

# Natural Selection Modeling Assessment

**Background:** We have been looking at how different animals and plants are related to each other. Changes in the environment and the process of Natural Selection lead to these changes in populations and eventually lead to new species. You will be choosing an adaptation of an animal or plant to model the process of natural selection.

**Directions:** Illustrate and describe the four steps of natural selection. Use explanations and graphics to model the process of Natural Selection. Use a large piece of construction paper for your project.

## I. Choose an animal or plant

- A. Include information about the environment as necessary
- B. Show all levels of classification of the organism.
- C. Choose one adaptation that animal or plant has developed.
- D. Don't just write a definition of the 4 steps, use your organism as an example of how the process works. Think back to the examples we have seen.

## II. Include the four steps of Natural Selection (review your notes as necessary)

- A. Over-reproduction
- B. Genetic Variation
- C. Favorable Traits
- D. Successful Reproduction

## III. Indicate selective force somewhere in your cartoon (probably in favorable traits)

### Research hints

- I. Find out where in the world your animal or plant lives (biome, ecosystem, etc.)
- II. What are the factors that your organism has to interact with?
- III. What are the selective forces in the environment?
- IV. Find some images of your animal or plant and practice sketching:
  - A. the whole organism (big and small)
  - B. the ecosystem (maybe with the organism in it)
  - C. the adaptation

In your notebook, create a rough draft/sketch of your cartoon.

Think about:

- I. How you can sketch each of the four steps
- II. How the adaptation can be shown
- III. How you can explain Natural Selection using your animal / plant as a model
- IV. Complete and turn in the *Natural Selection Poster Proposal* at the end of day one.

**Highly Proficient Opportunity:** Find another organism that is related to yours at the FAMILY level or above. Compare and contrast the two in a combination of writing and drawing. Focus on body structures and adaptations.

Natural Selection: Use evidence to support an explanation that natural selection can lead to increases and decreases of specific traits in populations of organisms over time.

Highly Proficient (4)	Proficient (3)	Close to Proficient (2)	Developing (1)
<ul style="list-style-type: none"> <li><input type="checkbox"/> A related organism is compared and contrasted with the chosen organism.</li> <li><input type="checkbox"/> <b><u>Work is final draft quality.</u></b></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> All 4 stages of natural selection are modeled.</li> <li><input type="checkbox"/> Knowledge of natural selection is strong.</li> <li><input type="checkbox"/> An adaptation is used to model the process</li> <li><input type="checkbox"/> Visuals are detailed, complete and include color.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Student has some knowledge of natural selection</li> <li><input type="checkbox"/> More detail is needed for a higher level.</li> <li><input type="checkbox"/> Visuals do not model natural selection.</li> <li><input type="checkbox"/> Some information is incorrect</li> <li><input type="checkbox"/> Work is incomplete</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> no understanding is shown</li> <li><input type="checkbox"/> work is mostly incomplete</li> </ul>