






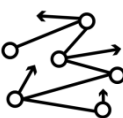






Math Tasks and Levels of Demand

DOK is about depth and complexity, not necessarily difficulty.

DOK 3 ~ Procedures with Connections	DOK 4 ~ Doing Mathematics						
 <p style="text-align: center;">Some cognitive effort</p>  <p style="text-align: center;">Multiple pathways; show >1 way using diagrams, symbols, problem solving</p>  <p style="text-align: center;">Make connections between multiple representations</p>  <p style="text-align: center;">Compare & contrast with evidence</p>  <p style="text-align: center;">Explanations to justify, written and/or verbal</p>  <p style="text-align: center;">More difficult numbers do not make it a level 3, if it's still just a procedure</p>	 <p style="text-align: center;">Considerable cognitive effort May cause anxiety</p>  <p style="text-align: center;">No explicit pathway or worked example</p>  <p style="text-align: center;">Complex problems with multiple steps (not just multiple procedures)</p>  <p style="text-align: center;">Explore relationships, concepts, processes, and limitations of solutions</p>  <p style="text-align: center;">Make real world applications in a new situation or to other content areas</p>  <p style="text-align: center;">Often requires extended periods of time</p>						
<p>Examples -</p> <ol style="list-style-type: none"> 1. Draw a model and explain 2. How does that array relate to multiplication & division? 3. Use a model to show the steps of the algorithm 4. Error analysis- locate error and justify solution 5. <table border="1" style="margin-left: 40px; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;">Strategy 1</td> <td style="padding: 5px;">Strategy 2</td> </tr> <tr> <td style="padding: 5px;">Explain</td> <td style="padding: 5px;">Explain</td> </tr> <tr> <td style="padding: 5px;">Check w/algorithm</td> <td style="padding: 5px;">Check w/algorithm</td> </tr> </table>	Strategy 1	Strategy 2	Explain	Explain	Check w/algorithm	Check w/algorithm	<p>Examples -</p> <ul style="list-style-type: none"> • Create a real world situation for $\frac{2}{3} \times \frac{3}{4}$, solve without using an algorithm, and explain the solution • Give a task that does not have a clear solution path; students solve and justify • Why does plan A of the Smartphone plan start out cheaper but become more expensive in the long run? Justify your answer. • Describe what would happen to the volume of a rectangular prism if you doubled all of the dimensions? Explain. • Use integers to fill in the blanks to find a value for "t" that results in a solution that is greater than 1. $\underline{\hspace{1cm}} t + \underline{\hspace{1cm}} = -1$
Strategy 1	Strategy 2						
Explain	Explain						
Check w/algorithm	Check w/algorithm						