Finding tenths and hundredths

National Curriculum attainment targets

- Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
- Understand the relation between non-unit fractions and multiplication and division of quantities, with particular emphasis on tenths and hundredths

Lesson objectives

- Count up and down in hundredths
- Use multiplication and division to find non-unit tenths and hundredths

Previous related lesson

Unit 6, Week 2, Lesson 1

Prerequisites for learning

Pupils need to:

- understand the number system and the place value of digits
- understand how to find non-unit fractions of amounts

Vocabulary

tenths, hundredths, numerator, denominator, place value

Future related lesson

None

Success criteria

Pupils can:

- use place value to find $\frac{1}{10}$ or $\frac{1}{100}$ of the amount
- multiply by the numerator to find the non-unit fraction

When dividing by 10 and 100, many children use the language "cross out the zero(s)". This can be problematic when dividing numbers that do not end in zero. Ensure sure that children understand why the zeros are not needed.

Getting Started

- Choose an activity from Number – Fractions.

Collins Connect
Year 4, Unit 6, Week 2

Teach

Resources

mini whiteboard, pen and eraser (per child)

- Say: **I am going to say a hundredth. Every time I clap my hands, you count on one hundredths.**
- Ask: **What hundredth have you counted up to?** Repeat several times, include some counting backward.
- Ask: **What do we need to divide by to find hundredths? Tenths?** Expect whole-class responses.
- Ask: **Do you think dividing by 10 is going to be simple or tricky?** Listen to children's responses.
- Say: **Dividing by ten is simple because ten is part of our place value system.**
- Display: Slide 1. Show 60 on the place value chart. Ask: **What is 60 divided by 10?** Establish that children should know the answer to this because of their times tables.
- Display: Slide 2 so six moves to the ones column. Say: **When we divide by ten, the number gets ten times smaller so the 6 tens becomes 6 ones, and the 0 placeholder is not needed. All the digits move one place to the right.**
- Ask: **What is one tenth of 60?** Write $\frac{1}{10}$ of 60 = 6.
- Ask: **What is four-tenths of 60?** Share children's ideas. Establish that, once we have found the unit fraction by dividing by the denominator ($\frac{1}{10}$), then we multiply by the numerator. Write $\frac{4}{10}$ of 60 = 24.
- Display: Slide 3. Show 130 on the chart.
- Ask: **What is going to happen to 130 if it is divided by 10?** Expect an explanation that focuses on the changing place value of the digits. Display: Slide 4.

- Say: **Work out five-tenths of 130.** Ask a child to show their working out. Establish that, to find five tenths, the value of one-tenth is multiplied by five.
- Display: Slides 5–6. Say: **When we divided by ten, the digits moved one place to the right. When we divide by 100, they move two places to the right.** Click to show this on the grid.
- Say: **So we divided 700 by 100 and the answer is 7, so one hundredth of 700 is 7.** Write: $\frac{1}{100}$ of 700 = 7.
- Say: **Work out fifteen-hundredths of 700.** Ask a child to share their working out.
- Display: Slides 7–8. Repeat for 1200.

Individualised Learning

Refer to Activity 3 from the Learning activities on page 249.

Pupil Book 4B: – Page 22: Finding hundredths and tenths

Progress Guide 4: – Extension: Year 4, Unit 6, Week 2, Lesson 3: Hundredths and decimals

Plenary

- Write on the board: $\frac{1}{10}$ of 57 = .
- Ask: **How can we work out one-tenth of fifty seven?** Children who completed the Extension sheet will already have used decimals, so ask them to be ready to contribute.
- Share children's ideas. Establish that, when the digits are moved one place to the right, the seven cannot just disappear like the zeros, as this will change the number.
- Say: **The seven has to move to the next place value column, which is tenths. One-tenth of fifty-seven is five point 7.**
- Repeat for: $\frac{1}{10}$ of 93 = .

Homework Guide 4

Year 4, Unit 6, Week 2, Lesson 3: Fraction practice

Overcoming Barriers

- Understanding hundredths is a key concept for children to help them to understand decimals. However, they need a solid understanding of simple fractions before moving onto hundredths.