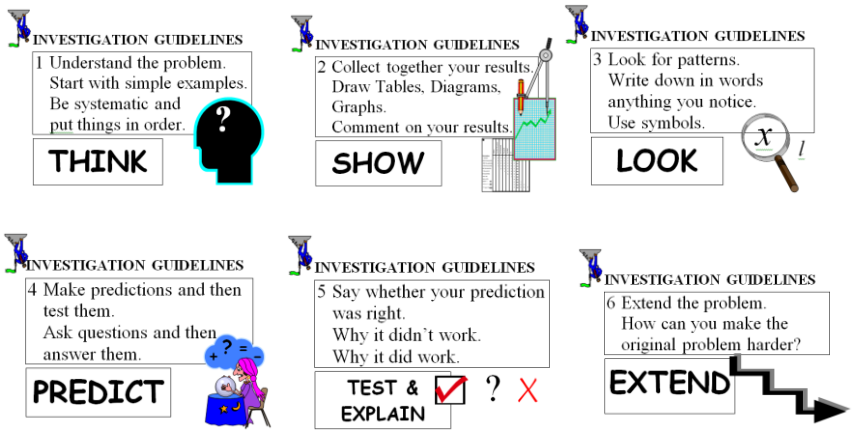
Year 7 – Unit 5 – Staircases – Knowledge Organiser

Objective
Understand the problem, starting with simple examples
Work systematically and tabulate your results, drawing graphs if appropriate
Look for patterns and describe what you see, using algebra if you can
Make predictions and test them
Explain your results, evaluate your findings then extend the problem

Key Facts

Mathematical investigations follow a standard process:



Mathematical Content

Problem solving

Being systematic – start by drawing diagrams

Looking for patterns – this could include finding the next term in a sequence or finding the nth term

Using mathematical understanding of the problem to make a prediction and then test it

Key Concept Check

Good mathematical investigations test your thinking skills, enabling you to learn by taking a systematic approach to solving the problem.

Key words used in this unit:

Systematic – Taking a systematic approach means to start with a simple example then working out the next one and continuing in a sensible order

Predict – Make an educated guess about what you think will happen next based on any patterns you see

Explain – Describe your thinking and write down your ideas

Extend – Take the problem further with more complex examples

Evaluate – Talk about your findings and how your investigation can be improved