**Finches: Beak Size Model**

|  |  |
| --- | --- |
| Initial population | The initial population of finches varies in many traits,  including beak size. |
| Environmental change | An environmental change occurs:  There is a drought that causes the seeds that finches eat to  develop harder shells. |
| Some traits help individuals survive  X  X | Individuals with one version of a trait, larger beaks are  more likely to survive after the environmental change. This  version of the trait is advantageous because finches with  smaller beaks cannot break through the hard shell and die  because they do not get enough food. Since the finches with  larger beaks continue to eat the seeds with harder shells, they  manage to eat more and survive. |
| Offspring | The individuals that survive reproduce more. Their offspring vary  but are similar to them. There are fewer finches with small  beaks that reproduce and pass on their genes. So, more  offspring have the advantageous version of the trait, larger  beaks. |
| Population after many generations | After many generations, the population still varies, but most  individuals have the advantageous version of the trait, larger  beaks. |

**Finches: Fighting Model**

|  |  |
| --- | --- |
| Initial population | The initial population of finches varies in many traits,  including body size. |
| Environmental change | An environmental change occurs:  There is a drought that causes there to be fewer seeds. |
| Some traits help individuals survive  X  X | Individuals with one version of a trait, larger bodies are  more likely to survive after the environmental change. This  version of the trait is advantageous because finches with smaller  bodies cannot fight off bigger birds to get food. The smaller  birds run out of food to eat. Finches with larger bodies win the  fights and continue to eat the seeds. |
| Offspring | The individuals that survive reproduce more. Their offspring vary  but are similar to them. There are fewer smaller finches that  reproduce and pass on their genes. So, more offspring have the  advantageous version of the trait, larger bodies. |
| Population after many generations | After many generations, the population still varies, but most  individuals have the advantageous version of the trait, larger  body size. |