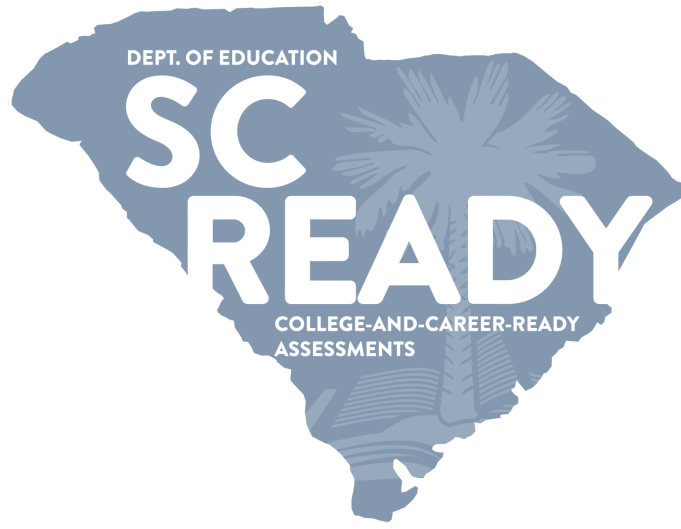




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**2026 Data Review Report**  
**Statewide Instructional Recommendations**  
**SC READY Grade 4 Science**

Office of Assessment and Standards

October 2026

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# Introduction to the Grade 4 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 Spring SC READY Science Grade 4 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 SC READY Science Grade 4 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 Category then by Performance Expectation. Within each section, you will find:

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

## 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 science 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 SC READY. (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 SC READY.
- [Sample Items](#): Grade- and content-aligned items demonstrating SC READY formats.
- [Online Tools Training \(OTT\)](#): Allows students to practice interacting with sample items in the official testing environment.

Our [Science Standards Page](#) includes:

- [Standards](#): The *South Carolina College- and Career-Ready Science Standards 2021*
- [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 SC READY 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 Grade 4 Science

The [SC READY Grade 4 Science test scores](#) are posted on the South Carolina Department of Education website. The student performance on the Spring 2026 SC READY Grade 4 Science Test shows improvement from the 2025 scores. More than half (51.7%) of the student population are in the Meets and Exceeds Expectations and 72.2% are in the Approaches, Meets, and Exceeds Expectations. The percentage of students in Does Not Meet decreased by 3.4%. This shows that the instructional efforts of Grade 6 South Carolina teachers are successful in helping students master the Grade 6 *South Carolina College- and Career-Ready Science Standards 2021*.

The committee discussed strengths and areas for growth based on item-level data for operational and field test items on the Spring 2026 test. The summary below reflects this information in each reporting category. Detailed observations and instructional recommendations for the Performance Expectations are found in the next section.

### Strengths

#### *Energy:*

- Students understand relationships between motion and energy.
- Students recognize that energy can be transferred through systems.

#### *Waves:*

- Students understand how information can be communicated in different ways.
- Students understand the basic concept of light behavior and visibility.

#### *Organisms and the Environment:*

- Students have a strong understanding of how animals respond to their environment.
- Students can compare the different ways various animals respond to changes in their surroundings.

#### *Earth's Processes and Features:*

- Students can successfully identify patterns in stratigraphic columns and understand how information from rock layers can provide evidence of past environments.
- Students can identify the positive and negative effects of solutions designed to reduce the impacts of Earth's processes on humans.

Continued

## Areas for Growth

### *Energy:*

- Students are expected to design and conduct hands-on investigations involving multiple variables.
- Students are expected to model and explain energy transfer using structured writing tasks that require evidence-based reasoning.

### *Waves:*

- Students are expected to interact with various types of wave models.
- Students need to strengthen their understanding of the relationship between amplitude and energy and how changes in amplitude affect energy transfer.

### *Organisms and the Environment:*

- Students are expected to compare similar body structures across different organisms and explain how those structures serve unique purposes based on environmental needs.
- Introduce students to diverse animals and plants, including organisms that may be less familiar to them.

### *Earth's Processes and Features:*

- Students are expected to understand the difference between weathering and erosion.
- Students expected to understand the movement of Earth's tectonic plates and the specific landforms, geologic features, and geologic activity that occur at the boundaries between tectonic plates.

## Committee Observations and Recommendations

The SC READY Science Grade 4 committee reviewed operational and field test items from the Spring 2026 administration. The committee's observations and recommendations are categorized in this section. The Performance Expectations (PE) 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 mentioned in [2025](#))
  - Students may not be 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 answer choices and miss important information.
  - (Previously reported in [2025](#))
- Show students the OTT and demonstrate how using the tools can help them answer test items. (Previously mentioned in [2025](#))
  - Highlight important information.
  - Use the notepad, for example, to write out conclusions, cite data/evidence, record calculations.
  - Use the cross-off tool to mark answer choices that are incorrect.
  - Use the magnifier to zoom in on information that may be on maps of smaller parts of an image.
- Remind students to make sure each item is completely answered before submitting their tests.
- Use manipulatives (e.g., paper cut-outs, analogs) to model a drag-and-drop style of item in the classroom.
- Encourage students to use scratch paper.

