UK National Curriculum Maths Unit 1

Level 1 Unit 1 - Mathematical processes and applications

1. The learner will participate in simple mathematical activities

1.1 I can use mathematics as an integral part of classroom activities [1]

1.2 I can represent my work with objects or pictures [2]

1.3 I can discuss what I am doing [3]

1.4 I can recognise and use a simple pattern or relationship [4]

Level 2 Unit 1 - Mathematical processes and applications

1. The learner will initiate mathematical activities and use mathematical techniques when explaining outcomes

1.1 I can select the mathematics to use in some classroom activities [6]

1.2 I can discuss my work using mathematical language [7]

1.3 I can explain my work using symbols and simple diagrams to help [8]

1.4 I can explain why an answer is correct [9]

Level 3 Unit 1 - Mathematical processes and applications

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1. The learner will solve mathematical problems, organise their work and discuss and interpret mathematical rules

1.1 I can try different approaches to solve problems [11]

1.2 I can organise my work and check results [12]

1.3 I can explain what I think when discussing mathematics [13]

1.4 I can use and interpret mathematical symbols and diagrams [14]

1.5 I can match specific examples to a general mathematical statement [15]

Level 4 Unit 1 - Mathematical processes and applications

1. The learner will solve straightforward mathematical problems, independently

1.1 I can develop a strategy for solving practical mathematical problems [17]

1.2 I can solve problems with a calculator [18]

1.3 I can solve problems without a calculator [19]

1.4 I can check my results are reasonable by considering the context or the size of the numbers [20]

1.5 I can find patterns and relationships [21]

1.6 I can present information and results in a clear and organised way [22]

1.7 I can search for a solution to a problem by trying my own ideas [23]

Level 5 Unit 1 - Mathematical processes and applications

1. The learner will use a range of mathematical techniques to

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explore mathematical situations, carrying out tasks and working on problems, arriving at safe solutions and presenting them in a way that is plausible to other people

1.1 I can identify the mathematical aspects of a task [25]

1.2 I can obtain necessary information to solve a problem [26]

1.3 I can calculate accurately, using ICT where appropriate [27]

1.4 I can check my working and results to make sure they are sensible [28]

1.5 I can describe situations mathematically using symbols, words and diagrams [29]

1.6 I can draw simple conclusions explaining my reasoning [30]

Level 6 Unit 1 - Mathematical processes and applications

1. The learner will carry out substantial mathematical projects, using analysis to solve complex problems communicating methods and outcomes and relating them to standard mathematical conventions

1.1 I can analyse a problem independently and systematically, breaking it down into smaller, more manageable tasks [32]

1.2 I can interpret and synthesise information presented in a variety of mathematical forms [33]

1.3 I can discuss mathematical information and relate derived information to the original context [34]

1.4 I can explain my mathematical diagrams orally and in writing [35]

1.5 I can justifify the outcomes to problems that are new to me [36]

Level 7 Unit 1 - Mathematical processes and applications

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1. The learner will explore mathematical models, including those represented in digital systems, demonstrating an understanding of mathematical form and its relationship with empirical data

1.1 I can find invariance in one aspect of a problem when another changes [38]

1.2 I can set up a mathematical model in a digital systems [39]

1.3 I can progressively refine or extend the mathematics I use to present my work [40]

1.4 I can give reasons for my choice of mathematical presentation and explain key features [41]

1.5 I can justify my generalisations, arguments and solutions [42]

1.6 I can identify equivalence to different problems with similar structures [43]

1.7 I can identify the difference between mathematical explanation and experimental evidence [44]

Level 8 Unit 1 - Mathematical processes and applications

1. The learner will consider the way they employ mathematics to solve problems and communicate ideas and as a result make further progress with their own learning

1.1 I can develop and follow alternative approaches [46]

1.2 I can compare and evaluate representations of a situation, introducing and using a range of mathematical techniques [47]

1.3 I can describe my own lines of enquiry when exploring mathematical tasks [48]

1.4 I can use mathematical symbols precisely and consistently to communicate meaning to different audiences in a sustained way throughout my work [49]

1.5 I can examine generalisations or solutions reached in an activity and make further progress in the activity as a result [50]

1.6 I can comment constructively on the reasoning and logic, the process employed and the results obtained [51]

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Level 9 Exceptional Performance Unit 1 - Mathematical processes and applications

1. The learner will reflect critically on their work in order to learn further and apply their wide range of mathematical knowledge to unfamiliar contexts using mathematical language and symbols

1.1 I can critically evaluate the strategies I adopt to investigate pure mathematics [53]

1.2 I can critically evaluate the strategies I adopt to solve practical mathematical problems [54]

1.3 I can explain why different strategies were used, considering the elegance and efficiency of alternative lines of enquiry or procedures [55]

1.4 I can apply the mathematics I know in a wide range of familiar and unfamiliar contexts [56]

1.5 I can use mathematical language and symbols effectively in presenting a convincing, reasoned argument [57]

1.6 I can include mathematical justifications, distinguishing between evidence and proof in mathematical reports [58]

1.7 I can explain my solutions to problems involving a number of features or variables [59]

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