

## **EOCEP Biology 1 2022 Data Review Report**

In fall 2022, the South Carolina Department of Education convened a panel of experts to review item data on the End-of-Course Examination Program for Biology. The panel reviewed items and data from spring 2022 assessment. Only operational items were administered during the spring assessment and reviewed by the committee.

In general, recommendations reported for 2017, 2018, 2019, and 2021 provide useful information for improving instruction of the current standards, as the data provided no new trends in performance. The panel recognizes the hard work of SC educators over the past year and offers the 2022 suggestions as an addendum to those from previous years.

The committee was also mindful of the full implementation for the South Carolina College- and Career- Ready Science Standards 2021 for the 2023-2024 school year, and have provided general recommendations to drive instruction and the development of formative assessment items with the greater rigor of the new standards in mind.

### **For students:**

- Read questions carefully to clarify what is being asked.
- Read all answer choices before selecting the final answer.
- Review test to be sure all items have been answered.

### **For teachers:**

- Increase student practice using claim-evidence-reasoning.
- Encourage the use of graphic organizers to classify, organize, and synthesize content and information. More advanced organizers can serve as examples of the mental modeling process to increase content knowledge and solve problems related to phenomena.
- Provide opportunities for students to generate and use a variety data displays (e.g., graphs, tables, text, quantitative, qualitative) including :
  - identification of relationships and connections among the variables,
  - selection and use of appropriate tools for data collection,
  - application of correct units when recording and communicating data, and
  - use data to support explanations, arguments, claims
- Use appropriate critical reading to support reading stamina and increase content knowledge within instruction that requires students to collect evidence supporting arguments, claims, or explanations.
- Develop contexts using passages or scenarios with linked questions to assess skills and content knowledge. For example:
  - A scenario with a short passage and data sets (e.g., graph, table) with three to five questions that measure a student's understanding of the content and the sophistication of skills required to reach the answer.

- Develop assessment items that:
  - provide opportunities for students to construct open-ended responses,
  - contain common misconceptions as distractors,
  - require students to critically analyze groups or lists of characteristics, processes, and relationships to select those that are relevant to a phenomenon (multi-select), and
  - require students to state an argument/claim/explanation in part one, and provide evidence and/or a chain of reasoning in the second part.