Section 3.1
How Changes Occur Naturally in Ecosystems
Study Notes

By the end of section 3.1 you should be able to understand the following:

- ❒ Over time, and many generations, organisms change along with the biotic and abiotic factors in their environments through the process of natural selection.
- ❒ In natural selection, the best-adapted members of a species survive, grow strong and reproduce more easily than the rest of that species.
- ❒ In ecosystems, ecological succession (primary succession and secondary succession) also occurs, as changes tend to favour certain ecological conditions over others as an ecosystem matures.

NOTES

What is natural selection, and how does natural selection explain the differences between the stickleback fish in BC.	1. 2.
The finches of the Galapagos Islands are an example of adaptive radiation. What is adaptive radiation? Why does each species inhabit a different niche?	1. 2.

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NOTES

What is ecological succession? What are the two types of ecological succession?	1. 2. 3.
When does primary succession occur? What are the abiotic conditions in primary succession? What are biotic factors found in primary succession?	1. 2. 3.
How do pioneer species in primary succession change the abiotic and biotic environments?	1. 2. 3. 4.
Describe the stages of primary succession in a typical forest ecosystem.	1. 2. 3. 4. 5.

NOTES

What is a mature community? Why might ecologists have originally thought that mature communities would remain unchanged indefinitely?	1. 2.
What is secondary succession? How is it different from the beginning of primary succession?	1. 2. 3.

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What are three impacts of flooding?	1. 2. 3.
What is drought? What areas in the world are currently suffering or recovering from severe droughts?	1. 2. 3.

NOTES

If insects play a major role in the succession of a forest, why do insect infestation occur? What are some of the reasons the mountain pine beetle can infest BC forests? -	1. 2. 3. 4.