2   The modelling cycle

The narrow boxes represent states of the modelling process. The wide boxes describe the actions that move from one state to the next. These match the Key Processes in the Programmes of Study.

Situation

Simplify and represent

- identify the problem
- simplify and represent the problem
- select information, methods and tools

Mathematical model

Analyse and solve

- make connections with what you already know
- visualise; draw diagrams
- systematically change variables
- look for patterns and relationships
- make calculations and keep records
- make conjectures and generalisations
- use logical, deductive reasoning

Solution

Interpret and evaluate

- form conclusions, arguments and generalisations
- consider appropriateness and accuracy
- relate back to the original situation

Is the solution good enough?

NO

YES

Communicate and reflect

- communicate and discuss findings effectively
- consider alternative solutions
- consider elegance, efficiency and equivalence
- look for connections to other problems

Report