

# Designing a Science and Technology Unit of Work

The Board of Studies' *Limited Evaluation of the Science and Technology K-6 Syllabus and Support Document* identified the need for more effective planning of Science and Technology learning experiences.

The table below suggests processes that might be employed by teachers to design effective units of work.

## Stages in designing a unit of work

Identify the focus of the unit using:

- the school plan
- the class plan for the year.

Identify specific outcomes to be addressed by the unit. All units of work should include:

- process outcome(s)
- content strand outcome(s)
- values and attitude outcome(s).

Analyse outcomes in relation to key words and underpinning ideas or concepts. Additional outcomes may be added as the unit is further developed and implemented.

Assess students' prior learning. Canvass points of interest or curiosity.

**Note:** In **all** units of work, students will develop process skills relating to investigating, designing and making, and using technology. Since process outcomes will be re-visited regularly, their development can be addressed in a structured manner.

On the other hand, specific scientific and technological concepts will be addressed less regularly, i.e. re-visited at different times from Early Stage 1 to Stage 3, according to a school plan of scope and sequence. Under these circumstances it is important to take more formal steps in assessing students' prior learning.

Identify general ideas or themes that will engage the range of students.

Consider:

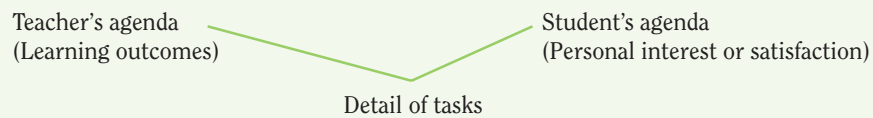
- areas of interest or curiosity
- issues that may impact on the learning of boys and girls
- social and cultural diversity of the class
- the range of students' prior learning
- the use of an STS (science, technology, society) model of learning. It is essential to teach scientific–technological concepts in a social context.

Identify resources that may be used in the implementation of the unit of work.

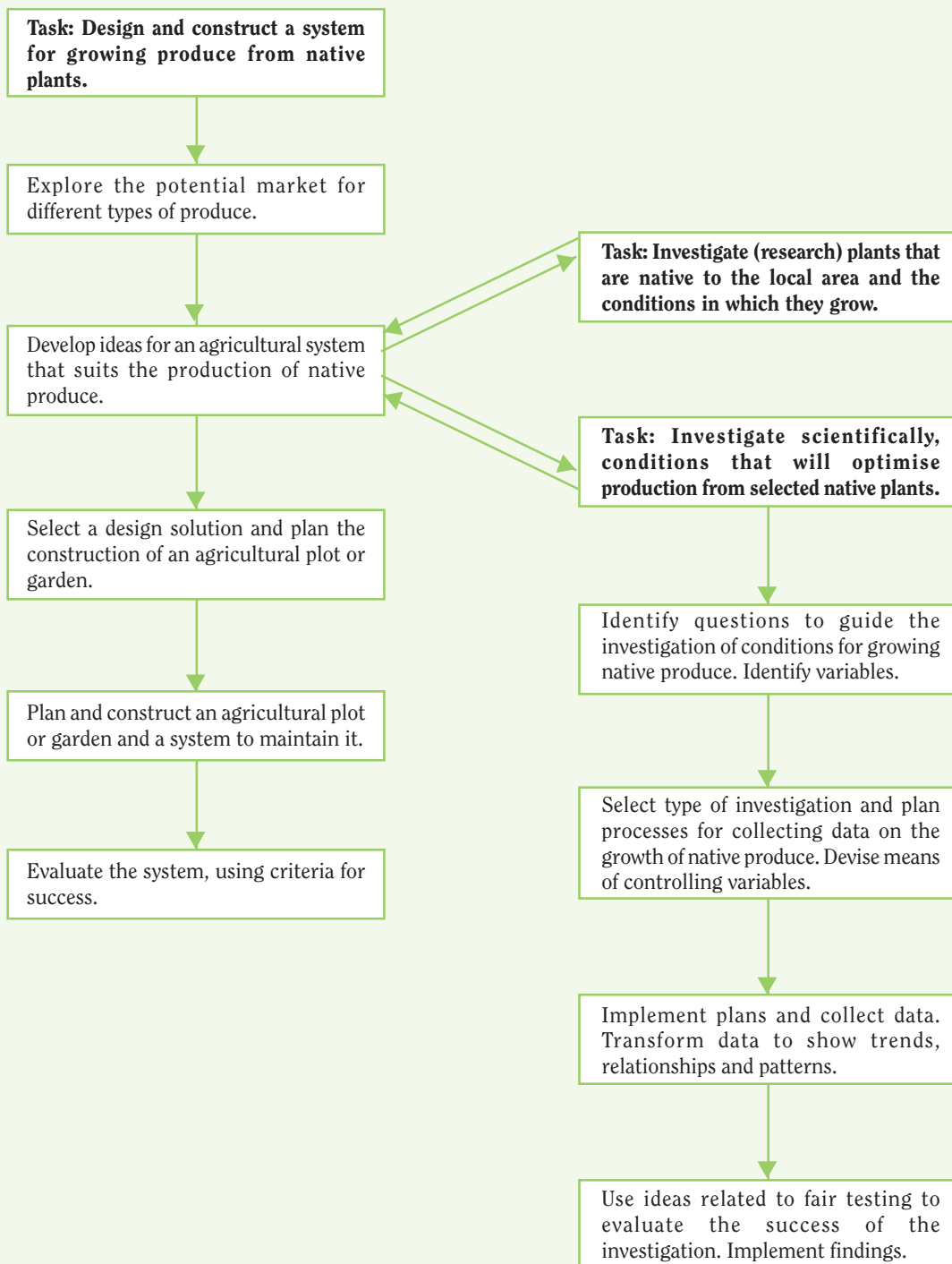
Generate ideas for tasks that will clearly address outcomes that are the focus of the unit of work.

The stated task must be sufficiently open-ended to encourage creativity, yet specific enough to direct learning toward the targeted learning outcomes.

All tasks must address both process outcomes and content outcomes. Each task will provide a pathway between students' interests and targeted outcomes.



Use tasks to develop a logical sequence of activities. The sequence of activities must relate to elements in the processes of investigating, designing and making, and using technology, e.g.



Devise learning experiences that suit particular tasks and activities.

Use teaching strategies to stimulate and encourage student engagement with tasks and activities, i.e. to create learning experiences.

Identify specific resources required to support learning experiences.

Devise an assessment program for the unit. In an assessment program, a range of strategies will be used to assess student progress towards achievement of the targeted learning outcomes.

Assessment programs should make allowance for the recognition of learning that occurs incidentally during the unit of work.