

[Ways into maths: Making the most of worked examples](#) (EEF blog, 20.09.22)

EEF Content Specialist, **Kirstin Mulholland**, introduces our new case studies which exemplify how three schools have used worked examples to prompt pupils to evaluate the use of different problem-solving strategies and develop metacognitive thinking.

I use worked examples to help pupils have an increased awareness of the variety of possible approaches to a single problem. I think this helps them understand that there are multiple possible ways to be successful, whilst also encouraging them to critique different strategies.

The worked examples produced by **Mari Palmer**, HT at Settrington All Saints' Church of England Primary in North Yorkshire, are just one in a series of new case studies, published by the EEF today.

Drawing upon **Recommendation 3** of the EEF [Improving Mathematics at KS2 and KS3](#) guidance report, these case studies show how teachers from both primary and secondary schools use worked examples to present problems and solutions together, prompting pupils to compare and evaluate the use of different problem solving strategies and develop metacognitive thinking.

Using [worked examples](#) ('Using worked examples to support mathematical problem solving', May 2022) reduces pupils' cognitive load by removing the need for them to carry out the procedures required to reach a solution and, instead, focusing attention on the reasoning and strategies involved.

There are often various ways to approach a problem. Providing pupils opportunities to explore these different strategies in more detail – to identify similarities and differences, to unpick the approaches used and consider why they have been selected – can provide a powerful opportunity to develop mathematical understanding, as well as metacognition. This also allows for discussion about the advantages and challenges of different choices, supporting pupils to critically evaluate these, using the knowledge gained to inform their future actions.

We hope that these case studies can support teachers and school leaders to consider how they might use worked examples in their own contexts to deepen understanding of problem-solving through encouraging pupils to reflect upon the choices they can make during problem-solving and – crucially – the rationale underpinning these. This means focusing in on what we do during problem-solving, and why we do this, so that pupils can see first-hand what successful problem-solving looks like.