



Variations in Populations

Look around the classroom, around the school or around the world. Every human you see is part of the population of humans. But as you know not all humans are alike. We have a number of differences – some are tall and others are short. Some have brown eyes while others have green eyes. These differences in a population are called variations. A variation is a difference from the usual or average characteristics of a population or species. Variations occur naturally among the members of a population or species. Because individual members of a species show variations, some are better suited than others to survive in their environment.

Materials: clothespin, toothpick, plastic spoon, scissors (small child pair), cups of small seeds for each group, cups of large beans for each group, cups of dry macaroni shells for each group, cup of packing peanuts for each group, tray per group, cups per student

What To Do:

1. Today you and your group will be a flock of birds visiting different environments with different food sources.
2. Each of the birds in your group will have a different type of beak.
3. Watch your teacher as the different beaks are demonstrated.


Clothes pin – food is picked up by pinch and release

Toothpick – food is speared – one finger pushes off food

Spoon – food is scooped up

Scissors – use like tweezers

4. Visit the environment with the small seeds first. You will have 20 seconds in each environment to eat as much of the food as you can. You MAY NOT use your hands, only your beak!

5. Pour out the designated food into the tray. 
6. Use your beak to place your food in your stomach – (CUP)
7. Clean up all the left over food and place it in the original cup.
8. Visit the environment with the large seeds next. After 20 seconds clean up the left over food and place it in the original cup.
9. Continue with the macaroni shells and then the packing peanuts.
10. Record the number of each you ate in the chart below.
11. Share your information with the members of your group.

Beak	# of small seeds	# of large seeds	# of dry macaroni shells	# of packing peanuts
Clothespin				
Toothpick				
Spoon				
Scissors				

Questions:

1. Which environment would be best for the bird with the clothespin beak? _____
2. Which environment would be best for the bird with the toothpick beak? _____
3. Which environment would be best for the bird with the spoon beak? _____
4. Which environment would be best for the bird with the scissors beak? _____



5. What might happen to the clothespin bird if it went to live in the environment of packing peanuts?
-
6. Which of the birds could survive in all the environments?
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Other survival mechanisms

In the bird beak activity we saw that certain external features such as beaks are not good for picking up certain food. If a beak is not suitable for the food around it, the bird must move or die! One type of animal behavior is called migration.

Migration is an animal’s movement to a new location in a regular pattern. As conditions change before winter, many animals migrate to warmer places where food will be available. There are other reasons for migrations.

Watch the BrainPop on Migration. Write down other reasons animals migrate in the space below.

Another survival behavior is called hibernation. Animals hibernate in response to cold weather and low food supplies. During hibernation an animal becomes completely inactive. Its breathing and heart rate slow down and its body temperature falls so it is close to that of the environment.

Watch the BrainPop on Hibernation. Write down 4 animals that hibernate in the space below.

Cut out the foldable below and glue only the anchor tab to your notebook then cut the dotted line.

Under each tab list the survival mechanisms we learned about in this lesson along with others your might know.

DO NOT GLUE UNTIL DIRECTED

<i>Survival Mechanisms</i>	<i>EXTERNAL FEATURES</i>
	<i>BEHAVIORS</i>



Name _____ period _____

EXIT TICKET

Variations in Populations

1. Variations in populations are important because –

- A. They allow some organisms to be pretty.
- B. They allow some organisms to be smart.
- C. They allow some organisms to survive better than others.

2. An example of a variation in a population is –

- A. All of the population has fins.
- B. Some of the population has larger fins.
- C. Some of the population is dead.

3. What will happen if a food source is not suitable to be eaten by an animal?

- A. They will be able to change what they eat.
- B. They will stop eating.
- C. They will either move or die.

4. How does migration help a population survive?

- A. Allows them to find food in another location.
- B. It makes them so tired they don't eat.
- C. Makes the weak ones die early.

5. How does hibernation help a population survive?

- A. It allows their prey to migrate away from danger.
- B. It allows them to stop eating in times of low food supply.
- C. It keeps them away from dangerous predators.



Name _____ period _____

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