#### Instruction:

- Use the [SCDE Science Instructional Resources](#) to scaffold lesson planning. Be sure to use the [Bundling Guide for Grade 4 Science](#) to increase student understanding of the interconnectedness of the Grade 4 content.
- Use a variety of phenomena/problems that range from local, to regional to global. Do not forget the classic examples such as tracking the Hawaiian hotspot, grayscale, or colored maps of the ages of the Atlantic Ocean floor.
- Use performance tasks as an end-of-lesson assessment that require students to use or apply science skills and crosscutting concepts.

## Science Practices:

### Claim-Evidence-Reasoning and Chains of Reasoning (Previously mentioned in [2025](#))

- The committee recognizes that students show growth in making arguments, claims, and predictions and identifying the evidence that supports (or does not support) them.
- Continue to:
  - 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. Support this, for example, by using graphic organizers and flow charts.
  - Provide frequent practice for students to construct CERs using observations, collected data and/or models of phenomena.
- Students expected to understand that chains of reasoning are part of the “R” in a CER.

### Models (Previously mentioned in [2025](#))

- Work through models with students to help them understand the meaning behind the components. For example, depending on the scenario, arrows can represent direction or can represent the flow of events.
  - Require students to explain the components, the relationship among the components, and the processes that are modeled.
    - What is the relationship among the components of the model
    - Does the model support the concept?
- Develop lessons that include frequent practice in developing, critiquing, and revising models.
- Provide opportunities for students to review and critique each other’s models.
- Emphasize that graphs and tables are types of models.

### Scientific Terminology

- Allow frequent practice to use and apply qualitative terminology when describing variables and communicating data.
  - Students expected to be fluent in explaining the variables in an experiment. While independent variables and dependents variable are not assessed by name on the state assessment, the use and application of these terms are expected to be reinforced.
- Student knowledge of PE specific terminology is imperative for students to effectively communicate what they know about the prescribed grade-level content.
  - See [4-ESS1-1](#), [4-ESS2-1](#), and [4-ESS2-2](#) in this document for specific instructional information.

### Data

- Expose students to data sets and graphs at every opportunity. They are expected to also collect, interpret, analyze, and communicate their own data.
  - Provide practice for students to construct data tables and graphs using scientific conventions and require them to explain what the data show. (Supports Math [4.DPSR1.1-2.](#), p. 49.)
- Students need to work with data from multiple trials.

## Energy

### 4-PS3-1

#### **Observations:**

- Students understand the relationship between speed and energy.
- Students need to work with on variables other than time, i.e., distance, height of a ramp.
- Students need to use and apply qualitative descriptions of variables.

**Historical Trends:** Previously mentioned in [2025](#).

#### **Instructional Recommendations:**

- Reinforce that objects traveling at a higher rate of speed will cover the same distance in a shorter amount of time and that objects traveling at a lower rate of speed will travel the same distance in a longer amount of time. (Supports Math [4.MGSR.2.2.](#), p. 50.)
- Require students to write out their predictions of what will happen when variables (e.g., height if a ramp, length of a ramp) are manipulated, collect data during the investigation (at least three trials), and explain (in writing) whether their prediction was supported or not supported based on their observations and the data collected.

### 4-PS3-2

**Observation:** Students understand that energy can change as it is transferred through a system.

#### **Instructional Recommendation:**

- Reinforce the use of flow charts, and have students construct flow charts that explain how energy is transferred through a system.
- Provide opportunities for students to develop various devices that are not limited to the constraints of the assessment boundary.
- Connect motion energy and solar energy to the renewable energy using content and expectations from 4-ESS3-1 PE (See [Grade 4 Performance Targets](#) (G4PT), pp. 39–40).

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#### 4-PS3-4

**Observation:** Students need to understand how solar energy can be used in a system that transfers energy from one form to another.

**Instructional Recommendations:**

- Allow students to explore the effects of ramp height, object speed, and distance on collisions.
  - Require students to reflect using CER. Highlight the physical task of writing out chains of reasoning of what happens when objects collide.
  - Encourage students to construct arguments or claims about energy transfer through a system and support their argument with evidence.  
(Supports [ELA.C.1.1](#), p. 80.)

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### Waves

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#### 4-PS4-1

**Observation:** Students need exposure to various wave models.

**Historical Trends:** Previously mentioned in [2025](#).

**Instructional Recommendations:**

- Require students to observe wave motion (i.e., rope, spring toy, water) and draw waveforms representative of their observations.
- Reinforce the relationship between amplitude and energy.

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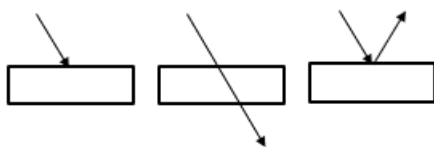
#### 4-PS4-2

**Observation:**

- Students show some strengths in this PE.

