

## ‘Working Mathematically’: Key Stage 1 (‘Phase A’)

### Application

<b>Ideas, questions and lines of enquiry</b>	<ul style="list-style-type: none"> <li>selects the mathematics they use in an increasing range of classroom activities                             <ul style="list-style-type: none"> <li>- <i>adopts a suggested model or systematic approach</i></li> <li>- <i>makes connections and applies knowledge to similar situations</i></li> </ul> </li> <li>chooses equipment appropriate to the task with support</li> <li>asks simple questions relevant to the problem and begins to suggest ways of exploring</li> </ul>
<b>Represent and communicate</b>	<ul style="list-style-type: none"> <li>describes a problem in their own words e.g. - <i>acts it out;</i> - <i>represents the problem pictorially or with concrete resources</i></li> <li>begins to develop own ways of recording - <i>uses and interprets familiar mathematical symbols and diagrams</i></li> <li>begins to organise work and check results - <i>shows evidence of method in responses</i></li> <li>discusses their mathematical work and begins to explain their thinking using appropriate mathematical vocabulary</li> </ul>
<b>Plan an approach and implement it</b>	<ul style="list-style-type: none"> <li>understands and uses known facts and procedures to solve simple problems</li> <li>uses familiar strategies and operations to solve problems within known mathematical concepts and procedures</li> <li>tries different approaches and finds ways of overcoming difficulties when solving problems – sometimes with support</li> </ul>
<b>Computational complexity</b> (Within the range of number facts known)	<ul style="list-style-type: none"> <li>solves problems with one or a small number of steps, where all steps are simple</li> </ul>

### Reasoning

<b>Make connections</b>	<ul style="list-style-type: none"> <li>recognises similarities to previous work through classroom discussion</li> <li>begins to use familiar elements of knowledge to tackle problems that are more unfamiliar or complex</li> <li>poses ‘What if?’ questions during practical problem solving opportunities</li> </ul>
<b>Evaluate</b>	<ul style="list-style-type: none"> <li>reviews their work by explaining why they have done something</li> </ul>
<b>Draw conclusions</b>	<ul style="list-style-type: none"> <li>predicts an answer or outcome <i>e.g. numbers in an extended sequence</i></li> <li>talks about findings by referring to own work</li> <li>explains why an answer is correct</li> <li>begins to make simple inferences when referring to own work</li> </ul>
<b>Generalise</b>	<ul style="list-style-type: none"> <li>understands a general statement by finding a particular example that match it</li> <li>begins to describe a pattern or sequence in words or using concrete resources or own representation</li> </ul>
<b>Justify</b>	<ul style="list-style-type: none"> <li>provides simple reasons for opinions</li> </ul>

### Problem solving strategies

- sorts information
- uses ‘guess and check’ strategy to solve unfamiliar problems
- begins to look for patterns in results while working and uses them to find other possible outcomes
- draws simple pictures or diagrams
- gives examples to match statements and ones that do not
- finds a starting point