

Name: _____

Date: _____

Adaptations Lab

Introduction:

An organism lives and reproduces successfully in an environment because it is adapted to that environment. An example of adaptation is protective coloring.

Some organisms blend in with their environment, others do not. The organisms that blend in are less likely to be eaten by predators, while the ones that stand out are more likely to be eaten.

Purpose:

We will try to answer the question: How are adaptations helpful to an organism's ability to survive in its environment. We will use sections of different colored pipe cleaners to represent insects. Their habitat will be a grassy field.

Materials:

6 ft. x 6ft. lawn space

colored toothpicks

stop watch

Procedure:

1. The class will split into groups of 3-4 people.
2. We will go outside and find a 6' x 6' section of grass.

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3. The teacher will scatter toothpicks.
4. Group members will be given 20 seconds to pick up as many as they can.
5. Results will be recorded in the data table.
6. Repeat for all groups.

Data:

	Red	Blue	Green	Yellow
Group 1				
Group 2				
Group 3				
Group 4				
Group 5				
Group 6				

Summary Questions:

1. Which color "insect" was picked up most often?
2. Which "insects" are better adapted for life in a grassy environment? Explain your answer.

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3. Why would finding class totals make for a better sample than just you and your partners data?

4. If the environment was changed to a rocky or desert-like environment, how do you think the results would change? Explain your answer.

5. Give two examples of animals that whose coloration makes them adapted to their environment.

6. Explain how this experiment demonstrates Darwin's theory of natural selection.

Conclusion:

Use Darwin's theory of evolution to explain the change in peppered moth coloration. Remember, when the environment was polluted (birch tree bark darkened), the moths with darker coloration were present in greater numbers. When there was no pollution, the moths with lighter coloration were present in greater numbers. Be sure to include the following terms:

- Struggle for existence
- Variation
- Survival of the fittest
- Overproduction

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