

‘Working Mathematically’: Lower Key Stage 2 (‘Phase B’)

Application

Ideas, questions and lines of enquiry	<ul style="list-style-type: none"> develops the mathematics they use in a wide range of contexts <ul style="list-style-type: none"> <i>makes suggestions of ways to tackle a range of problems</i> <i>makes connections to previous work</i> chooses equipment appropriate to the task independently <i>poses and answers questions related to a problem and suggests a range of possible approaches to the solution</i>
Represent and communicate	<ul style="list-style-type: none"> represents problems pictorially, using a model or with concrete resources - <i>restates the problem in another way</i> presents work in a clear and organised way - <i>uses and interprets a wide range of mathematical symbols and diagrams</i> begins to work in an organised way from the start using strategies such as recording results in order and checks for accuracy discusses their mathematical work and uses mathematical language in a more precise and accurate way
Plan an approach and implement it	<ul style="list-style-type: none"> uses facts and procedures to solve simple and more complex problems develops own strategies for solving problems and applying mathematics to practical contexts finds solutions that match the context of the problem
Computational complexity (Within the range of number facts known)	<ul style="list-style-type: none"> solves problems with more than one step at least one of which is more complex

Reasoning

Make connections	<ul style="list-style-type: none"> makes connections to previous work within mathematics and with other subjects poses and answer questions that will help make sense of the problem poses ‘What if?’ questions that may change the outcome or direction of the problem
Evaluate	<ul style="list-style-type: none"> suggests refinements to elements of problem solving by comparing other approaches and against ‘modelled’ examples
Draw conclusions	<ul style="list-style-type: none"> predicts conclusions and reason why when referring to work comments on whether the conclusion was expected makes valid inferences when referring to own work
Generalise	<ul style="list-style-type: none"> finds solutions and makes predictions by identifying patterns when working forms generalised rules in words, using concrete resources or own representation
Justify	<ul style="list-style-type: none"> justifies answers and solutions by referring to their work and support with examples

Problem solving strategies

<ul style="list-style-type: none"> identifies irrelevant information; uses lists and tables to identify and organise information uses informed ‘guess and check’ seeks a pattern draws a diagram or model seeks an exception breaks the problem down into simpler steps - <i>e.g. works backwards</i>
