

UNIT 4 *Fractions and Percentages*

Teaching Notes

Historical Background and Introduction

In this unit we revise the work on *fractions* and *percentages* that was covered in Y7 and Y8. It is important that you ensure that the concepts are understood and well practised, focusing particularly on the typical KS3 questions in the Exercises.

Routes

	Standard	Academic	Express
4.1 Equivalent Fractions	✓	(✓)	✗
4.2 Fractions of Quantities	✓	✓	✗
4.3 Operations with Fractions	(✓)	✓	(✓)
4.4 Fraction, Decimal and Percentage Equivalents	✓	✓	(✓)
4.5 Percentage Increases and Decreases	(✓)	✓	(✓)

Language

No new language is introduced in this unit.

Misconceptions

- that 5% is 0.5 (not, as is correct, 0.05)
- that 5% as a fraction is $\frac{1}{5}$ (not, as is correct, $\frac{1}{20}$)
- in general, $\frac{1}{a} + \frac{1}{b} \neq \frac{1}{a+b}$ or $\frac{2}{a+b}$, but $= \left(\frac{a+b}{ab} \right)$
- pupils often have difficulty understanding that the fraction $\frac{1}{8}$ as a decimal, is 0.125, and as a percentage is 12.5%
- pupils must understand that if the price of a product is decreased by 10% and then increased by 10%, the final price will *not* be the same as the original price

Challenging Questions

The following questions are more challenging than others in the same section:

	<i>Section</i>	<i>Question No.</i>	<i>Page</i>
<i>Practice Book Y9A</i>	4.1	9, 10	61
" "	4.3	11, 12	68-69
" "	4.5	14, 15	79-80