

North Carolina End-of-Grade Tests of Science Grades 5 & 8

In October 2013, the State Board of Education (SBE) adopted college-and-career readiness Academic Achievement Standards and Academic Achievement Descriptors for the End-of-Grade (EOG) and End-of-Course (EOC) tests and their alternate assessments. After considering much input on the importance of student achievement reporting, in August 2019, the State Board of Education (SBE) adopted new college-and-career readiness Academic Achievement Standards and Academic Achievement Descriptors for the End-of-Grade (EOG) and End-of-Course (EOC) science tests and their alternate assessments. Effective with the 2019-20 school year, the State will report four levels on Science EOGs as follows:

Achievement Level	Meets On-Grade-Level Proficiency Standard	Meets Career-and-College Readiness Standard
Level 5	Yes	Yes
Level 4	Yes	Yes
Level 3	Yes	No
Not Proficient	No	No

*Detailed achievement level descriptors are available on the following pages.

Science Grades 5 & 8 Achievement Level Ranges

Test	Not Proficient	Level 3	Level 4	Level 5
Grade 5	≤ 248	249-251	252-262	≥ 263
Grade 8	≤ 244	245-247	248-259	≥ 260

Science Achievement Level Descriptors—Grade 5

Not Proficient

*Students who are Not Proficient demonstrate **inconsistent** understanding of grade level content standards and will need support.*

Students can identify limited types of force and motion. They have a limited understanding of the interactions of matter and energy. Students have a limited understanding of how the properties of some materials change as a result of heating and cooling. They identify some weather patterns and phenomena, demonstrating limited connections to the weather in a particular place and time. Students identify some structures and systems of organisms (including the human body) and have a limited understanding of the functions necessary for life. They can identify some plants and animals within their ecosystem. Students can identify characteristics of organisms that differ from or are similar to their parents’.

Achievement Level 3:

*Students at Level 3 demonstrate **sufficient** understanding of grade level content standards though some support may be needed to engage with content at the next grade/course.*

Students can identify types of forces and resulting motion. They recognize some interactions of matter and energy and changes that occur. Students recognize how the properties of some materials change as a result of heating and cooling. They recognize weather patterns and phenomena, making some connections to the weather in a particular place and time. Students recognize how some structures and systems of organisms (including the human body) perform some of the functions necessary for life. They can recognize some connections between plants and animals within their ecosystem. Students have some understanding as to why organisms differ from or are similar to their parents based on the characteristics of the organism.

Achievement Level 4:

*Students at Level 4 demonstrate a **thorough** understanding of grade level content standards and are on track for career and college.*

Students understand force, motion, and the relationship between them. They understand the interactions of matter and energy and the changes that occur. Students understand how the properties of some materials change as a result of heating and cooling. They understand weather patterns and phenomena, making connections to the weather in a particular place and time. Students understand how structures and systems of organisms (including the human body) perform functions necessary for life. They understand the interdependence of plants and animals within their ecosystem. Students understand why organisms differ from or are similar to their parents based on the characteristics of the organism.

Achievement Level 5:

*Students at Level 5 demonstrate **comprehensive** understanding of grade level content standards, are on track for career and college, and are prepared for advanced content at the next grade/course.*

Students understand and analyze force, motion, and the relationship between them. They understand and analyze the interactions of matter and energy and the changes that occur. Students understand and analyze how the properties of some materials change as a result of heating and cooling. They analyze and evaluate weather patterns and phenomena, making connections to the weather in a particular place and time. Students analyze how structures and systems of organisms (including the human body) perform functions necessary for life. They analyze the interdependence of plants and animals within their ecosystem. Students analyze why organisms differ from or are similar to their parents based on the characteristics of the organism.

Science Achievement Level Descriptors—Grade 8

Not Proficient

*Students who are Not Proficient demonstrate **inconsistent** understanding of grade level content standards and will need support.*

Students identify some properties of matter and recognize changes occur. They identify renewable and nonrenewable energy sources and conservation methods. Students have a limited understanding of the hydrosphere and human impact on local water systems. They recognize changes on Earth recorded in fossil records and landforms. Students can identify agents of diseases that affect living organisms. Students recognize some types of interactions between organisms within an ecosystem. They can identify limited evidences of the evolution of organisms and landforms and have limited understanding of the processes that affect Earth over time. Students recognize living organisms need food to survive and identify digestion and respiration as body processes.

Achievement Level 3:

*Students at Level 3 demonstrate **sufficient** understanding of grade level content standards though some support may be needed to engage with content at the next grade/course.*

Students describe the properties of matter and recognize the changes that occur when matter interacts in an open and closed container. They recognize some environmental implications associated with the various methods of obtaining, managing, and using energy resources. Students understand some components of the hydrosphere, human impact on local water systems, and the effects of the hydrosphere on humans. They have some understanding of

Earth's history based on evidence of change recorded in fossil records and landforms. Students recognize some hazards caused by agents of diseases that affect living organisms. They can identify some applications of biotechnology. Students recognize some types of interactions between organisms and can identify some biotic and abiotic factors within an ecosystem. They can interpret some evidences of the evolution of organisms and landforms and have some understanding of the processes that affect Earth over time. Students recognize that food serves as a source of energy and building materials for living organisms. They recognize that digestion and respiration are necessary for the health of the body.

Achievement Level 4:

*Students at Level 4 demonstrate a **thorough** understanding of grade level content standards and are on track for career and college.*

Students understand the properties of matter and the changes that occur when matter interacts in an open and closed container. They explain the environmental implications associated with the various methods of obtaining, managing, and using energy resources. Students understand the hydrosphere, human impact on local water systems, and the effects of the hydrosphere on humans. They understand the history of Earth and its life forms based on evidence of change recorded in fossil records and landforms. Students understand the hazards caused by agents of diseases that affect living organisms. They understand how biotechnology is used to affect living organisms. Students understand how organisms interact with and respond to the biotic and abiotic components of their environment. They understand the evolution of organisms and landforms based on evidence, theories, and processes that affect Earth over time. Students understand how food provides energy and molecules required for survival, growth, and repair of organisms (including plants). They can explain the relationship between respiration and digestion as it pertains to the health of the body.

Achievement Level 5:

*Students at Level 5 demonstrate **comprehensive** understanding of grade level content standards, are on track for career and college, and are prepared for advanced content at the next grade/course.*

Students understand the properties of matter and analyze the changes that occur when matter interacts in an open and closed container. They analyze and evaluate the environmental implications associated with the various methods of obtaining, managing, and using energy resources. Students understand the hydrosphere and evaluate human impact on local water systems and analyze the effects of the hydrosphere on humans. They analyze and evaluate the history of Earth and its life forms based on evidence of change recorded in fossil records and landforms. Students analyze the hazards caused by agents of diseases that affect living organisms. They evaluate how biotechnology is used to affect living organisms. Students analyze and evaluate how organisms interact with and respond to the biotic and abiotic components of their environment. They analyze the evolution of organisms and landforms

based on evidence, theories, and processes that affect Earth over time. Students understand and evaluate how food provides energy and molecules required for survival, growth, and repair of organisms (including plants). They can analyze and explain the relationship between respiration and digestion as it pertains to the health of the body.