

Background

This activity demonstrates an important part of evolution: adaptation. Adaptation is "an alteration or adjustment in structure or habits, often hereditary, by which a species or individual improves its condition in relationship to its environment." In order to survive in an environment, an animal needs to adapt, to develop traits that fit it to where it lives. For example, mountain goats have padded hooves to grip the rocks on which they climb. This activity is about creating animals with useful adaptations. The animal's environment is given, because that is how Darwin's theory of evolution and adaptation work: the individual organisms that are best adapted to their particular environments survive, so the adaptations gradually appear in more and more of the population. Different adaptations are helpful for different environments: For a rabbit living in the Arctic, white fur would be helpful to avoid being seen by predators. For a rabbit living in the woods, being white would make it more conspicuous, but being brown would be helpful.

Directions

1. Build your beast by first determining the environment that it lives in. Roll a dice for each category to determine the conditions under which the animal lives. Keep track of your conditions by circling the appropriate number for each.

A) WHERE DOES IT LIVE?

- 1 - mountains
- 2 - flatlands
- 3 - rocky, harsh
- 4 - small island
- 5 - near a volcano
- 6 - in a cave

- 4 - cold, rainy, and windy
- 5 - seasons change from hot to cold
- 6 - sub-zero temperatures

B) HOW MUCH WATER IS THERE?

- 1 - almost none; dry and barren
- 2 - water part of the year, drought the rest
- 3 - lots of precipitation all year
- 4 - near a coastline
- 5 - in a swamp
- 6 - in the ocean

D) WHAT DOES IT EAT?

- 1 - leaves from tall plants
- 2 - fungus growing under rocks
- 3 - berries, plants, and small animals
- 4 - water animals
- 5 - swift running deer-like animals
- 6 - flying insects

C) WHAT IS THE CLIMATE/WEATHER LIKE?

- 1 - hot and humid
- 2 - hot and dry
- 3 - moderate

E) WHAT EATS IT?

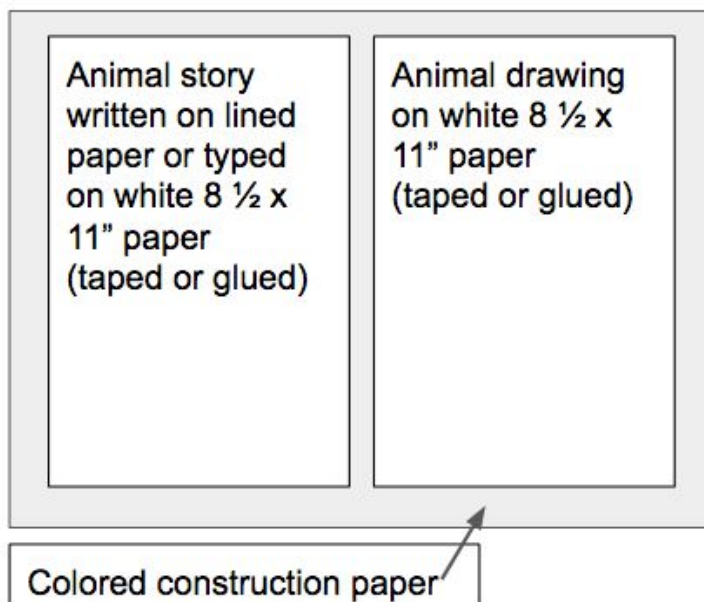
- 1 - stompsuckers squash it flat
- 2 - vampire butterflies land on it and suck it dry
- 3 - buzzbugs lay eggs that burrow into its skin
- 4 - web devils set gooey traps to catch it
- 5 - ratrux packs are wolf-like and chase it
- 6 - megaworms leap out of the sand and swallow it

2. After you have determined the environment, draw and color an animal which has adaptations to be able to live well in that kind of environment. Consider including traits that its environment would have selected for as the species adapted over generations.

3. Then, brainstorm and compose a biology-focused narrative story (fictional) that involves your animal. It could be going extinct in its environment, competing with other student's animals for survival, or looking for mates. Be creative. Run your idea with your teacher prior to beginning the writing phase.

Written narrative should be handwritten on lined paper or typed and printed. The writing should be at least three paragraphs in length, in English, and use complete sentences. Work will be assessed on your ability to follow directions, your understanding of evolution and adaptation in the creation of your animal, and your written narrative.

Final product should use the following format:



Tape the environmental dice selection sheet to the back of the construction paper.

Total Points: 100

Due Date: _____

Rubric for Build-a-beast Narrative

Name _____

Section	Items to Include	Possible Points	Points Earned
Animal Drawing	<ul style="list-style-type: none"> - Drawing is neat and colorful - Clear that thought was put into creating an organism that has adaptations suited to the environment in which it lives. 	30	
Animal Story	Plot & Narrative Devices <ul style="list-style-type: none"> - Characters, plot and setting are developed strongly - Sensory details and narratives are skillfully evident - Plot is biologically sound 	20	
	Organization <ul style="list-style-type: none"> - Strong and engaging description - Sequencing of details are effective and logical 	20	
	Sentence Fluency and Conventions <ul style="list-style-type: none"> - Sentence structure enhances meaning - A strong sense of writing conventions is apparent 	20	
Formating	<ul style="list-style-type: none"> - Story and drawing are mounted to a piece of construction as per example format - Name, Date, and Block on the back of the construction paper mount -Descriptive Title - environment list is taped on back of construction paper 	10	
	Total Points	100	