**Evidence 1-5 Summary Sheet**

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| **http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/G/GalapagosIs.gifEvidence 1: What is their island like?**  A small island called Daphne Major is in the Galapagos islands. The island is very rocky and very dry, with a small number of plants and animals living on it.  The island is warm all year round. The island gets a little rain most days from December to May, but the amount of rain is small. No people live on this island. The only people who visit it are scientists. You can walk around the whole island in an hour. |
| **Evidence 2: General information about ground finches**    Ground finches live on Daphne Island and eat a variety of seeds. They fly around the island, but do not fly to other islands. Their lifespan is typically 2 years. On average, finches lay 3 eggs per month. Some genetic traits of finches are beak size, wing span, foot length, body color and beak color. |
| **Evidence 3: Predators on the island before and during the drought**     |  |  |  | | --- | --- | --- | | **Predator Type** | **Total from 1975** | **Total from 1978** | | Hawks | 22 | 23 | | Short-Eared Owls | 18 | 16 |   A scientist visited Daphne Island to study the 2 predators that eat ground finches. The scientist counted how many of each she could find in 1975 (before the drought) and 1978 (during the drought). |
| **Evidence 4: The seeds on the island before and during the drought**  Plant scientists studied the small, soft seeds that finches ate. They looked at the abundance of the seeds and the hardness of the seed shells before and during the drought.    1978  1977  1978  1977 |
| **Evidence 5: Differences in finches before and after the drought**  Scientists collected data about different traits of medium sized ground finches before the drought (1975) and after the drought (1980). The scientists created a data table showing the change over time.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **YEAR** | **NUMBER OF FINCHES** | **BEAK SIZE**  **(Average)** | **WING SPAN**  **(Average)** | **WEIGHT**  **(Average)** | **FOOT LENGTH**  **(Average)** | | 1975 | 75 | 9.30 mm | 68.2 mm | 15.0 g | 18.8 mm | | 1980 | 59 | 9.78 mm | 68.5 mm | 12.5 g | 18.7 mm | |

**Evidence 6-9 Summary Sheet**

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| **Evidence 6: Variation in finch beaks and how the beaks are used**  A university professor observed and took many photos of the ground finches on Daphne Island for 4 years: 1976, 1978, 1980, 1982. She observed a range of different beak sizes.  Finches with small and blunt beaks could crack open only small, soft  seeds. Finches with bigger, more pointy beaks could crack open both small,  soft seeds and larger, harder seeds. |
| **Evidence 7: Observation of birds fighting**  In July of 1978, a couple went on a trip to the Galapagos Islands during the drought. They saw two birds fighting over a seed. The two birds fought for a few seconds. The larger bird drove the smaller bird away and ate the seed. |
| **Evidence 8: Seeds from four plants before and during the drought**    A research team surveyed 4 seeds that ground finches eat found on Daphne Island before the drought in 1975 and during the drought in 1978. The results were:   |  |  |  |  | | --- | --- | --- | --- | | **Plant Type** | **Size/Hardness of Seed** | **Number of Seeds in 1975** | **Number of Seeds in 1978** | | Cactus | Medium / Medium | 300 | 120 | | Chamae | Small / Soft | 135 | 0 | | Portulaca | Small / Soft | 500 | 0 | | Tribulus | Large / Hard | 720 | 700 | |
| **Evidence 9: Weight of finches that survived and died during the first 6 months of the drought**  A research team on the Island collected birds that survived the drought and birds that did not survive. The team created 2 graphs that show the average weights of birds that survived and did not survive the first 6 months of the drought.    Birds that died during the drought  Birds that survived the drought  Average: 14.2 g  Average: 13.5 g |