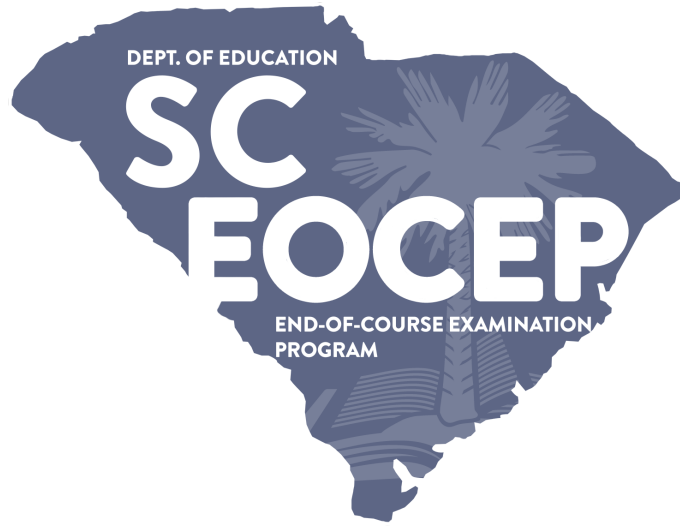




2026 Data Review Report

Statewide Instructional Recommendations

EOCEP Biology 1

Office of Assessment and Standards

Updated October 2026

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Introduction to the Biology 1 Data Review Report

The [South Carolina Department of Education](#) (SCDE) Office of Assessment and Standards (OAS) extends our deepest gratitude to the hard-working teachers across our state. We are especially thankful to the educators who dedicate their time to participate in our annual assessment meetings. Your collaboration is what makes these reports possible.

What is the Data Review Committee?

As part of our [Test Development Cycle](#) every year, the SCDE gathers educators from across South Carolina for virtual Data Review Meetings. This group of dedicated educators forms our *Data Review Committee*, a specialized team tasked with examining state-level, item-by-item test data to better understand student ability and identify where students are struggling with specific standards.

From Numbers to Strategies

For this report, the Committee focused on the End-of-Course Examination Program (EOCEP) Biology 1 assessment, which measures the *South Carolina College- and Career-Ready Science Standards 2021 (2021 SC CCR Science Standards)*. While every standard is assessed on the EOCEP Biology 1 assessment, this report selectively highlights key standards where statewide trends point to clear, actionable recommendations for the classroom.

The Committee looks closely at the *quantitative* data, how students across the entire state responded to test items. They use these numbers to produce a *qualitative* analysis. In other words, they look at the data to figure out *why* students are struggling, and then they offer actionable, instructional recommendations on how to improve student achievement on those topics.

A Redesigned Format

Based directly on feedback from teachers across the state, we have redesigned the Data Review Reports to be more useful for your daily practice. The reports are now organized by Reporting Categories, then by Performance Expectation. Within each section, you will find:

- **Observations:** What the data tell us about student understanding and misconceptions.
- **Instructional Recommendations:** Practical strategies to address learning gaps.
- **Historical Trends:** Years in which similar trends or observations were noted.

How to Use This Report

The goal of this report is to provide clear suggestions to improve instructional practice and inspire collaborative discussions at your school. Offered in a spirit of helpfulness and collaboration, these recommendations reflect broad, statewide trends. Because every classroom is unique, we recognize that certain identified gaps or suggestions may not align with every individual school or district.

Get Involved and Learn More

The OAS provides numerous resources for districts, schools, and teachers to help clarify the standards, understand how our assessments align with them, and make the most of test data.

