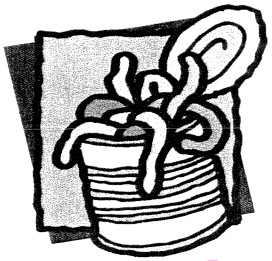
Darwin's Natural Selection Worksheet **Name** Key

Read the following situations below and identify the 5 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). The 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.

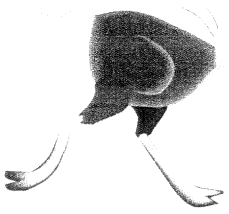
a. What worm has natural selection selected AGAINST? Diurnal worms FOR? nocturnal worms

Darwin's 5 points: Identify the 5 points in the scenario above.
Population has variations. 2 types of worms: nocturnal/diurnal
Some variations are favorable. nocturnal worms burrow at feeding time
More offspring are produced than survive. 500 babies → only 100 survive + reproduce
Those that survive have favorable traits. Survivors are nocturnal
A population will change over time. nocturnals ↑ in #, diurnals die!!

2) There are 3 types of polar bears: ones with thick coats, ones with thin coats and ones with medium coats. It is fall, soon to be winter. The temperatures are dropping rapidly 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. What bear will natural selection select AGAINST? thin/medium coats FOR? thick coats

Darwin's 5 points: Identify the 5 points in the scenario above.
Population has variations. Three coat types → thin, medium, thick
Some variations are favorable. Thick coats
More offspring are produced than survive. Have 2 cubs → 1 lives
Those that survive have favorable traits. Cubs with thick coat live → others freeze to death :(
A population will change over time. over time... only thick coat cubs will be left

3) 

In ostriches, there are 2 types: ones that run fast and those that run slowly. The fast birds can reach up to 40 miles an hour. Jackals love to eat ostrich, and they can reach speeds of up to 35-40 miles per hour. A flock of ostrich will lay ~ 10 eggs (each mother only lays 1), but many rodents break into the eggs and eat the fetus before they hatch.

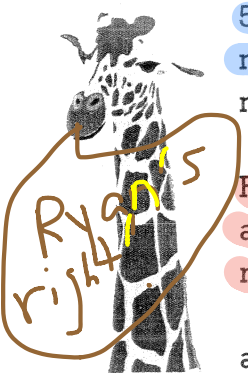
a. What ostrich will natural selection select AGAINST? slow birds FOR? fast birds

Darwin's 5 points: Identify the 5 points in the scenario above.
Population has variations. 2 types of ostrich → Slow / Fast
Some variations are favorable. Fast ostriches outrun the Jackals
More offspring are produced than survive. many babies get eaten
Those that survive have favorable traits. ostrich that survive to have babies → pass on "fast" genes
A population will change over time. Get faster over time / slow ostriches die out + "slow" genes don't get passed on.

4) There are two types of rabbits: those that strictly eat grass and those that strictly eat berries and flowers. A drought occurs one year, and the plants have difficulty producing any extras (flowers, berries, etc.). They can only try and 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. What rabbit will natural selection select AGAINST? Flower/berry eating rabbits FOR? gra s-eating rabbits

Darwin's 5 points: Identify the 5 points in the scenario above.
Population has variations. 2 types of rabbits → eat grass or flower/berries
Some variations are favorable. eating grass is favorable (there are no flours/berries).
More offspring are produced than survive. Have babies all year but some are eaten/die
Those that survive have favorable traits. The ones that eat grass don't starve to death
A population will change over time. Over time, only grass eating ones are left.



5) Bob believes that giraffes have long necks because they have stretched their necks to try and reach food that is high in trees. Since the parent had stretched its neck, it passed the long neck on to its offspring.

Ryan believes that giraffes have long necks because the ones with long necks were able to reach the food, and those with short necks could not and died. The long necked giraffes reproduced, and soon all of the giraffes had long necks.

a. Who thinks like Lamarck? Silly Bob!

b. Who thinks like Darwin? Smart Ryan!