



| Science: Biology Semester 2 Final Assessment Blueprint |  |                                  |  |
|--------------------------------------------------------|--|----------------------------------|--|
| Year: 2024-2025                                        |  | Method of Delivery: Online       |  |
| Subject: Science                                       |  | Administration Window: May 12-22 |  |

| Resources              |
|------------------------|
| Biology Curriculum Map |

| Standards At-A Glance |                 |                                                                                                                                                                     |
|-----------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard              | Number of Items | Standard Description                                                                                                                                                |
| SCI.9-12.HS.L1U3.23   | 2               | Obtain, evaluate, and communicate the ethical, social, economic and/or political implications of the detection and treatment of abnormal cell function.             |
| SCI.9-12.HS.L3U1.24   | 4               | Construct an explanation of how the process of sexual reproduction contributes to genetic variation.                                                                |
| SCI.9-12.HS.L3U1.25   | 5               | Obtain, evaluate, and communicate information about the causes and implications of DNA mutation.                                                                    |
| SCI.9-12.HS.L3U3.26   | 3               | Engage in argument from evidence regarding the ethical, social, economic, and/or political implications of a current genetic technology.                            |
| SCI.9-12.HS.L4U1.27   | 7               | Obtain, evaluate, and communicate evidence that describes how changes in frequency of inherited traits in a population can lead to biological diversity.            |
| SCI.9-12.HS.L4U1.28   | 3               | Gather, evaluate, and communicate multiple lines of empirical evidence to explain the mechanisms of biological evolution.                                           |
| SCI.9-12.HS+B.L1U1.9  | 2               | Develop and use a model to communicate how a cell copies genetic information to make new cells during asexual reproduction (mitosis).                               |
| SCI.9-12.HS+B.L3U1.10 | 2               | Use mathematics and computational thinking to explain the variation that occurs through meiosis and calculate the distribution of expressed traits in a population. |
| SCI.9-12.HS+B.L3U1.11 | 3               | Construct an explanation for how the structure of DNA and RNA determine the structure of proteins that perform essential life functions.                            |
| SCI.9-12.HS+B.L3U1.12 | 2               | Analyze and interpret data on how mutations can lead to increased genetic variation in a population.                                                                |
| SCI.9-12.HS+B.L4U1.13 | 1               | Obtain, evaluate, and communicate multiple lines of empirical evidence to explain the change in genetic composition of a population over successive generations.    |
| SCI.9-12.HS+B.L4U1.14 | 2               | Construct an explanation based on scientific evidence that the process of natural selection can lead to adaptation.                                                 |
| SCI.9-12.HS+B.L4U1.2  |                 | Engage in argument from evidence that changes in environmental conditions or human interventions may change species diversity in an ecosystem.                      |
| SCI.9-12.HS-LS4-4     | 1               | Construct an explanation based on evidence for how natural selection leads to adaptation of populations.                                                            |
| SCI.9-12.HS-LS4-6     | 2               | Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.                                                     |

\* Some items may be tagged to more than one standard.

| Depth of Knowledge          |                 |
|-----------------------------|-----------------|
| DOK                         | Number of Items |
| Level 1: Recall             | 4               |
| Level 2: Skill/Concept      | 28              |
| Level 3: Strategic Thinking | 7               |

| Item Types Included |                 |                                                    |
|---------------------|-----------------|----------------------------------------------------|
| Type                | Number of Items | Description                                        |
| MC                  | 32              | Multiple Choice - Select one answer                |
| MP                  | 1               | Multi-Part - Answer a question with multiple parts |
| MR                  | 6               | Multiple Response - Select all the correct answers |