Living Environment

Unit 7: Evolution: Will only the strongest survive?

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**HOMEWORK 34 Lamarck vs. Darwin**

**Lesson Summary [4]**

Summarize what you learned in today’s lesson. Be sure to include a thorough explanation of the following terms and concepts: adaptation, Lamarckian evolution, and Darwin’s theory of natural selection. Be sure to explain which theory is more accurate and WHY.

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1. Some behaviors such as mating and caring for young are genetically determined in certain species of birds. The presence of these behaviors is most likely due to the fact that

(1) birds do not have the ability to learn

(2) these behaviors helped birds to survive in the past

(3) individual bids need to learn to survive and reproduce

(4) within their lifetimes, birds developed these behaviors

2. A characteristic that an organism exhibits during its lifetime will only affect the evolution of its species if the characteristic:

(1) results from isolation of the organism from the rest of the population

(2) is due to a genetic code that is present in the gametes of the organism

(3) decreases the number of genes in the body cells of the organism

(4) causes a change in the environment surrounding the organism

3. Which of the following statements is NOT true according to natural selection

(1) organisms that are well adapted to their environments successfully reproduce

(2) organisms that that lack necessary adaptations may not survive competition over resources

(3) characteristics that are acquired throughout an organism’s life are not passed on to offspring

(4) organisms in a changing environment must adapt to acquire necessary traits and survive

In an area of Indonesia where the ocean floor is littered with empty coconut shells, a species of octopus has been filmed “walking” on two of its eight tentacles. The remaining six tentacles are wrapped around its body. Scientists suspect that, with its tentacles arranged this way, the octopus resembles a rolling coconut. Local predators, including sharks, seem not to notice the octopus as often when it behaves in this manner.

4. Identify one adaptation of the Indonesian octopus. Explain how that adaptation helps the octopus survive in its environment.

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5. The Indonesian octopus’ unique method of locomotion (movement) the has lasted over many generations due to

(1) competition between octopuses and their predators

(2) ecological succession in marine habitats

(3) the process of natural selection

(4) selective breeding of this octopus species

6. A population of turtles in a nearby lake consisted of turtles with plain brown shells and turtles with patterned shells. After a drought killed many nearby plants, the turtles with the patterned shell became much more visible to predators. Using the concept of natural selection, provide an explanation of how this population could evolve over time.

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