



EOCEP Biology 1

2024 Data Review Report

Data Recognition Corporation and the South Carolina Department of Education Office of Assessment and Standards convened a committee of content experts to review item data from the End-of-Course Examination Program Biology 1 Assessment. The committee discussed items and item-level data from the Spring 2024 assessment. These strategies reflect the higher rigor of the new standards. The committee recognized the hard work of South Carolina educators and offered these relevant and useful instructional suggestions as an addendum to those from previous years.

Instructional Recommendations and Strategies:

- Increase critical thinking and reasoning abilities by:
 - Build stamina and perseverance for reading academic texts.
 - Include activities that cross the curriculum such as reading fiction that includes a biological context.
 - Requiring students to evaluate and connect multiple pieces of information/data from a variety of sources.
 - Provide frequent opportunities to interact and pull information from text that includes graphs and figures.
 - Model re-reading text to increase student ability to identify relevant information and comprehension.
 - Allow students to strengthen their skills in claim-evidence-reasoning.
- Practice analyzing, communicating, evaluating, and interpreting data.
 - Require students to construct data tables and graphs using scientific conventions.
 - Set the expectation that students explain the connections, relationships, and trends among the data and make informed predictions.
- Allow opportunities for students to present information or demonstrate their knowledge in a variety of ways (e.g., posters, slide presentations, videos).
- Reinforce student understanding of content terminology (its application and use) and concepts.
 - Teach evolutionary terminology.
 - Teach students the meanings of Latin and Greek roots used in content terminology.
 - Focus on the outcomes of meiosis, not just the process.
 - Set the expectation that students used the correct terms and concepts when communicating information.
- Provide opportunities for students to interact with Punnett squares and pedigrees.
 - Use examples of interesting phenotypes or outcomes of a cross to keep students engaged.
 - Use examples that display inheritance patterns beyond simple autosomal dominance, for example, incomplete dominance or sex-linked inheritance.
 - Students should be familiar with analyzing both monohybrid and dihybrid crosses (e.g., percentages, probabilities, ratios).

- Emphasize interpreting phylogenic trees and cladograms to provide evidence for common ancestry and relatedness among groups of organisms. Students should also be comparing the DNA or proteins of organisms to provide the same evidence.
- Use hands-on activities or tangible examples to allow students to explore more abstract content.
- Students should be exposed to a variety of models that describe/explain scientific information and be able to make connections among the models' components.