Our [Assessment Quick Links for Teachers Page](#) includes the following resources for Biology 1 educators:

- [Applications for Assessment Committees](#): Apply to Content Review Committees, Data Review Committees, and more.
- [Test Blueprints](#): Broadly outline the test construct in terms of content and rigor.
- [Assessment Specifications for Teachers](#): Guidance on how standards are assessed on the ECOEP. (Not intended for use as an instructional guide)
- [Data Review Reports](#): Access older reports from various content areas.
- [Item Type Descriptions](#): Breakdown of the item formats students encounter on the EOCEP assessments.
- [Sample Items](#): Grade- and content-aligned items demonstrating the EOCEP item formats.
- [Online Tools Training \(OTT\)](#): Allows students to practice interacting with sample items in the official testing environment.
- [Calculator Requirements](#): Guidelines for use and allowable calculators.

Our [Science Standards Page](#) includes:

- [Standards](#): The *South Carolina College- and Career-Ready Science Standards 2021*
 - [Printable Biology 1 Standards](#)
- [Instructional Resources](#): Support materials designed to help teachers instruct the *2021 SC CCR Science Standards*.
- [Professional Learning Opportunities](#): District-level professional learning menus and recordings of past webinars.

Interested in Statewide Assessment Data?

[State-level assessment data](#) is published each year on our website. You can explore the [2026 EOCEP Test Scores](#) directly through our online interactive tools or download full data files from the right side of the page.

Want to make an impact?

If you are interested in joining an annual assessment committee, we invite you to [apply through our website!](#)

Statewide Trends for Biology 1

[The Spring 2026 EOCEP Biology 1 test scores](#) are posted on the South Carolina Department of Education website. The student performance on the 2025-2026 EOCEP Biology 1 tests improved slightly with a higher mean score and more students scoring A than in 2025. The percentage of students scoring B, C, and D declined in 2026, and the percentage of students scoring F increased by about half a percentage point.

Strengths

Structure and Processes:

- Students have a foundational knowledge of photosynthesis and cellular respiration.
- Students understand that organisms require energy and matter to survive.

Ecosystems:

- Students demonstrate a basic understanding of ecosystem interactions, including carrying capacity, biodiversity, and ecosystem health.
- Students are beginning to make connections between biological processes and the carbon cycle.

DNA and Heredity:

- Students show some understanding of genetics concepts including DNA, meiosis, and mutations.
- Students show emerging understanding of inheritance patterns and trait variation.

Biological Evolution:

- Students are familiar with evolutionary evidence such as molecular data, fossils and phylogenetic trees.
- Students show an emerging understanding that traits can favor an organism's survival and reproduction.

Continued

Areas for Growth

Structure and Processes:

- Students need to strengthen their understanding of mitosis as a system including the relationship among cell division, the cell cycle, and mitosis.
- Students need increased opportunities to use evidence from data, models, and observations to support explanations.

Ecosystems:

- Students need additional practice in interpreting and analyzing graphs and data related to carrying capacity.
- Students need to strengthen their ability to evaluate solutions to ecosystem health and protecting biodiversity.

DNA and Heredity:

- Students need a stronger understanding of the structure-function relationship among DNA, amino acids, and proteins,
- Students need to strengthen their ability to determine probabilities, ratios, and trait distributions without relying on Punnett squares.

Biological Evolution:

- Students are expected to understand that adaptations, fitness, and natural selection are dependent on environmental conditions.
- Students need a deeper understanding of common ancestry and the evidence supporting biological evolution.

Committee Observations and Recommendations

The EOCEP Biology 1 committee reviewed operational and field test items from the Spring 2026 administration. The observations and recommendations made by the committee are categorized in the general recommendations section. The committee input specific to the Performance Expectations are arranged by reporting category. The reporting categories should not be considered separate units and do not represent an instructional scope or sequence.

General Observations and Recommendations

Assessment Readiness:

- Reinforce that students need to read the whole item including the answer options before answering the item. (Previously reported in [2025](#))
 - Committee Observations:
 - Students may not be carefully reading the question. In several cases, the answer option chosen was a true statement but did not answer the question that was asked.
 - Students may have failed to answer the item correctly because they jump down to the question and the answer choices and miss important information.
- Model for students how using Online Tools Training can help them answer test items. Demonstrate how students can use the following tools:
 - highlighter to mark important information
 - notepad to write conclusions or cite data and evidence
 - cross-off tool to mark answer choices that are incorrect
 - magnifier tool to resolve information that may be on maps or smaller parts of an image.
- Remind students to make sure each item is completely answered before submitting all tests. (Previously reported in [2025](#))
- Use manipulatives (e.g., paper cut-outs, analogs) to recreate a drag-and-drop style item in the classroom.
- Encourage students to use scratch paper. For example, construct Punnett squares when asked to identify probabilities and ratios.

