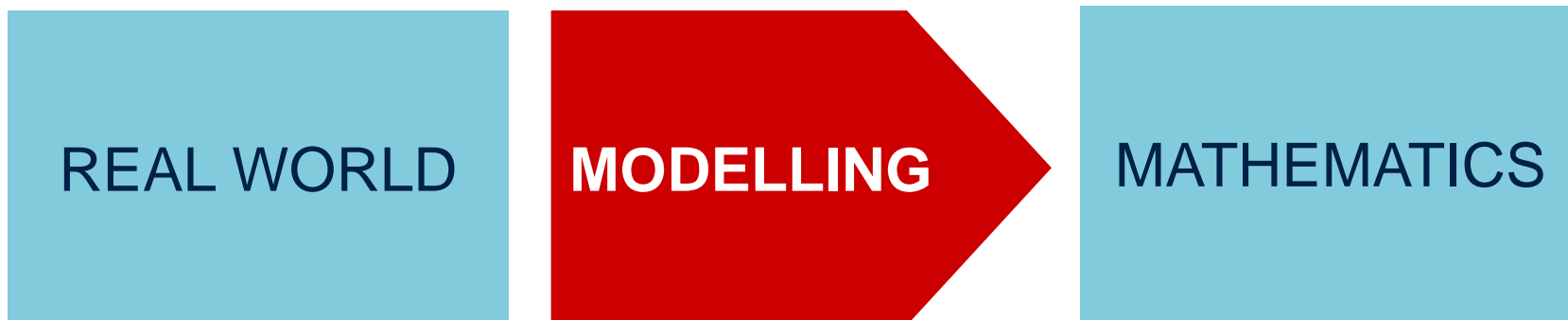




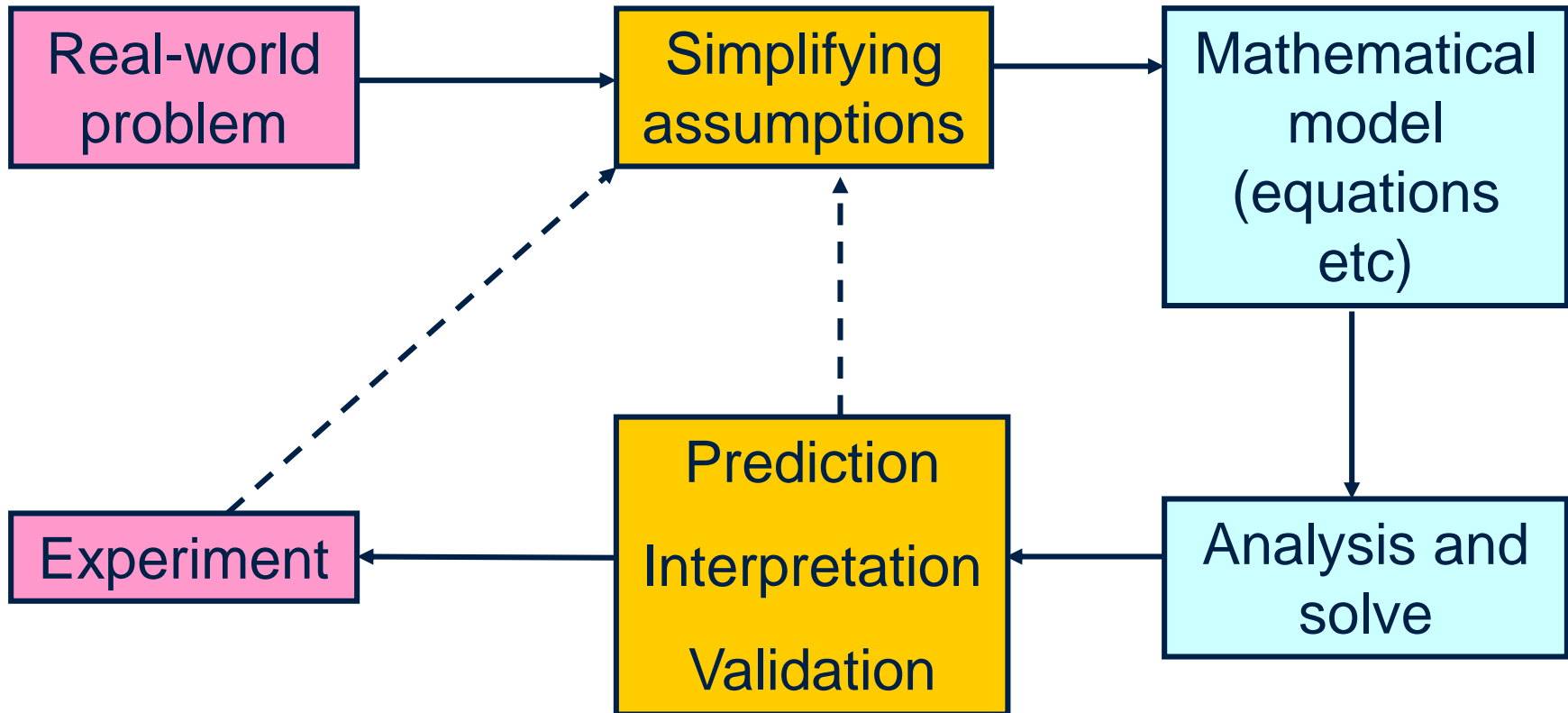
**Advanced Mathematics
Support Programme®**

Making a mathematical model

- A model is a representation of a real situation.
- A real situation will contain a rich variety of detail.
- A model of it will simplify reality by extracting those features which are considered to be most important.



The modelling process



The problem

Traffic Calming

A common way to control the speed of cars in hospital grounds or in residential areas is to place speed bumps on the road.

These force drivers to slow down or risk damage to their cars.

On a new housing estate it is decided to use a speed bump that restricts speed over it to 5 mph.



Problem:

How far apart should the bumps be placed so that the speed of cars around the estate is kept below 20mph?

Refining a model

- How reasonable is the answer? •••
- Is it an over or an under estimate?
- How could the model be improved to give a better estimate?
- What effects would the refinements have – how would you go about calculating these?



Justify your thinking

About the AMSP

- A government-funded initiative, managed by MEI, providing national support for teachers and students in all state-funded schools and colleges in England.
- It aims to increase participation in AS/A level Mathematics and Further Mathematics, and Core Maths, and improve the teaching of these qualifications.
- Additional support is given to those in priority areas to boost social mobility so that, whatever their gender, background or location, students can choose their best maths pathway post-16, and have access to high quality maths teaching.

Contact the AMSP



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