Shopping percentages

National Curriculum attainment target

- Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 and 25

Lesson objective

- Solve problems involving percentages

Previous related lessons

None

Prerequisites for learning

Pupils need to:

- work out unit and non-unit fractions
- understand the connection between percentages and fractions

Vocabulary

percentage, reduce, discount, price

Future related lesson

Unit 11, Week 2, Lesson 4

Success criteria

Pupils can:

- know the fraction equivalent to the percentage
- divide by the relevant number
- multiply the amount when needed
- subtract the amount from the price

Getting Started

- Choose an activity from Number – Percentages (including fractions and decimals)

Teach

Collins Connect
Year 5, Unit 11, Week 2

Resources

mini whiteboard, pen and eraser (per child)

- Say: **Tell your partner whether you have ever seen percentages used in shops or anywhere related to prices.** Ask some pairs to share their ideas. Establish that percentages are used to compare prices, and to reduce prices in sales.
- Display: Slide 1.
- Say: **The surf shop is having a sale. Everything is reduced by 10 per cent.** Choose one item and work out the new price.
- Point to the surf board and ask who has worked out the sale price. Choose a pair to share their working out.
- Work through it as a class. Say: **First we find 10 per cent of the non-sale price, by dividing £120 by 10. 10 per cent is £12. As the price is reduced, the 10 per cent needs to be subtracted from £120. The sale price is £108.** Record the working out on the board in the way you would like children to lay it out.
- Say: **Choose a different item and work out the sale price.** Check children's working out and discuss any steps that children have found tricky.
- Ask: **Do you think 10 per cent is a good reduction? Would it make you more likely to buy the items?** Discuss this as a class.
- Say: **After a week the surf shop still had lots of stock it wanted to sell, so they decided to reduce the original price of the items by 25%. Choose one item and work out the new price.**
- Point to the wet suit and ask who has worked out the sale price. Choose a pair to share their working out.
- Work through it as a class. Say: **First we find 25% of the non-sale price, by dividing £120 by 4 (as 25% is equivalent to one quarter). 25% is £30. The 25% is subtracted from £120 as the price is reduced. The sale price is £90.** Record the working out on the board.
- Say: **Choose a different item and work out the sale price if everything is reduced by 25%.** Check children's working out.
- Say: **After 2 weeks the shop reduced the items even more. I bought an underwater camera and paid £108. What per cent was it reduced by?** Ask pairs to share their ideas.

- Say: **This time we do not know the per cent it was reduced by, but we can work out how much I saved.** Write £180 – £108 = £72 on the board.
- Say: **By finding the difference in the prices, we know that I saved £72. I know that 50% would be £90 so the per cent saving is less than 50%.**

- Say: **Using jumps of 10% is a good way to work it out. What per cent of £180 is £72?** Choose a pair who have laid it out clearly and ask them to share their working. Establish that £72 is a 40% saving.

- Say: **After 3 weeks I bought some water skis and paid £106. What per cent were they reduced by?** Check children's working out and then work through it as a class.

Individualised Learning

Refer to Activity 3 from the Learning activities on page 431.

Pupil Book 5C: – Page 64: Shopping percentages

Progress Guide 5: – Support, Year 5, Unit 11, Week 2, Lesson 3: Ten per cent sale

Plenary

- Choose one of the problems from the Pupil Book page that children have found challenging and read it to the class.
- Discuss as a class how to work it out. Ask any children who have worked on the problem can contribute to the discussion.

- Ask: **What is the best way to solve this problem?** Ask pairs to share ideas.
- Work through the problem as a class.
- Repeat with a more challenging problem if appropriate.

Overcoming Barriers

- Children will not be able to work out percentages of amounts if they do not have an understanding of percentages and the equivalent fractions. Spend more time on this if needed.