Instruction:

- Use the [SCDE Instructional Resources](#) to scaffold lesson planning.
- Require students to write out argumentative and explanatory statements with pen/pencil and paper.
 - Students are expected to explain why the evidence supports or does not support the claim or evidence.
- Use interesting phenomena, including topics related to South Carolina, to engage students in explorations and investigations.
- Use performance tasks as end-of-lesson assessments that require students to apply the Science and Engineering Practices and Crosscutting Concepts.

Science Practices:

Claim-Evidence-Reasoning and Chains of Reasoning (See 2025 Data Review Report)

- Model how to generate claim-evidence-reasonings (CER) and chains of reasoning for students.
 - Scaffold developing a simple three-step CER.
 - Explain the logical continuum (3+ steps) to develop a chain of reasoning.
- Provide frequent practice for students to construct CERs using observations, collected data and/or models of phenomena.
- Students are expected to understand that chains of reasoning can be part of the “R” in a CER.
- Increase opportunities for students to explicitly show their chains of reasoning.

Models (Previously reported in [2024](#), [2025](#))

- Require students to explain model components, the relationships among the components, and the processes that are modeled. Students are also expected to explain why the model supports or does not support the concept.
- Require frequent practice in developing, critiquing, and revising models.
- Provide opportunities for students to review and critique each other’s models.
- Students are expected to demonstrate efficiency in moving between types of models and connecting models to explain relationships. For example:
 - From chemical equation to a statement(s) and vice versa
 - From a chemical equation to a flow chart or graphic model and vice versa
 - From a model of a cycle to a statement(s) and vice versa
- Models should provide scaffolding for the construction of and the communication of written explanations.
- Use white boards with pairs or groups to generate observations through dialogue and discussion.
- Expose students to maps that represent concepts of ecology, evolution, and genetics within the content of the Biology 1 Performance Expectations.

Analyzing Data and Communicating Information

- Expose students to data sets and graphs at every opportunity.
 - Students are expected to demonstrate proficiency in constructing, interpreting, and analyzing graphs based on data sets.
 - Provide students opportunities to analyze and draw conclusions from graphs and how these data support or do not support claims and arguments.
- Emphasize the importance of graphic titles, axis titles, and keys, for example on graphs and maps.

Structure and Processes

B-LS1-4

Observations:

- Students need to focus on the entire process of mitosis and its outcome.
- Students are expected to understand that cell division, the cell cycle, and mitosis are a system.

Historical Trends: Student understanding of the process and outcomes of mitosis was previously reported in [2024](#) and [2025](#).

Instructional Recommendations:

- Provide opportunities for students to compare animal and plant cells, discuss, for example similarities and differences, and use evidence from observations to support explanations. For example, pairs or groups of students can compare observations of the cell types under a microscope. Then, require students to propose explanations supported by evidence.
- Focus instruction on the purpose and outcome of mitosis rather than on the identification of individual stages.
- Allow students to generate high-interest models such as comic books or flipbooks to support mitosis as a system and not as individual steps.

B-LS1-5

Observations:

- Students are expected to explain the relationship between carbon fixation during photosynthesis and the carbon cycle, understand the subsystems of photosynthesis, and know that there are photosynthetic organisms beyond plants, such as algae, phytoplankton, and some bacteria.

Historical Trends: The connection between carbon fixation and the carbon cycle was previously noted in [2025](#).

