Name: _____ Date: _____ Period:_____

Darwin's Natural Selection

Read the following situations and identify the 4 points of Darwin's natural selection.

1. There are 2 types of worms: worms that eat at night (**nocturnal**) and worms that eat during the day (**diurnal**). Birds eat during the day and seem to be eating ONLY the diurnal worms. The nocturnal worms are in their burrows during this time. Each spring when the worms reproduce, they have about 500 babies but only 100 of these 500 ever become old enough to reproduce.

   a. Which worm has natural selection selected AGAINST? _____ FOR? _____

   b. Identify Darwin's 4 points in the scenario above.

      i. How does the population have **variation**? _____

      ii. Which variation is an **adaptation** (beneficial)? _____

      iii. How is the population **overproducing**? _____

      iv. Which population will **descend with modification**? _____

2. There are 3 types of polar bears: bears with thick coats, bears with thin coats, and bears with medium coats. It is the fall season and will soon be winter. The temperatures are dropping quickly and the bears must be kept warm or they will freeze to death. Many of the bears have had 2 cubs each, but due to the extreme temperatures many mothers only have one cub left.

   a. Which bear will natural selection select AGAINST? _____ FOR? _____

   b. Identify Darwin's 4 points in the scenario above.

      i. How does the population have **variation**? _____

      ii. Which variation is an **adaptation** (beneficial)? _____

      iii. How is the population **overproducing**? _____

      iv. Which population will **descend with modification**? _____

3. In ostriches, there are two types: ostriches that run fast and others that run slowly. The fast birds can reach up to 40 miles per hour. Jackals love to eat ostrich and they can reach speeds of up to 35-40 miles per hour. A flock of ostriches will lay about 10 eggs (each mother only lays 1 egg) but many rodents break into the eggs and eat the fetuses before they hatch.

   a. Which ostrich will natural selection select AGAINST? _____ FOR? _____
   b. Identify Darwin's 4 points in the scenario above.
      i. How does the population have **variation**? _____
      ii. Which variation is an **adaptation** (beneficial)? _____
      iii. How is the population **overproducing**? _____
      iv. Which population will **descend with modification**? _____

4. There are two types of rabbits: rabbits that eat only grass and rabbits that eat only berries and flowers. A drought occurs one year and the plants have difficulty producing extra parts (flowers, berries, etc.). They can only try to keep themselves green. The rabbits have had babies all year long but many are eaten by foxes or hawks. Due to the drought, many have starved to death.

   a. Which rabbit will natural selection select AGAINST? _____ FOR? _____
   b. Identify Darwin's 4 points in the scenario above.
      i. How does the population have **variation**? _____
      ii. Which variation is an **adaptation** (beneficial)? _____
      iii. How is the population **overproducing**? _____
      iv. Which population will **descend with modification**? _____

5. Some giraffes have longer necks and others have shorter necks. The leaves that giraffes prefer to eat grow in tall trees that some giraffes cannot reach very well. Giraffes usually have 1 calf every other year, though sometimes food and water are scarce and the calf does not always survive.

   a. Which giraffe will natural selection select AGAINST? _____ FOR? _____
   b. Identify Darwin's 4 points in the scenario above.
      i. How does the population have **variation**? _____
      ii. Which variation is an **adaptation** (beneficial)? _____
      iii. How is the population **overproducing**? _____
      iv. Which population will **descend with modification**? _____