Improper fractions and mixed numbers (1)

National Curriculum attainment target

- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]

Lesson objectives

- Recognise mixed numbers and improper fractions and convert from one form to the other
- Write mathematical statements > 1 as a mixed number

Previous related lessons

None

Prerequisites for learning

Pupils need to:

- recognise improper fractions
- understand when a fraction shows a whole, e.g. $\frac{4}{4}$

Vocabulary

improper fraction, mixed number, whole

Future related lessons

Unit 10, Week 2 , Lesson 2

Success criteria

Pupils can:

- read the improper fraction
- understand how many of that fraction make a whole
- use the visual image and convert to a mixed number

Getting Started

- Choose an activity from Number – Fractions.

Teach

Collins Connect
Year 5, Unit 10, Week 2

Resources

mini whiteboard, pen and eraser (per child)

1

- Display: Slide 1. Read the fraction to the class.
- Ask: **What is this kind of fraction called?** Remind children that when the numerator is larger than the denominator it is called an "improper fraction".
- Click to reveal the circles model for $\frac{7}{4}$. Say: **This diagram shows us what $\frac{7}{4}$ could look like. We would have one whole or four quarters, and three quarters left over.** Write $\frac{4}{4}$ under the full circle and $\frac{3}{4}$ under the other circle.
- Say: **We could say $\frac{7}{4} = \frac{4}{4} + \frac{3}{4}$.** Write this on the board as you say it.
- Ask: **What is another way to write $\frac{4}{4}$?** Establish that $\frac{4}{4}$ is the same as one whole.
- Say: **So $\frac{7}{4}$ can also be written as $1\frac{3}{4}$.** Write = $1\frac{3}{4}$ on the board next to the previous calculation.
- Say: **When we write whole numbers and fractions together they are called "mixed numbers".**
- Click to reveal the number line. Say: **We can see the same thing on this number line. Let's count seven quarters.**
- Count as a class along the number line. Stop at $\frac{7}{4}$ and write it on at the mark.
- Count along again. This time at 1 change to saying **1 and $\frac{1}{4}$, 1 and $\frac{2}{4}$, 1 and $\frac{3}{4}$.** Write $1\frac{3}{4}$ under the mark.
- Say: **Both these images show us how $\frac{7}{4}$ and $1\frac{3}{4}$ go together.**

2

- Display: Slide 2. Read the fraction and click to reveal the circles and number line.
- Say: **Using the images, write the fraction addition and the mixed number that go with $\frac{5}{3}$.**

- Share children's ideas and write on the board: $\frac{5}{3} = \frac{3}{3} + \frac{2}{3} = 1\frac{2}{3}$.
- Display: Slide 3.
- Say: **Using the images, write the fraction addition and the mixed number that go with $\frac{12}{5}$. For this fraction the whole number is higher than 1.**
- Share children's ideas and write on the board: $\frac{12}{5} = \frac{5}{5} + \frac{5}{5} + \frac{2}{5} = 2\frac{2}{5}$.
- Display: Slide 4. Repeat for $\frac{18}{7}$.

Individualised Learning

Refer to Activity 1 from the Learning activities on page 396.

Pupil Book 5C: – Page 36: Improper fractions and mixed numbers (1)

Progress Guide 5: – Extension, Year 5, Unit 10, Week 2, Lesson 1: Baking fractions

Plenary

Resources

mini whiteboard, pen and eraser (per pair)

- Write $3\frac{4}{5}$ on the board.
- Ask: **How can we change this mixed number to an improper fraction?**
- Children who have worked on Challenge 3 have already considered this. Ask them to be ready to contribute to the discussion.
- Ask some pairs to share their ideas. Work through it together as a class.
- Establish that 3 can be multiplied by 5 as we want to know how many fifths are in three wholes. Then we add on the four fifths.
- Draw a diagram to represent the mixed number if appropriate.
- Repeat for $4\frac{1}{2}$.

Homework Guide 5

Year 5, Unit 10, Week 2, Lesson 1: Changing fractions

Overcoming Barriers

- If children are finding this difficult focus on understanding and representing improper fractions visually.