Natural Selection Quiz PDF

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Who is credited with co-developING the theory of natural selection alongside Charles Darwin?

- ◯ Gregor Mendel
- ◯ Alfred Russel Wallace
- ◯ Jean-Baptiste Lamarck
- ◯ Thomas Malthus

How do environmental changes affect natural selection?

- ◯ They have no effect
- ◯ They alter selective pressures
- ◯ They create new species instantly
- ◯ They eliminate genetic variation

How might climate change alter the process of natural selection in polar bear populations?

Evaluate the importance of understanding natural selection in conservation efforts to preserve biodiversity.

Human activities can impact natural selection by: (Select all that apply)

- [ ] Altering habitats
- [ ] Introducing invasive species
- [ ] Increasing genetic variation
- [ ] Causing climate change

Explain how natural selection leads to adaptation in a population.

Describe the contributions of Charles Darwin to the theory of natural selection.

Analyze how the example of the pepperED moth demonstrates natural selection in action.

Discuss the role of natural selection in the development of antibiotic resistance in bacteria.

For natural selection to occur, traits must be:

- ◯ Acquired
- ◯ Heritable
- ◯ Random
- ◯ Temporary

What is the primary mechanism by which natural selection operates?

- ◯ Random chance
- ◯ Adaptation
- ◯ Genetic drift
- ◯ Differential survival and reproduction

Which of the following are components of natural selection? (Select all that apply)

- ☐ Variation
- ☐ Inheritance
- ☐ Random mating
- ☐ Differential survival

Which statements about natural selection are incorrect? (Select all that apply)

- [ ] It is a purposeful process
- [ ] It creates new traits
- [ ] It acts on existing variation
- [ ] It leads to adaptation

Which types of selection can lead to increased genetic diversity? (Select all that apply)

- [ ] Stabilizing selection
- [ ] Directional selection
- [ ] DisruptIVE selection
- [ ] Artificial selection

What is a common result of reproductive isolation in populations?

- ◯ Genetic drift
- ◯ Speciation
- ◯ Extinction
- ◯ Hybridization

Which examples illustrate natural selection? (Select all that apply)

- [ ] The pepperED moth's color change
- [ ] The development of bird wings
- [ ] Darwin's finches' beak variations
- [ ] The extinction of dinosaurs

Which of the following is a source of genetic variation in a population?

- ◯ Natural selection
- ◯ Genetic drift
- ◯ Mutation
- ◯ Extinction

Understanding natural selection helps explain the development of:

- ◯ Human intelligence
- ◯ Antibiotic resistance
- ◯ Weather patterns
- ◯ Geological formations

Which type of selection favors average phenotypes and reduces variation?

- ◯ Directional selection
- ◯ DisruptIVE selection
- ◯ Stabilizing selection
- ◯ Artificial selection

Which factors contribute to speciation? (Select all that apply)

- ☐ Reproductive isolation
- ☐ Genetic drift
- ☐ Continuous gene flow
- ☐ Environmental changes