

Topic 1.3 Test (Science 10)

SUMMARY:

- Concept 1: DNA mutations produce genetic diversity within a population.
- Concept 2: Natural selection favours traits that make an organism better suited to its environment.
- ~~- Concept 3: Natural selection can lead to the formation of new species.~~
- ~~- Concept 4: Environmental factors can cause mutations.~~
- Concept 5: Humans select desired characteristics in organisms to be passed on to the next generation.

LEARNING MAP CRITERIA:

Relevance	Extending	Proficient	Developing	Emerging
<input checked="" type="checkbox"/> Adaptations and Fitness	(Complete the Proficient and Developing standards, but to a high level of accuracy.)	Given a case study, analyze traits of an organism and explain how those traits affect fitness. Assess whether a trait would be considered an adaptation or not.	Define adaptations and fitness. Explain, with examples, how adaptations and fitness are related to each other.	Recognize that DNA can cause heritable traits to be passed on through generations.
Selection and Evolution	Demonstrate a nuanced understanding of evolution by natural selection and artificial selection, avoiding common misconceptions.	Demonstrate a complete understanding of evolution by natural selection and artificial selection. Use this understanding to explain how adaptations have evolved over time. Compare and contrast natural selection and artificial selection.	Recognize that heritable variation results from genetic variation, which originates from mutations. List the four stages/requirements for evolution. Describe each, with examples. Define evolution. Recognize examples of evolution.	

VOCABULARY:

(Disclaimer: This is not meant to be an exhaustive list. Vocabulary words may appear on the test that are not in this list.)

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| - Fitness | - Evolution | - Artificial selection |
| - Adaptation | - Population | - Natural selection |
| - Heritable | - Individual | - Selective pressure |
| - Trait | - Overproduction | - Selective advantage |
| - Mutation | - Variation | |
| - DNA | - Selection | |

PRIMARY STUDY MATERIAL:

- Topic 1.3 Powerpoint
- Topic 1.3 in Textbook: only concepts 1, 2, 5
- Topic 1.3 in Workbook: only concepts 1, 2, 5

- Topic 1.3 Checking Your Understanding Questions (pg 63 in textbook; answer key on website)
- Amoeba Sisters video on Natural Selection (link inside powerpoint)