Name _____ Class _____ Date _____

Finches in the Galapagos

The Galapagos Islands are located about 900 kilometers off the west coast of South America. Volcanic activity caused them to emerge from the sea about 3 million years ago. In this activity you will learn about a group of finches that migrated to the Galapagos Islands from the mainland of South America.

The finches, also known as Charles Darwin's finches, are among the best-known species on the Galapagos Islands. Darwin's observations of these birds helped him to formulate his ideas about evolution. Since then, the finches have been studied in detail. Their pattern of evolution is considered to be a classic example of adaptive radiation.

There are 14 species of finches on the Galapagos Islands. The table below contains a description of four habitats occupied by Darwin's finches. Based on this information, answer the questions that follow.

HABITATS
(characteristic plants noted)

Dry/Cacti	Tropical/Trees	Moist/Trees	Treeless Zone/Ferns, Grasses
1. Nectar in cactus flowers 2. Cactus spines that can be used as prodding tools 3. Prickly cactus fruit 4. Parasitic ticks on bodies of iguanas 5. Open, rocky areas	1. Tree insects 2. Flying insects 3. Fruits 4. Dense underbrush	1. Tree leaves 2. Tree seeds 3. Fruit 4. Dense underbrush	1. Seeds 2. Insects

1. The habitats described in the table contain different kinds of foods. Natural selection produced different beak shapes in finches depending on the type of food in each habitat. List and describe the characteristics of the new beaks that might have made it possible for the birds to adapt to the foods in each habitat.

Cacti: _____

_____

Tropical trees: _____

_____

Moist forest: _____

_____

Treeless zone: _____

_____

2. For each area, what type of nesting sites and nesting materials might the birds have chosen?

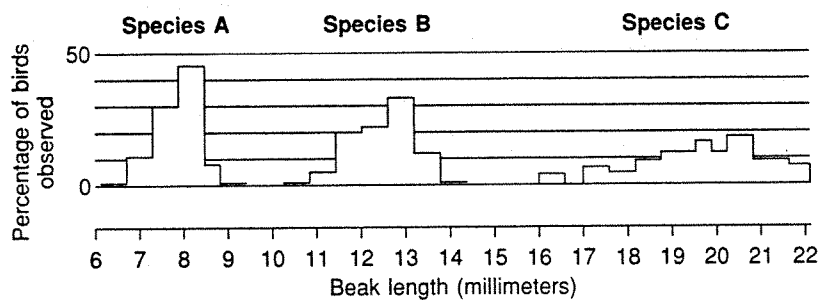
Cacti: _____

Tropical trees: _____

Moist forest: _____

Treeless zone: _____

The figure below shows data on the lengths of the beaks of three species of Darwin's finches. The percentage of individuals in each category of beak length is given. Each of these species inhabits the ground.



3. a. What is the shortest length of the beak observed in species A?

_____

b. About what percentage of the birds of species A have this beak length?

_____

4. What is the beak length of 45 percent of the birds of species A?

_____

5. What is the beak length of most of the birds in species B?

_____

6. What is the range of beak lengths for the birds of species C?

_____

7. Based on the data, what can you predict about the size of the seeds eaten by each of these species of birds?

_____

_____

_____

_____

_____