



TQEA Mathematics - Key Stage 3 Assessment



Attainment Category	Attainment Grade	Descriptors
Emerging	1	Pupils use mathematics as an integral part of classroom activities. They represent their work with objects or pictures and discuss it.
	2	Pupils select the mathematics they use in some classroom activities. They discuss their work using mathematical language and are beginning to represent it using symbols and simple diagrams. They explain why an answer is correct. They recognise and use a simple pattern or relationship.
	3	Pupils try different approaches and find ways of overcoming difficulties that arise when they are solving problems. They are beginning to organise their work and check results. Pupils discuss their mathematical work and are beginning to explain their thinking. They use and interpret mathematical symbols and diagrams. Pupils show that they understand a general statement by finding particular examples that match it.
Developing	4	Pupils develop their own strategies for solving problems and use these strategies both in working within mathematics and in applying mathematics to practical contexts. When solving problems, with or without ICT, they check their results are reasonable by considering the context. They look for patterns and relationships, presenting information and results in a clear and organised way, using ICT appropriately.
	5	Pupils search for a solution by trying out ideas of their own. They show understanding of situations by describing them mathematically using symbols, words and diagrams. They draw simple conclusions of their own and explain their reasoning.
	6	In order to explore mathematical situations, carry out tasks or tackle problems, pupils identify the mathematical aspects and obtain necessary information. They calculate accurately, using ICT where appropriate. They check their working and results, considering whether these are sensible.
Secure	7	Pupils carry out substantial tasks and solve quite complex problems by independently and systematically breaking them down into smaller, more manageable tasks. They interpret, discuss and synthesise information presented in a variety of mathematical forms, relating findings to the original context. Their written and spoken language explains and informs their use of diagrams.
	8	Pupils begin to give mathematical justifications, making connections between the current situation and situations they have encountered before. They justify their generalisations, arguments or solutions, looking for equivalence to different problems with similar structures. They appreciate the difference between mathematical explanation and experimental evidence.
	9	Starting from problems or contexts that have been presented to them, pupils explore the effects of varying values and look for invariance in models and representations. They progressively refine or extend the mathematics used, giving reasons for their choice of mathematical presentation and explaining features they have selected.
Advanced	10	Pupils develop and follow alternative approaches. They compare and evaluate representations of a situation, introducing and using a range of mathematical techniques. They reflect on their own lines of enquiry when exploring mathematical tasks. They communicate mathematical or statistical meaning to different audiences through precise and consistent use of symbols that is sustained throughout the work.
	11	Pupils examine generalisations or solutions reached in an activity and make further progress in the activity as a result. They comment constructively on the reasoning and logic, the process employed and the results obtained. Pupils critically examine the strategies adopted when investigating within mathematics itself or when using mathematics to analyse tasks.
	12	Pupils explain why different strategies were used, considering the elegance and efficiency of alternative lines of enquiry or procedures. They apply the mathematics they know in a wide range of familiar and unfamiliar contexts. They use mathematical language and symbols effectively in presenting reasoned argument. Their reports include mathematical justifications, distinguishing between evidence and proof and explaining their solutions to problems involving a number of features or variables.