Name _____ Date_____ Period 1 2 3 4 5 6 7

Blending Butterflies

Problem: To explore & simulate camouflage in animals

Background Information: Traits are inherited and some traits make it easier for living things to survive and reproduce. Camouflage is a trait that makes it very hard to see an animal in its natural habitat. Camouflage is an important part of their survival. It hides the animal from its predators while, at the same time, making the animal a sneaky predator itself. An animal that is best camouflaged in its environment has the best chance to survive, reproduce, and pass its color pattern on. The colorful patterns may be the result of genetic diversity or mutation.

Examples of camouflage:

Concealing Coloration - Using coloration to hide against a background of the same color. Many animals in the Arctic have white coloring to blend in with the snow that surrounds them.

Disruptive Coloration – Breaks up the solid outline of an animal with spots, stripes, or other patterns so that the animal doesn't stick out against the background. A Sumatran tiger has stripes that help it hide among the tall grasses.

Disguises – When animals or parts of their bodies resemble objects in their environment. The insect called the walking stick looks like a small tree branch or twig.

Counter Shading - When the coloration of the upper parts of an animal is darker than its undersides. This causes the effect of sunlight to be counteracted. Most whales are counter shaded. If you look up at a whale you would see a light color, just as if the whale was not there – it blends in with the sky. If you look down on a whale you see darkness like the ocean floor.

Mimicry – An animal copies, or mimics, a color or form of something else. Many butterflies use mimicry to survive. Hairstreak butterflies have false antennae and spots on the back of their wings. Birds peck at the wrong end trying to grab the head, and the butterfly can get away.

Materials:

Butterfly pattern Map colored pencils scissors

Procedure:

1. Design a butterfly so that it can be hidden / camouflaged somewhere in the classroom.
3. Make the butterfly as invisible as possible.
4. Tape the butterfly to its "hiding spot."
5. Have the *Guest Bird* enter the classroom and give him/her 1 or 2 minutes to "eat" as many butterflies as possible.

Data:

Total Number of Butterflies in Classroom	Number of Butterflies Eaten

Summary Questions:

1. What type(s) of camouflage were used to disguise the butterflies in the classroom?

_____

_____

2. Which type of camouflage was the best as hiding the butterflies?

_____

3. Why do you think this type of camouflage made it difficult to see the butterflies?

_____

_____

What's an Adaptation?
Have you ever wondered why an animal or plant looks the way it does? These features are called adaptations and have been developed over time to help them to survive in their environment. Adaptations are used for a variety of reasons: collecting food, finding a mate, avoiding being eaten, keeping warm/cool and raising offspring.

- *Structural adaptations*
  An inherited, physical feature which allows an organism to better survive in its environment

- *Behavioral adaptations*
  Any behavior that helps an organism survive in its environment

4. In today's lab activity, why type of adaptation was seen: structural, behavioral, or both? Explain your answer.

_____

_____

5. Identify each of the following as a structural adaptation or a behavioral adaptation:

   a. Roar of a lion: _____

   b. Color a cricket: _____

   c. Strong legs of a frog: _____

   d. Hibernation of a chipmunk: _____

   e. Migration of birds: _____