominator, simplify and equivalence.	Slides 1–2 Frayer model handout (A3) Coloured pens
Discuss 1	To find a fraction of an amount	15	Review Frayer models and highlight possible misconceptions. Break down what a whole number and a fraction are. Discuss what we mean by ‘a fraction of an amount’. Create a class fraction wall (ask learners either to take a photo or to copy the wall into their workbooks) or use the link to the interactive fraction wall in the slides. Lead on to introducing bar modelling and then work through the key ideas about fractions as a summary.	Slides 3–6 Whiteboard and pens

Activity	Purpose of this activity	Time (min)	Guidance	Materials
Explore 1	To understand what a fraction is and be able to link this to proportion To find a fraction of an amount	20	The purpose of the activity is for learners to understand that a fraction of an amount depends on the size of the whole. Start the activity by showing the class the Rusty the robot cake (50 servings) sold in slices at the college café. Tell learners that this cake represents £20. The handout has varying amounts of the cake sold that week in the café. Learners use the bar models on the handout to work out the fraction of cake sold each day and then the value of cake sold each day, e.g. on Monday there are 28/50 left over, so 22 (50 – 28) were sold. The value of cake sold is 22/50 × 20 = £8.80. The purpose of the activity is for learners to find a fraction of an amount using the context of the café and money. This activity should take 20 minutes, with learners working in pairs.	Slides 8–9 Rusty the robot cake handout
Discuss 1	To understand what a fraction is and be able to link this to proportion To find a fraction of an amount	10	Pairs or the small groups give feedback on how they calculated the fraction and its corresponding daily sale value of Rusty the Robot cake. You can demonstrate the calculation on the whiteboard or use these slides to show the answers.	Slide 9

Activity	Purpose of this activity	Time (min)	Guidance	Materials
Discuss 2	To find the whole amount from a fraction To find half of one unit	10	Work with learners to explain that three parts represents £18 on the diagram and there are four parts in total. Ask learners what one half looks like on the diagram and how they might find this out. They divide by three to find one part and times by two to find half. Continue to develop understanding and use of bar models. Encourage class discussion and sharing of models. The handout has space for learners to draw bar models.	Slides 10–15 Finding half handout
Practice	To apply the learning to an exam question	10	Learners work through the exam question in pairs. When the learners have answered this question, ask them whether they have used a different approach to answering this question. Did they use a bar model? How has their thinking changed? What have they learned about fractions?	Slides 16–17 Exam question handout
Review	To review the lesson and recap what has been covered	5	Ask learners to identify what has been discussed during the lesson.	Slide 18