Instructional Recommendations:

- Require students to write explanations of various models of photosynthesis and cite evidence from the models to support the explanations.
- Emphasize the relationship between inputs and outputs of the light dependent and Calvin cycles.
 - Oxygen released during photosynthesis comes directly from the splitting of water molecules by light energy.
 - Stored energy is used to fix carbon from carbon dioxide into glucose during the Calvin cycle.
- Allow students to generate models that trace carbon from photosynthesis through Earth's spheres to connect this process to the cycling of carbon. (Includes content and expectations found in [BPT:B-LS2-5](#), pp. 23–24)
- Bundle PEs to emphasize the movement of energy and matter. (See *Matter and Energy in Ecosystems* in the [Bundling Guide for Biology 1](#).)

B-LS1-6

Observation:

- Students are expected to have a general knowledge of how producers and consumers acquire the elements and molecules necessary for cellular function.

Instructional Recommendations:

- Emphasize what elements and molecules are provided to consumers by producers.
 - Students are expected to explain the connections between models of photosynthesis and cellular respiration and producers and consumers.
 - Explain that there are other organisms in the biosphere beyond plants such as algae, phytoplankton, and some bacteria.
- Explicitly connect photosynthesis, cellular respiration, and ecosystem processes to the cycling of matter (See the [Biology 1 Performance Targets](#) (BPT) B-LS1-5, pp. 12–13; B-LS1-7, pp. 17–19; and B-LS2-5, 23–24).
- Reinforce how and where nitrogen, phosphorus, and sulfur are obtained by organisms in a general way, for example:
 - Plants obtain nitrogen, phosphorus, and sulfur through the roots.
 - Primary consumers obtain nitrogen, phosphorus, and sulfur by consuming plants; secondary consumers (carnivores, omnivores) obtain these elements by consuming other animals and plants.

B-LS1-7

Observations:

- Students are expected to understand the difference between stored versus useable or released energy.
- Students make connections between photosynthesis, cellular respiration, and the carbon cycle.

Instructional Recommendations:

- Reinforce the difference between stored and useable energy by requiring students to explain the role of glucose and ATP in cellular respiration.
- Students are expected to know the difference between producers and consumers.
- Remind students that molecular oxygen is an input of the electron transport chain and water is an output.

Ecosystems

B-LS2-1

Observation: Students need more practice in interpreting graphs and text that relate to carrying capacity.

Historical Trends: In 2025, the committee noted that students are expected to describe the relationship between the variables when working with data related to carrying capacity.

Instructional Recommendations:

- Provide frequent practice for student to interpret and analyze graphs representing carrying capacity.
 - Require students to explain the relationship between the variables represented on the x- and y-axes and how those variables influence population size over time.
 - Emphasize that the term “fluctuates” describes how population size decreases and increases over time.
- See *Ecosystem Interactions and Dynamics* in the [Bundling Guide for Biology 1](#).

B-LS2-5

Observations:

- Students are expected to:
 - understand the role of aquatic photosynthesizers on the carbon cycle.
 - explain the relationship between the inputs and outputs of photosynthesis and cellular respiration and the roles these two processes play in the carbon cycle within different spheres.

Instructional Recommendations:

- Reinforce the relationship between photosynthesis, cellular respiration, and carbon by requiring students to trace carbon through the atmosphere, biosphere, geosphere, and hydrosphere. (Inclusive of content and expectations of [BPT](#): B-LS1-5–7, pp. 12–19)
- Remind students that producers absorb CO₂ from the environment and incorporate that carbon into organic molecules. (Includes content and expectations of [BPT](#): B-LS1-6, pp. 14–16)
 - Terrestrial plants absorb CO₂ from the atmosphere.
 - Aquatic photosynthetic organisms absorb CO₂ from the hydrosphere.
 - Both terrestrial and aquatic animals and plants release CO₂ into the atmosphere and hydrosphere during the process of cellular respiration. (Includes content and expectations found in [BPT](#): B-LS1-7, 17–19)
- Provide opportunities for student to investigate how carbon enters and is removed from the geosphere. For example:
 - Carbon enters the geosphere by the decay and burial of dead organisms.
 - Carbon is removed from the geosphere by the burning of fossil fuels.
- Connect carbon fixation to photosynthesis. (Includes content and expectations found in [BPT](#): B-LS1-5, 12–13).

