Plants for Food and Fibre Review

How do we produce useful plant products? What techniques do we use, what knowledge are they based on, and how do we apply these techniques in a sustainable way? How can we grow plants without harming the environment?

Key Concepts (Unit At A Glance Science Focus 7 p. 180) Links to Topic Notes provided	Guiding Questions and Activities to Help you Study
Topic 1 Plants interact with soil, water and air, as they cycle nutrients, provide food and create habitats. Plants for Food, Fibre, Medicine, Fuel, Transportation and Construction	- Describe why plants are critical to the environment and to people? - How do plants adapt to different growing conditions? - What variations in roots, stems and leaves, help different species of plant, survive in their own particular environment? - Give examples of plants that are used, as a food source for people, in medicine and as raw materials in the manufacturing industry.
Topic 2 Diffusion Osmosis Plant adaptations Structural variations of plants	- What is diffusion? - What is osmosis? - Describe the structural variations in roots, stems and leaves. - How do structural variations help a plant adapt?
Topic 3 Selective Breeding Vegetative Reproduction Seed plant Reproduction	- Describe the various ways that a plant can reproduce asexually. - Sexual reproduction in plants is complex process - describe the various components of this process and the structures that are involved. - How are new species of plants developed? - What is selective breeding? Give various examples of how this practice has been successful and what negative consequences have resulted from this practice.
Topic 4 Agricultural practices Crop varieties Greenhouses and Forestry	- Describe a variety of farming practices past and present. How has technology influenced these farming practices? - Describe a variety of forestry practices past and present. How has technology influenced these forestry practices? - What is meant by sustainable development?
Topic 5 Soil profile Fertilizers Soil quality Hydroponics	- Describe what makes soil and what determines the health of soil. - What components are fertilizers made of? - What consequences (positive and negative) does the use of this chemical additive to the soil have for the environment? - How can plants be grown in soil-less environments?
Topic 6 Types of Pests Controlling Pests - Chemical - Biological Bioaccumulation Organic Food production	- Explain, various farming practices and how technology has influenced their growth or decline. - What effect has monocultures had on the agricultural community? - How are pests controlled in Alberta? - What is meant by the term bioaccumulation? - What are some negative impacts, as a result of chemical and biological pest control techniques? - Describe an alternative agricultural practice, such as organic farming?

Design a Concept Map linking the ideas introduced and reinforced in this Unit on Plants for Food and Fibre

Try some of the **Practice Quizzes** to see how much you have recalled from this Unit

These Internet links may help you find out more information about the key concepts from this Unit.

plant propagation and **reproduction**
life processes and **structure of plants**
fertilizers and **soil nutrients**
chemical (**pesticides**) and **biological controls**
selective breeding
monocultures
resource management
sustainability