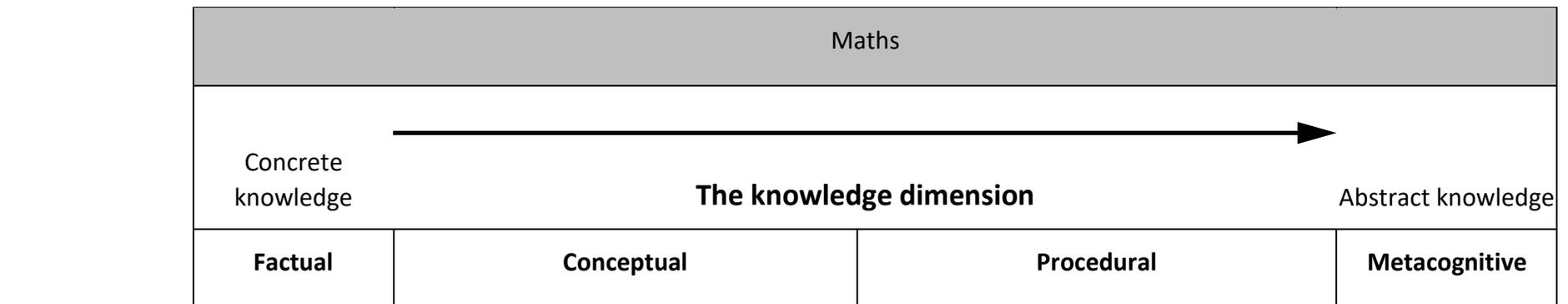


Maths					
					
		Concrete knowledge	The knowledge dimension	Abstract knowledge	
		Factual	Conceptual	Procedural	Metacognitive
Remembering	What is this number? Is this the correct symbol? Can you identify this Roman numeral? How many times...? What is 6×7 ?	What does this digit represent? Is this a 2D or a 3D shape? Which number comes next in the sequence? What time is it?	Can you order these numbers [from smallest to largest]? How should you set out this calculation correctly? What are the steps to solving this problem?	Which resources helped you to work it out? Have you used a similar method before? Can you think of a way to help you remember? Which strategy did you use?	

 The cognitive process dimension	Understanding	<p>How did you calculate this?</p> <p>Which method did you use?</p> <p>Why did you do it this way?</p> <p>Can you write this calculation in a different way?</p>	<p>Which clock shows the correct time?</p> <p>Can you identify the maths in the written problem?</p> <p>Can you classify these shapes?</p> <p>Which number/shape is the odd one out?</p>	<p>Can you continue the pattern or sequence?</p> <p>How would you explain this? What has gone wrong in this calculation?</p> <p>Will you have the same product if you swap the numbers?</p>	<p>What might help you understand this aspect of maths?</p> <p>Can you predict...?</p> <p>How does this resource help you?</p> <p>Why is that method the best? Is it the most efficient?</p>



 The cognitive process dimension	Applying	<p>What mathematical rule might apply here?</p> <p>What do you already about your times tables that might help you with this?</p> <p>How would you describe a [shape]?</p> <p>What is the inverse of...?</p>	<p>What other ways could you solve this problem?</p> <p>Can you explain to a friend how you worked out the answer? Why is there more than one correct answer to this problem?</p> <p>If you know that 4×5 is 20, then what is 40×5 and 400×5?</p>	<p>How would you use a calculator with this two-step problem?</p> <p>Can you use the same steps as before?</p> <p>What calculation strategy will you need to use to solve this problem? Can you identify where you might have gone wrong?</p>	<p>What have you learnt about in maths previously that might be useful in this unit of work?</p> <p>What strategies will you use to check your answers?</p> <p>What method of presenting statistics could you use to effectively compare your data?</p> <p>Do you need to adapt this task to support your preferred learning style?</p>
	Analysing	<p>Why is your answer correct?</p> <p>Could there be another outcome to this?</p> <p>How do you know the fraction is equivalent to the decimal?</p> <p>Is this set of numbers complete?</p>	<p>Is the mean average more useful than mode in this instance?</p> <p>Could you arrive at the same destination using fewer directions?</p> <p>Can both outcomes be accurate? Do the same rules apply for all these shapes?</p>	<p>Is there a more reliable/quicker method?</p> <p>Why was the answer different from your estimate?</p> <p>Is this method similar to another method you have used?</p> <p>Where did you make the mistake?</p>	<p>What do you already know about a different shape that might be useful?</p> <p>Do you know how to work through this problem?</p> <p>What are the most useful pieces of information in this problem?</p> <p>Would another example help you understand?</p>

Maths

		<div style="text-align: center;">  </div> <p style="text-align: center;">The knowledge dimension</p>			
		Concrete knowledge			Abstract knowledge
		Factual	Conceptual	Procedural	Metacognitive
Evaluating	<p>Are your calculation methods consistent?</p> <p>What are the differences between these two sets of data?</p> <p>Does this method work for all the calculations?</p> <p>Could you classify these shapes with the criteria you chose?</p>	<p>Are all these numbers relevant?</p> <p>Which estimate is likely to be most accurate? Why?</p> <p>How will you use this method for measuring much larger amounts?</p> <p>Can you simplify the formula if you know the value of x remains constant?</p>	<p>Why did you choose this alternative approach to solving the problem?</p> <p>Can you explain this calculation method?</p> <p>How would you work this out next time, based on what you have learned?</p> <p>Is there a way to improve the accuracy of your estimations?</p>	<p>If you were learning about this aspect of mathematics again, what would you do differently? Why? What helps you learn in mathematics? Why?</p> <p>What do you find most difficult about mathematics? Why? Which are the most useful mathematical rules and methods to remember and why?</p>	

 The cognitive process dimension	Creating	<p>What time does [event] happen during a normal day?</p> <p>Can you define this mathematical term?</p> <p>How many ways can you make this number?</p> <p>How many ways can you describe this shape?</p>	<p>Can you still solve the problem if you don't use subtraction?</p> <p>What questions could you ask to find out more information before you try to solve the problem?</p> <p>Can you decide the most appropriate intervals for the x axis and the y axis?</p> <p>Based on the area of the floor, can you improve the layout of the classroom/school/office/shop?</p>	<p>Can you create your own method to find the answer?</p> <p>What would happen if you changed a number/symbol/the order of the calculation...?</p> <p>What is the minimum number of times table facts you need to know?</p> <p>Can you improve the problemsolving steps?</p>	<p>What do you want to learn in this unit of work and why is it useful?</p> <p>Can you select work that demonstrates your learning and understanding?</p> <p>Can you describe what makes an outstanding mathematician? How will you develop your mathematical skills and knowledge in the future?</p>