

CHAPTER 4**HANDOUT****Modelling Adaptation and Natural Selection****BLM 4.3.4**

Model the evolution of an organism, and examine the morphological changes that occur due to adaptation and natural selection.

As a class, brainstorm possible environmental factors (both biotic and abiotic) that could influence the success of an organism. Your teacher will choose one of these environmental conditions for you to use in the following activity.

Procedure:

1. You will be working in groups for this activity. You will be presented with a drawing of an organism, either from your teacher or from another student in your group. Examine the drawing for 15 seconds, and then reproduce it on a separate piece of paper. Pass your drawing to the next person in your group so he or she can reproduce it.
2. Have one person in your group collect the drawings and lay them out in order. Discuss, within your group, whether any of the drawings display features that could affect the survival or reproductive success of the organism.
3. Your teacher will announce an environmental change during this activity. As a group, choose the drawing of the organism that you feel is best suited to the new environmental conditions.
4. Repeat Step 1, starting with the drawing your group chose in Step 3.
5. Your teacher may have you repeat this activity with different environmental conditions if time permits.

Questions:

1. How radical was the evolutionary change in your organism between environmental changes and immediately after an environmental change?

2. After each environmental change, do you feel the organism is closer to being “perfect”? Explain your answer.

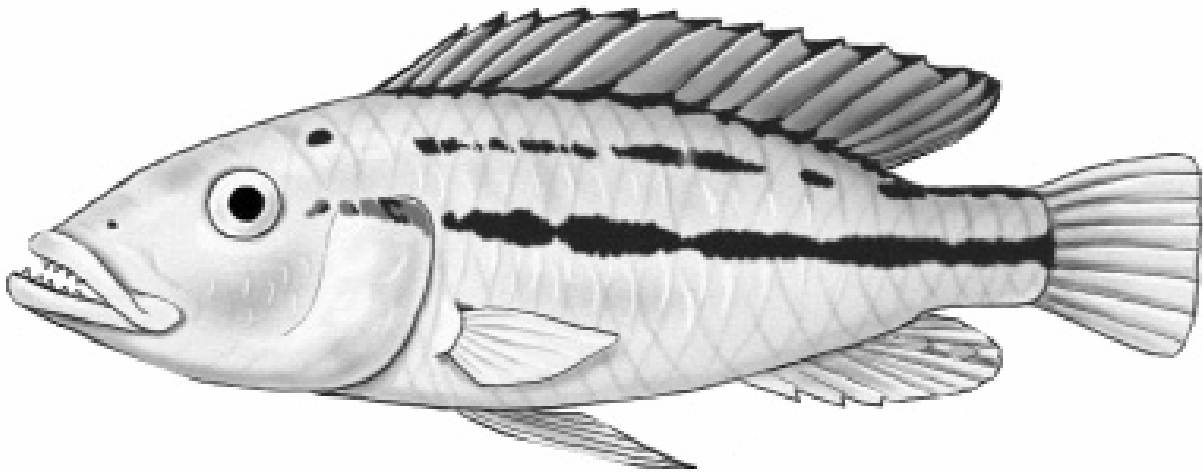
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3. Compare your final drawing with the final drawings of the other groups in your class. In what ways are they similar? In what ways do they differ? Give an explanation for why these differences exist.

4. How well does this simulation model the process of evolution in real life? Describe the features that are similar and the features that are not similar. Support your answers.

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The following are illustrations that could be reproduced for this activity.



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