**Scientific Studies**

**Checklist for students when preparing the Proposal for the Individual Inquiry**

There are some particular features in the subject outline that need to be addressed in the proposal for the school assessment of the Individual Inquiry.

The following questions help to guide students through those aspects.

Teachers may also find that these questions are useful when reviewing students’ drafts and /or providing feedback for students before they begin their investigation.

Consider the focus of the investigation:

* Have I chosen to investigate or design something that is related to the focus of my Scientific Studies course?
* Have I briefly explained the science behind the investigation?
* Have I chosen to investigate or design something for which the outcome is uncertain? (If there is an existing design or method for what I want to investigate, I will need to think of something different)
* Have I chosen something that is possible to do in my context? Is the equipment likely to be available? Will there be time to complete it? Do I have the skills to undertake it?

Consider the deconstruction

* Have I considered a range of aspects that might impact on the problem?
* Have I explained how these factors or variables impact on the problem?
* Have I justified the one factor or design I have chosen to concentrate on?

Consider the design (Scientific Method)

* Is there a suitable hypothesis or starting point for the design expressed in an appropriate way?
* Are the different kinds of variables (independent, dependent, uncontrolled) identified and explained in sufficient detail?
* Is there a list of materials to be used and are they justified?
* Can the method be followed by someone else without any further explanation?
* Can the method realistically be implemented?
* Is it clear what is to be measured and how it is to be measured in order to obtain results?
* Are there measureable outcomes to indicate the success of a prototype?
* Is the sample size suitable and justified?
* Is the range for the independent variable reasonable and justified?
* Does the blank data table show how the collected data will be recorded?

Consider a possible prototype (Engineering design)

* Is there a problem, need or opportunity identified, supported with research?
* Is there a sketch of a prototype?
* Have I identified the materials to be used? Have I justified them? What testing and measurements will provide evidence for their use in the model?
* Have the various components of the design that lead to a solution to the problem been identified and explained or justified?
* Have I determined the criteria for success for the model or solution?
* What testing and measurements of the components will provide evidence for their use in the model? How will you measure these?
* Is there a blank data table to show how the results will be recorded?
* As a result of each test, what are some changes I might make to the design to change the model for re-testing?
* Have I considered any other way of providing evidence of this investigation?

Consider the presentation of the evidence:

* Have I chosen the best method (written, diagrammatic, photographic etc) to show my thinking and my plans?
* Does this evidence meet the requirements in the subject outline? (4 sides of an A4 page if written or diagrammatic, or the equivalent in multimodal form.)

*Please note:* This series of questions is not designed to be answered one by one in the development of a Proposal but to provide students with prompts to think about when working on their Proposal.