

Name \_\_\_\_\_

## Adaptations

**Background Information:** Organisms have a variety of traits to help their chances of survival. These traits are called adaptations. A good definition is “Changes in an organism's structure or habits that allow it to adjust to its surroundings.” Organisms that adapt the best will survive to reproduce.

There are several types of adaptations:

1. Structural – external characteristics; things that can be seen (feet, eyes, bills, skin)
2. Behavioral – a manner of behavior which increases chances of survival (nocturnal, arboreal, burrowing)
3. Physiological – internal characteristics (hibernation, rumination, aestivation, endothermic, concentrated excrement)
4. Convergent adaptation – two unrelated species which resemble each other and follow similar habits and life styles (deer and kangaroos)
5. Divergent adaptation – two related species or the same species which become isolated and follow completely different patterns of existence and may not even look alike (polar bear and brown bear)

**Summarize the importance of adaptations here:**

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### Part 1:

1. Observe at the sheet of newspaper your teacher has taped to the wall.
2. Record the number of flowers you see on the sheet. \_\_\_\_\_
3. Your teacher will move the newspaper to the windows.
4. Observe and record the number of flowers you see on the sheet now. \_\_\_\_\_

Camouflage is an adaptation 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.

**Part 2:**

1. As your teacher passes the bowl of candy around, quickly pick out 3 – 4 M & Ms. You will only have a couple of seconds to do this.
2. Record the colors of candy.

**Data:**

Individual data:

Color of M&M	Brown	Green	Blue	Red	Orange	Yellow
Number						

Class data:

Color of M&M	Brown	Green	Blue	Red	Orange	Yellow
Number						

**Data Analysis:**

Graph your data. Remember **TAILS & DRY MIX.**



