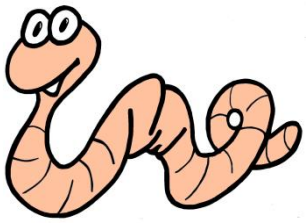
Natural Selection Practice - glue on PAGE 50

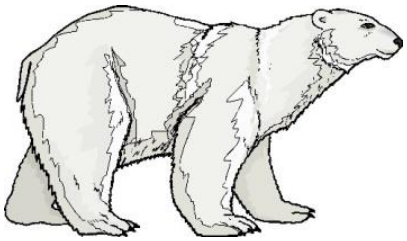
Part 1 – You Decide

Read each situation below. Decide which type of animal natural selection will work FOR (allow to survive) and AGAINST (kill). Highlight in the text the factor that helped you determine these answers.



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 survive to become old enough to reproduce.

Type FOR: _____ Type AGAINST: _____



There are 3 types of polar bears: ones with thick coats, ones with thin coats, and ones with medium coats. It is fall, and winter is coming. The temperatures are dropping rapidly and the bears must keep warm or they will freeze to death. Many of the bears have had 2 or more cubs each but due to the extreme cold temperatures, many mothers only have one or no cubs left.

Type FOR: _____ Type AGAINST: _____

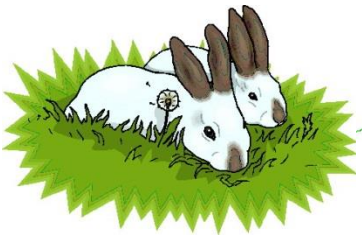
In ostriches, there are 2 types: ones that run fast and those that run slowly. The fast birds can reach up to 40 miles per hour. Jackals love to eat ostrich, and they can reach speeds up to 35-40 miles per hour. A flock of ostrich will lay approximately 10 eggs (each mother lays one egg). However, many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

Type FOR: _____

Type AGAINST: _____

There are 2 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 surviving – they cannot produce things that require extra energy such as flower and berries. The flowers can barely keep themselves green. Due to drought and other factors such as predators eating them, not all rabbits produced life to the age of reproduction.

Type FOR: _____ Type AGAINST: _____



Part 2 – Choose and Defend

Read each situation below. Choose the best answer from the choices given. Defend your answer with at least one sentence in the box below the question.

Animal	**Diet**
frog	small insects
fish	small water insects and algae
caterpillar	leaves
bat	small insects
squirrel	nuts and berries

Look at the table above showing different animals living in the same ecosystem and the typical diet for those animals. Which animals will most likely compete with one another for resources?

a. frogs and bats
b. squirrels and bats
c. frogs and fish
d. caterpillars and squirrels

Defend:

Andy's home is sprayed with a pesticide (poison used to kill insects) to control an insect pest. He didn't see any of the insects for a period of time, but eventually he begins to see the insects again. The next time the exterminator sprayed his house, they used the same pesticide but it had no effect on the insect pests. What is the best way to explain this change in the insect's ability to survive the pesticide?

a. The insects with pesticide-resistant traits survived and reproduced.
b. The insects learned how to avoid the pesticide.
c. The original insect population was not very diverse.
d. The original insect population did not pass on their genes to their offspring.

Defend:

Natural selection operates on populations over many generations. Which of the following allows natural selection to occur?

a. The ability for populations to change quickly from one trait to the next.
b. The desire and advantage of a population to remain exactly the same.
c. The old age of the individuals, which causes them to die.
d. Organisms with favorable traits are more likely to survive and pass their genes on to future generations.

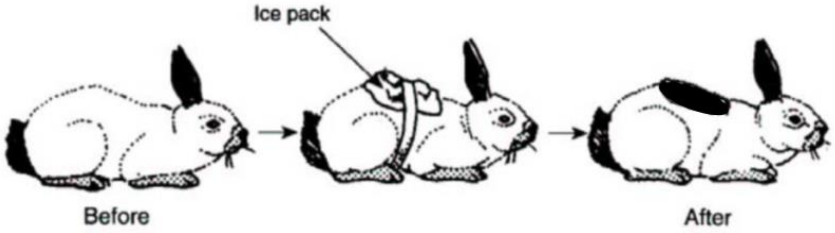
Defend:

In all populations of living things, there is genetic variation among individuals within and between species. On islands however, there is often less variation in life than there is on the mainland. Which of the following is the best explanation for this?

a. Islands support fewer predators.
b. There is less competition for resources on islands.
c. Islands have species with fewer variations of physical characteristics.
d. There are fewer environmental problems on islands.

Defend:

The diagram below illustrates what happens to the fur coloration of a Himalayan hare (rabbit) after exposure to a low temperature.



The change in fur coloration is most likely due to:

a. the types of genes it inherited from its parents.
b. the number of chromosomes present in its cells.
c. environmental influences.
d. mutations resulting from exposure to radiation.

Defend:

Part 3 – Apply on Your Own

Anywhere on NOTEBOOK PAGE 50, describe what is happening in Figures 1-3 below. BE SPECIFIC (use numbers, names, colors, descriptions, etc.) Explain why the population of mice is different in Figure 3 than in Figure 1. What characteristic made the difference?