

Year 7 : Percentages Medium Term Plan

Percentages	Understanding Percentages	Define percentage as "number of parts per hundred" and understand that amounts can be represented as more or less than 100%.	
	FDP	Convert freely between fractions, decimals and percentages. Order fractions, decimals and percentages.	
	Expressing Quantities as a Percentage	Write amounts as a percentage of the whole including those over 100%.	
	Comparing two Quantities using Percentages	Compare two or more quantities as percentages when their whole is a different amount.	
	Percentage of Amount	Calculate percentages of amounts with both mental and calculator skills and knowledge. Understand the decimal multiplier and why this works.	
	Percentage Increase/Decrease	Calculate percentages increase/decrease with both mental and calculator skills and knowledge. Understand the decimal multiplier and why this works.	Discounts and inflation
	Planning a holiday	Number work (add, subtract, multiply and divide) Include % increase/decrease	

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	Simple Interest	Calculate simple interest using mental and calculator methods in context.	Bank Accounts
	Reverse Percentage	Calculate the original amount after a percentage change. Ensure that this is both after an increase or a decrease. Use both proportionality methods and equations.	
	Percentage Change	Be able to work out the percentage change by comparing two quantities.	
	Planning a holiday	Number work (add, subtract, multiply and divide) Include % increase/decrease	

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	Simple Interest	Calculate simple interest using mental and calculator methods in context.	Bank Accounts
	Reverse Percentage	Calculate the original amount after a percentage change. Ensure that this is both after an increase or a decrease. Use both proportionality methods and inverse.	
	Percentage Change	Be able to work out the percentage change by comparing two quantities.	
	Compound Interest and Depreciation	Calculate compound interest with the decimal multiplier and understand why it is compounded.	Bank Accounts
	Planning a holiday	Number work (add, subtract, multiply and divide) Include % increase/decrease	

Key Knowledge/Prior Learning KS2/Retrieval and Suggested Starters

- Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
- Solve problems involving the calculation of percentages
- Use of percentages for comparison
- Basic FDP
- Drawing percentages and fractions pictorially
- Fractions of amounts

KS3 National Curriculum – what students will be practicing

- Define percentage as 'number of parts per hundred'
- Express one quantity as a percentage of another,
- Compare two quantities using percentages, including work with percentages greater than 100%
- Percentage increase/decrease
- Reverse percentages
- Percentage change (interpret percentages and percentage changes as a fraction or a decimal)
- Simple interest
- Repeated percentage change

Specific Ambitious Knowledge

- Looking at real investments – ISAs, Savings accounts, bonds etc.

- Reverse percentage methods:
 - proportional reasoning
 - bar modelling
 - algebraic method
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Key Vocabulary/Literacy Opportunities

- Part
- Per hundred
- Increase/decrease
- Simple
- Compound
- Interest
- Depreciation

Key Formulae/Knowledge

- Percentage change: $(\text{change/original}) \times 100$
- Repeated Change: Amount X Multiplier^{repeats}

Cross Curricular Links

- Science
- Design Technology
- Food and Catering
- Sport
- Business studies

Student' Thinking

Projects/Enrichment/Investigations

- Matching FDP: <https://nrich.maths.org/1249>
- Doughnut Percents: <https://nrich.maths.org/6945>
- Dating mae easier: <https://nrich.maths.org/5636>
- Mathland election: <https://nrich.maths.org/775>
- Trusting the tabloids: <https://nrich.maths.org/12172>
- Percentage unchanged: <https://nrich.maths.org/515>
- FDP Murder mystery: <https://www.tes.com/teaching-resource/murder-mystery-fractions-decimals-and-percentages-606>
- Great Grandma's Will: http://www.mathematicshed.com/uploads/1/2/5/7/12572836/grandmas_will.pdf

Projects:

Core:

Planning a holiday

Upper:

Planning a holiday

Set 1:

Planning a holiday

Additional:

Car Sales Project