B-LS2-7

Observation: Students need to understand that solutions to problems of ecosystem health have tradeoffs.

Instructional Recommendations: Students need to be able to use their understanding of tradeoffs when evaluating solutions based on provided criteria.

- Present students with a variety of examples of biodiversity and ecosystem health problems, for example, ocean acidification.
 - Require students to rank the solutions on the impact on the solutions have on biodiversity and ecosystem health and justify the rankings with evidence and reasoning.
- Support students to help them distinguish between benefits to humans and ecosystem health to evaluate solutions and provide recommendations.

DNA and Heredity

B-LS1-1

Observation: Reinforce the structure-function relationship between DNA, amino acids, and proteins.

Historical Trends: In [2025](#), the committee recommended that students should develop and use a variety of models that explain the relationship between DNA, acids, and proteins.

Instructional Recommendation(s):

- Allow students to create, analyze, and revise models of protein synthesis at both the macroscopic—for example, central dogma—and the molecular level, such as the relationship among DNA, RNA, amino acid sequence, and protein function.
- Require students to explain how changes in DNA can affect amino acid sequence, protein function and make explicit connections to mutations, trait variation, inheritance, and probability. (Includes content and expectations found in [BPT](#): B-LS3-3 & 3, pp. 31–32; B-LS4-1, pp. 33–35)
- Provide opportunities for students to collaborate to translate and transcribe DNA sequences. After peer review, have them describe the impact of the mutation on the resulting protein.

B-LS3-2

Observation: Students should be able to make the connection between the steps in the process of meiosis (and mitosis) and the outcomes. For example, students should be explaining the impact of crossing over and independent assortment on the population level.

Historical Trends: The need to understand the process of meiosis and its outcomes was previously identified in [2025](#).

Instructional Recommendation:

- Reinforce the resulting impact of meiosis as a system on populations.

B-LS3-3

Observation: Strengthen student ability to identify ratios, probabilities, and distributions of traits in populations without the presence of a Punnett square.

Instructional Recommendations:

- Familiarize students with mechanisms of complex inheritance: incomplete dominance, codominance, and polygenic traits and the influence of the environment on genes.
- Present students with a variety of genotypes so a new symbol or letter that represents an allele is not intimidating.

Biological Evolution

B-LS4-1

Observation: Students should be citing evidence of evolution from information in graphics or text.

Historical Trends: In 2025, the committee noted that students should be provided opportunities to evaluate information of common ancestry and biological evolution.

Instructional Recommendation:

- Require students to identify specific evidence from graphs, data tables, phylogenetic trees, fossil records, and informational text when constructing explanations of evolutionary change.

B-LS4-2, B-LS4-4

Observation: Students should understand that natural selection, fitness, and adaptations, are context dependent and that a change in the environment will change whether a mutation is beneficial, harmful, or neutral.

Instructional Recommendations:

- Be purposeful in using complex evolution examples where a trait that is advantageous under certain environmental conditions can become disadvantageous under changing environmental conditions and vice versa (e.g., tail fins of fancy guppies, stickleback fish, anole toe pad size).
- Avoid describing that mutations are inherently good or bad and describe mutations as being beneficial, harmful, or neutral depending on environmental conditions.
- Emphasize that natural selection occurs when an individual's heritable trait is favored in an environment, and adaptation is the result of natural selection.

B-LS4-5

Observation: Students need to understand that when referring to organisms, fitness is the ability to survive to successfully reproduce in their environments.

Instructional Recommendation(s):

- Frequently expose students to models, such as cladograms and phylogenetic trees that include scientific name.
- Use map data, “messy” data sets and require students to construct robust chains of reasoning.
- Introduce students to flow charts that model a sequence of events that may lead to speciation or extinction.