Teacher

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Queensland Agriculture Syllabus alignment

ForestLearning curriculum scan of current resources available on the ForestLearning webpage for alignment to the new Queensland **Agricultural Science** Syllabus. Links to the **Biology**, **Chemistry** and **Earth and Environmental Science** Syllabuses are mentioned specifically.

1. A closer look at rainforests (1 lesson)
   This learning resource has limited application within the Agricultural Science Syllabus, but it would match well with Biology Unit 3: Biodiversity and the interconnectedness of life. It ties in to this unit in a number of ways and is the topic of all 3 mandatory practicals. Also matches Earth and Environmental Science: Unit 2 – Topic 3 – Energy for biogeochemical processes.

2. Agroforestry – Trees at work on the farm (1 week)
   An excellent match to work from Unit 2 – Topic 1 – Management of renewable resources. It also could be revisited for Unit 4 – Topic 2 – Evaluation of an agricultural enterprises sustainability. Could also be used in Earth and Environmental Science: Unit 3 – Topic 2 – Use of renewable earth resources.

3. Calendar of operations for an enterprise production cycle (1 lesson)
   This lesson could be used in Unit 2 – Topic 3 – Agricultural management, research and innovation or in Unit 3 – Topic 3 – Agricultural enterprises B.

4. Carbon and its storage in forest and wood products (1 lesson)
   This lesson is about the carbon cycle and carbon sequestration. Unit 3 – Topic 2 – Plant production B as well as Unit 2 – Topic 1 – Management of renewable resources.
   Also applicable to Biology: Unit 3 – Topic 2 – Ecosystem dynamics and Earth and Environmental Science: Unit 2 – Topic 3 – Energy for biogeochemical processes and Unit 3 – Topic 2 – Use of renewable earth resources.

5. Consumer requirements for commercial plant products (1 lesson)
   This lesson discusses market suitability of different forestry products. Unit 2 – Topic 3 – Agricultural management, research and innovation and Unit 3 – Topic 3 – Agricultural enterprises B.

6. Current technology in forestry plant production (1 lesson)
   This lesson looks at the innovations that are used in forestry production. Unit 2 – Topic 3 – Agricultural management, research and innovation and Unit 3 – Topic 3 – Agricultural enterprises B.

7. Depth study: Module 2 – scientific models (1 lesson – but could easily be stretched to more)
   Can be used in Earth and Environmental Science – Unit 1- Topic 1 – Earth systems and models and Topic 2 – Development of the geosphere.

8. Depth study: Module 1 – scientific models (1 lesson)
   This lesson has been adapted to Unit 1 – Topic 1 – Agricultural enterprises A. See us at the conference for more information! Can also be used in Earth and Environmental Science – Unit 1 – Topic 1 – Earth systems and models.

9. Discovering my native forest (1 lesson)
   This resource is aimed at a younger audience but would be easily adapted. It is a good match for teaching sustainability in Unit 2 – Topic 1 – Management of renewable resources. Also, a match for Biology: Unit 3 – Topic 1 – Describing biodiversity and Topic 2 – Ecosystem dynamics.

10. Enhancing biodiversity in the Australian Environment – (1 lesson)
    Biology: Unit 3 – Topic 1 – Describing biodiversity and Topic 2 – Ecosystem dynamics.

11. ForestLearning Tree carbon storage tape measure (resource)
    Use this resource in conjunction with the lesson "Carbon and its storage in forest wood products" and "Forestry and carbon sequestration for both Agricultural Science, Biology and Earth and Environmental Science.

12. Forestry and carbon sequestration (1 lesson)
    This lesson has many applications to the syllabus. It gives an opportunity to engage in a simple graphing activity through data review. Can be used in Unit 1 – Topic 2 – Plant production A or Unit 2 – Topic 1 – Management of renewable resources. Also applicable to Biology: Unit 3 –Topic 2 – Ecosystem dynamics and Earth and Environmental Science: Unit 2 – Topic 3 – Energy for biogeochemical processes.

13. Forests and their impact on water quality and quantity (1 lesson)
    This water quality lesson can be utilised to enhance learning in Unit 2 – Topic 1 – Management of renewable resources. Related to the mandatory practical on water quality for this unit. Also applicable to Biology: Unit 3 – Topic 1 – Describing biodiversity and Topic 2 – Ecosystem dynamics. Could also be used in Earth and Environmental Science: Unit 3 – Topic 2 – Use of renewable earth resources.

14. Geographical Information System (1 lesson)
    Unit 2 – Topic 3 – Agricultural management, research and innovation. This lesson could be combined with the introduction or further use of VegMachine.

15. Going bush – Innovative ways of keeping the home fires burning (1 lesson)
    Unit 2 – Topic 3 – Agricultural management, research and innovation.

16. Going bush – residue from the one tree goes in to making fine copy paper (1 lesson)
    Unit 2 – Topic 1 – Management of renewable resources. Could also be used in Earth and Environmental Science: Unit 3 – Topic 2 – Use of renewable earth resources.

17. How is carbon stored in wood products? (1 lesson)
    Related to the carbon cycle - Unit 3 – Topic 2 - Plant production B. Also, Biology: Unit 3 – Topic 2 – Ecosystem dynamics and Earth and Environmental Science: Unit 2 – Topic 3 – Energy for biogeochemical processes.

18. Interactions between subsystems on a farm (1 lesson – this lesson has been adapted to a lesson sequence for Unit 1 – Topic 1 – Agricultural enterprises A).

19. Managing competition between forestry plants (1 or more lessons)
    This unit could be extended to discuss competition between trees and grass and could even encompass discussion of the vegetation management laws. Unit 2 – Topic 2 – Plant production B. Also applicable to Biology: Unit 3 –Topic 2 – Ecosystem dynamics.

20. Pest and disease in the plantation forestry industry (1 lesson)
    A case study of 1 pest and 1 disease in plantation timber. Unit 2 – Topic 2 – Plant production B. Could be used in Biology: Unit 2 – Topic 2 – Infectious disease.

21. Practical investigations of soil (1 lesson or more)
    This is a guide that could be used in the development of the mandatory practical for Unit 2 – Topic 2 – Physical resource management. Can also be used in Earth and Environmental Science – Unit 1 – Topic 2 – Development of the geosphere.

22. Socio-political issues in forestry (1 lesson)
    Unit 2 – Topic 3 – Agricultural management, research and innovation or Unit 4 – Topic 2 – Evaluation of an agricultural enterprise's sustainability.

23. The interaction of genotype, environment and management in the forestry industry (1 lesson or more)
    This lesson could be taught in Unit 1 – Topic 2 – Animal production A, where there is a section on genes and the inheritance of traits which is to be taught for both plants and animals. Also applicable to Biology: Unit 4 – Topic 1 – DNA, genes and the continuity of life.

24. The story of carbon interactive game (part of a lesson)
    While aimed at a younger audience, I would use this when teaching the carbon cycle in senior.. minor adaptations needed. Unit 3 – Topic 2 – Plant production B. Also use in Biology: Unit 3 - Topic 2 – Ecosystem dynamics and Earth and Environmental science: Unit 2 – Topic 3 – Energy for biogeochemical processes.

25. Wood as a renewable and energy efficient resource (part of a lesson).
    As with 24, aimed at a younger audience, however is a good introduction/reminder about renewable and non-renewable. Ties in with Unit 2 – Topic 1 – Management of renewable resources. Could also be used in Earth and Environmental Science: Unit 3 – Topic 1 – Use of non-renewable earth resources and Topic 2 – Use of renewable earth resources.