

WORMEATERS (The Sequel) Instructions

How might the variations that naturally exist within a population affect the survival of individuals *under different conditions*?

Wormeaters are a species of bird that feeds exclusively on worms. Within the population of wormeaters there are a number of genetic variations in beaks, just as there are in the finches of the Galapagos. During our first investigation of these birds, we explored whether these variations affect the survival chances of individual wormeaters. Each lab table represented an island and each group member represented one of the common variations within the wormeater population on that island.

But now, DISASTER HAS STRUCK...all the worms on these islands have died off because of a terrible disease that spread far and wide. Now, instead of every island having the same food source for the birds, the birds on each island have to eat whatever is available.

Beak name	Beak shape
Forky	Fork
Forktunis	Fork missing middle prongs
Spoony	Spoon
Sporky	Spork
Sporticus	Spork missing middle prongs



Today, you and your wormeater friends are going on a hunt to feed yourself and your offspring.

Materials:

- Beaks: 5 Forky, 5 Sporky, 5 Spoony, 5 Sporticus, 5 Forktunis
- 5 paper cups
- PREY ITEM (will be different for each group)
- Tape (suggested to secure the cups to the table)
- Timer (stopwatch function on phone)

Procedure:

1. Each table represents an island with 5 wormeaters. Each wormeater needs one beak (utensil) & a mouth (cup). At the start, all five wormeaters have different beak variations (different utensils).
2. Spread out around a table. Tape the cup to the surface in front of you...otherwise it might go flying!!!
3. Place prey item in a pile in the center of the table where everyone can reach. This is all the food available for the wormeaters on this particular island.
4. When someone says “Go” (you may want to switch each time), with your beak you will grab as many prey items as possible and put them inside your cup. You will have 30 seconds.
 - You may only catch one prey at a time
 - You must play with one hand behind your back
 - You may not poke or hit anyone’s flesh with your beak!!
 - You cannot alter your beak in any way or switch ends to pick up prey.

5. After 30 seconds, someone says “Stop”. Stop picking up prey and count the prey you have on your cup. Record the number in your data table (PART 1).
6. The wormeater with the least prey caught is not able to support themselves and will die :(. The wormeater with the most prey will be able to reproduce and add another of its kind (same beak shape) to the next generation. Settle all ties with rock/paper/scissors. This means the bird who had the least amount of prey (the one who died) now plays a new role in the next round. The “loser” is now the offspring of the winner - so give them a beak that matches the winning bird’s beak and the next round begins!
7. Put all the prey back in the middle and repeat steps 4-6 four more times for a total of five generations. Make sure you record all data correctly and follow the instructions. Five birds will play in all 5 rounds, the types of beaks represented in the population will change over time.