

Thematic overview and selection criteria

FOCUS: SCIENCE AND INVESTIGATIONS

Beyond Certainty

The greatest scientific discoveries often begin by questioning what we think we know… and daring to explore beyond. Through curiosity, evidence and imagination, students will delve deeper into extraordinary phenomena, emerging ideas and the unanswered questions that continue to reshape our understanding of the world. Beyond certainty lies possibility, and every answer invites a new question.

Think again: Question — Test — Reconsider

Program outcomes

In this program, students will explore specialty areas of science, using the historical discoveries of famous scientists as a springboard for exploration in our modern sciences. Through the *Into The Unknown* workshops, students will:

- Employ analytical and investigative skills to develop logical thinking and critical justifications.
- Utilise various applications of the 'Scientific Method' through posing questions, developing and testing hypotheses, and drawing conclusions.
- Learn more about the mechanics, construction, operation, and wonder of the natural world
- Have their curiosity ignited, to enable further interest, passion, and investigation into the modern sciences.

Top 20 prompts for student selection considerations

To assist you (the teacher) in nominating students for this program, we have compiled a series of 20 prompts that may help hone your judgement as to student suitability. Although these prompts are helpful, please remember they are only a guide.

Student selection can be informed by different means, from formal testing and professional reports, through to anecdotal records or observed behaviours.

As this program has been specifically developed for high potential and gifted children, as well as those with a very keen interest and ability in in their scientific skills, the students you select should demonstrate some (but not all) of the following characteristics. It is important to consider that these characteristics may not necessarily be reflected in a student's achievement and performance at school.

A student who is suitable for this program may:

- Possess advanced reasoning and logical thinking skills.
- Demonstrate ability and interest in dealing with abstraction, identifying relationships and patterns, drawing connections between concepts, generalising from facts, organising and ordering of information, and inferring meaning.
- Demonstrate intellectual curiosity, in the many specialised disciplines of science.
- Demonstrate tolerance for ambiguity.
- Be attracted to complexity.
- Often asks questions that begin with 'Why' and 'How'.
- Have a well-developed vocabulary and/or memory.
- Learn easily, readily and/or rapidly and complete classwork quickly
- Demonstrate interest in how machines work, biological processes, and other investigative and problem-solving activities.
- Be open-minded when an 'answer' is not obvious.
- Be emotionally intense.
- Maintain a strong sense of order.
- Demonstrate fluency of ideas, original/divergent thinking, and intellectual risk taking.
- Demonstrate passion and interest in the sciences outside of the classroom (may be short lived or long standing).
- Demonstrate a long attention span, supporting concentration and perseverance with solving problems and pursuing interests (not necessarily school-related).
- Exhibit keen and/or advanced observation skills.
- Demonstrate alertness, be highly motivated and respond quickly to new ideas.
- Demonstrate superior Numeracy and/or Literacy knowledge, skills and understanding, particularly those involving problem-solving.
- Show alertness and respond quickly to new ideas.
- Enjoy hands-on activities involving manipulatable materials/equipment (e.g., LEGO, boardgames, etc.)