



Year 7 Numeracy

Learners are able to:

Develop Numerical Reasoning

Identify Processes and Connections

- ❖ transfer mathematical skills across the curriculum in a variety of contexts and everyday situations
- ❖ select, trial and evaluate a variety of possible approaches and break complex problems into a series of tasks
- ❖ prioritise and organise the relevant steps needed to complete the task or reach a solution
- ❖ choose an appropriate mental or written strategy and know when it is appropriate to use a calculator
- ❖ use a scientific calculator to carry out calculations effectively and efficiently using the available range of function keys
- ❖ identify, measure or obtain required information to complete the task
- ❖ identify what further information might be required and select what information is most appropriate
- ❖ select appropriate mathematics and techniques to use
- ❖ estimate and visualise size when measuring and use the correct units

Represent and Communicate

- ❖ explain results and procedures precisely using appropriate mathematical language
- ❖ refine methods of recording calculations
- ❖ use appropriate notation, symbols and units of measurement, including compound measures
- ❖ select and construct appropriate charts, diagrams and graphs with suitable scales
- ❖ interpret graphs that describe real-life situations
- ❖ interpret graphical representations used in the media, recognising that some graphs may be misleading

Review

- ❖ select and apply appropriate checking strategies
- ❖ interpret answers within the context of the problem and consider whether answers, including calculator displays, are sensible
- ❖ verify and justify results or solutions, including discussion on risk and chance where relevant
- ❖ interpret mathematical information; draw inferences from graphs, diagrams and data, including discussion on limitations of data
- ❖ draw conclusions from data and recognise that some conclusions may be misleading or uncertain

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Use Number Skills

Number Facts and Relationships

- ❖ read and write numbers of any size and use the four operations and the connections between them, e.g. realise that division is the inverse of multiplication
- ❖ recognise and apply key mental facts and strategies
- ❖ use appropriate strategies for multiplication and division, including application of known facts
- ❖ use the terms square and square root

Fractions, Decimals, Percentages and Ratio

- ❖ use equivalence of fractions, decimals and percentages to compare proportions
- ❖ recognise that some fractions are recurring decimals, e.g. $1/3$ is $0.333\dots$
- ❖ calculate percentages of quantities using non-calculator methods where appropriate
- ❖ use ratio and proportion including map scales
- ❖ Calculate using mental and written methods
- ❖ use efficient written procedures to add and subtract whole numbers and decimals with up to 2 decimal places
- ❖ multiply and divide 3-digit by 2-digit whole numbers; extending to multiplying and dividing decimals with one or two places by single-digit whole numbers
- ❖ multiply and divide whole numbers by 0.5, 0.2, 0.1
- ❖ use the order of operations

Estimate and Check

- ❖ use a range of strategies to check calculations including the use of inverse operations, equivalent calculations and the rules of divisibility
- ❖ use rounding to estimate answers
- ❖ present answers to a given number of decimal places

Manage Money

- ❖ use profit and loss in buying and selling calculations
- ❖ understand the costs, benefits and risks of using bank accounts, including bank cards
- ❖ make informal decisions relating to discounts and special offers

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Use Measuring Skills

Length, Weight (mass) and Capacity

- ❖ find perimeters of shapes with straight sides
- ❖ convert between units of the metric system and carry out calculations
- ❖ read and interpret scales on a range of measuring instruments

Time

- ❖ measure and record time in hundredths of a second
- ❖ use time zones

Temperature

- ❖ record temperatures in appropriate temperature scales

Area Volume and Angles

- ❖ use formula for the area of a rectangle and triangle
- ❖ measure and draw angles

Use Data Skills

Collect and record data present and analyse data and interpret results

- ❖ collect own data for a survey, e.g. through designing a questionnaire
- ❖ construct frequency tables for sets of data, grouped where appropriate, in equal class intervals (groups given to learners)
- ❖ construct graphs and diagrams to represent the data and reflect the importance of scale
- ❖ interpret diagrams and graphs (including pie charts)
- ❖ use mean, median mode and range to compare two distributions (discrete data)