**Instructional Recommendations:**

- Model making ray diagrams of light behavior as it interacts with objects. For example, the ray diagrams below represent, respectively, absorption, transmission, and reflection.



- Expect students to draw ray diagrams that represent an observation or to explain whether an object is visible or not visible.
  - Require students to explain the components of their model and describe how it represents the visibility (or not) of an object.

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#### 4-PS4-3

##### **Observations:**

- Students understand that information can be transmitted in different ways.
- Students show strengths in evaluating methods and solutions that are used to communicate information.

**Historical Trends:** Previously mentioned in [2025](#).

##### **Instructional Recommendations:**

- Provide a scenario and let students brainstorm communication methods/solutions.
- Expect students to justify their methods/solutions by explaining how it will communicate information.
- Provide opportunities for students to evaluate whether the suggested methods/solutions will effectively communicate information based on the scenario.

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### Organisms and the Environment

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#### 4-LS1-1

**Observation:** Students need to understand that organisms have body structures that serve a different purpose depending on their environment (e.g., marine, land).

##### **Instructional Recommendations:**

- Give students opportunities to research different animals and plants that live in different environments.
  - Require students to identify special body structures of these animals that help them survive in their environment.
- Provide scenarios where students need to compare similar body structures that different animals and plants have and how they help the animal or plant survive.
- Expose students to a variety of animals and plants that may not be familiar to them.

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#### 4-LS1-2

**Observation:** Students can explain how animals respond to their environments and can compare how animals respond to environmental stimuli.

**Instructional Recommendations:** Provide students with opportunities to construct flow charts that explain how an animal responds to different environmental stimuli.

## Earth Processes and Features

### 4-ESS1-1

**Observation:** Students understand how to identify patterns in stratigraphic columns.

**Instructional Recommendations:**

- Present a scenario that describes how the environment changed over time and focus on superposition.
  - Provide opportunities for students to construct their own stratigraphic columns relates to the scenario.
  - Use objects that represent different animal and plant fossils from land and marine environments.
  - Students are expected to describe their models and how this supports the scenario.
  - Provide an opportunity for students to create a story or a picture book of how an area changed over geologic time, using a narrator and developing characters based on the fossils of what their life might have been like. Students could research (Supports [ELA.4.R.1.1](#), p. 79) what some of the organisms looked like during that time and explain the body structures that helped them live in their environment. (See G4PT: 4-LS1-1 and 4-LS1-2, pp. 26–30.) Content and expectations from 4-ESS2-2 (See the [Grade 4 Performance Targets](#) (G4PT) pp. 41–43.) could also be included by asking them to draw a map of the area in which their character(s) lived. (Supports [ELA.4.C.3.1](#), p.80.)

### 4-ESS2-1

**Observation:** Students need to understand the difference between weathering and erosion.

**Historical Trends:** Previously mentioned in [2025](#).

**Instructional Recommendations:**

- Find time-lapsed photos or videos and have students explain what is happening using content-related terminology.
- Provide a sequence of photos or drawings showing the effects of weathering and erosion before, during, and after.
  - Require students to sequence them in order of occurrence, then ask students to explain what has occurred using correct terminology.
- Include opportunities for students to use their creativity and imagination by asking them to create a flip book showing the effects of weathering and erosion, or a story that explains how a rock on a mountain became a grain of sand on a beach. (Supports [ELA.4.C.3.1](#), p.80.)

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## 4-ESS2-2

### Observations:

- Students understand the concept of topographic maps.
- Students need to understand that the motion of plates creates specific features.
- Students are expected to correctly identify the features and processes that occur at plate boundaries, for example, mid-ocean ridges, rift valleys, earthquakes, and volcanic activity occur at divergent boundaries. (SEE [G4PT](#), pp. 37–38.)

**Historical Trends:** Previously mentioned in [2025](#).

### Instructional Recommendations:

- Reinforce the different features that occur at plate boundaries.
  - Features that occur when plates are moving apart are mid-ocean ridges and rift valleys. Volcanoes and earthquakes occur where two plates are pulling apart.
  - Features that occur on the ocean floor where plates are moving towards each other are deep-sea (deep-ocean) trenches. Volcanoes and earthquakes occur along convergent boundaries where there are deep-sea trenches.
  - Where two plates are moving towards each other on land, mountain ranges form. Only earthquakes occur here.
- Provide practice with using compass roses and emphasize using keys found on maps.
- Students need to interpret maps that show how plates have moved over time.
  - Identify the direction of movement.
- Use maps that have information in grayscale for students to interpret.
- Present a map and ask students to write creatively to describe what they might observe if they walked or swam in places that have the features they are studying.

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## 4-ESS3-2

**Observation:** Students can identify positive and negative effects of certain solutions that mitigate the impact of Earth’s processes on humans.

### Instructional Recommendations:

- Use video clips of the effects of Earth’s processes on human communities and ask students what solutions might help mitigate the effects of these processes.
- Provide opportunities for students to use analogues for Earth processes to observe the effects on, for example, on houses on a beach. Then investigate solutions that might help prevent damage.