Mathematics SL / HL : Exploration

Name:	**Date set:**
Stimulus/Title: Example 20: Model a cooling cup of Tea	**Date submitted:**

The following points could be useful to consider.

- Syllabus topics covered
- Background information
- Purpose of the task
- Previous exposure to relevant concepts/skills
- Previous exposure to relevant terminology
- Available technology
- Teacher expectations regarding technology

General comments

A Communication (4)

A4—Brief aim. Easy to read, logical, detailed. Clear aim (although the student does stray from it slightly). Coherent work through transformations required to obtain model. Returns to original question at end to fulfil aim – complete.

B Mathematical presentation (3)

B2—Tables displaying data and units and clear. Labels on axes not always clear but appropriate graphs throughout. Misuse of words “scatter graph”, “constants”. Variables clearly defined.

C Personal engagement (4)

C3—Application of area of mathematical interest to real-life situation. Conducts own experiment. Comparison of different approaches to produce models. Looks for different ways to explore problem.

D Reflection (3)

D3—Reflects on nature of problem. Reflects on degree of accuracy of results. Constantly comparing models. Reflects on possible reasons for discrepancies between model and real-life data and considers ways to analyse this.

E Use of mathematics (6)

E4—Good initial analysis of results. Understanding of transformations of graphs and exponentials/natural logarithms (commensurate with syllabus) clearly demonstrated. Correct calculations throughout. Lacks sophistication and rigour expected.