Rhode Island Next Generation Science Assessment (RI NGSA):

Overall Performance Levels, Cut Scores, and Domain Performance Levels

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Introduction

Students' overall performance on the RI NGSA tests are reported according to four achievement levels: Exceeding Expectations, Meeting Expectations, Approaching Expectations, and Beginning to Meet Expectations. RI NGSA also reports domain performance levels for the three domains of sciences (Life Sciences, Physical Sciences, Earth and Space Sciences): Above Mastery, At/Near Mastery, and Below Mastery. The descriptors in this document illustrate the knowledge and skills students demonstrate on NGSA at each overall achievement level, and at each domain by grade. While the overall achievement level descriptors are the same for all grades, domain performance descriptors differ by grade level since they are based on the content and skills specific to each grade level's standards.

Overall Performance Levels

Each overall performance level describes how well students meet the expectations for their grade level according to the *Next Generation Science Standards*. Students achieving "Meeting Expectations" or "Exceeding Expectations" meet or exceed the proficiency standard.

- **Exceeding Expectations:** Students who achieve at this level demonstrate advanced understanding of knowledge and skills needed to apply three dimensions of science to question, evaluate, and explain science phenomena. Student performance based on assessment results exceeds grade level expectations.
- **Meeting Expectations:** Students who achieve at this level demonstrate satisfactory understanding of knowledge and skills needed to apply three dimensions of science to question, evaluate, and explain science phenomena. Student performance based on assessment results meets grade level expectations.
- **Approaching Expectations:** Students who achieve at this level demonstrate minimal understanding of knowledge and skills needed to apply three dimensions of science to question, evaluate, and explain science phenomena. Student performance based on assessment results partially meets grade level expectations.
- **Beginning to Meet Expectations:** Students who achieve at this level demonstrate initial understanding of knowledge and skills needed to apply three dimensions of science to question, evaluate, and explain science phenomena. Student performance based on assessment results begins to meet grade level expectations.

Cut Scores by Grade Level

The overall performance levels correspond to particular ranges for the scale scores that students receive, from 0 to 120. The minimal score for students to demonstrate proficiency for all grade levels is a score of 60. Score ranges for achievement levels are different for grades 5, 8, and 11, as follows:

Grade Level	Beginning to Meet Expectations	Approaching Expectations	Meeting Expectations	Exceeding Expectations
Grade 5	1 to 37	38 to 59	60 to 71	72 to 120
Grade 8	1 to 37	38 to 59	60 to 74	75 to 120
Grade 11	1 to 35	36 to 59	60 to 70	71 to 120

Domain Performance Level Descriptors

Grade 5 – Domain Performance Level Descriptors

Students achieving “Above Mastery” or “At/Near” Mastery are considered on track to be proficient on the standards for their grade level in that science domain. Level of mastery is not a numerical score, though in the NGSA Reporting System students' performance is further distilled by performance expectations within each domain.

Domain	Above Mastery	At/Near Mastery	Below Mastery
Life Sciences	Your student can consistently model life cycles and movement of matter in ecosystems; use evidence to explain that organisms need structures to live; and interpret data to show that individuals inherit traits, populations have different traits, and some organisms thrive in specific environments.	Your student can sometimes model life cycles and movement of matter in ecosystems; use evidence to explain that organisms need structures to live; and interpret data to show that individuals inherit traits, populations have many different traits, and some organisms thrive in specific environments.	Your student may have difficulty modeling life cycles and movement of matter in ecosystems; using evidence to explain that organisms need structures to live; and interpreting data to show that individuals inherit traits, populations have many different traits, and some organisms thrive in specific environments.
Physical Sciences	Your student can consistently conduct experiments to explain the structure of matter, signs of chemical change, and how forces affect the motion of objects; use evidence to explain speed and energy transfer; and model particles of matter and light waves.	Your student can sometimes conduct experiments to explain the structure of matter, signs of chemical change, and how forces affect the motion of objects; use evidence to explain speed and energy transfer; and model particles of matter and light waves.	Your student may have difficulty conducting experiments to explain the structure of matter, signs of chemical change, and how forces affect the motion of objects; using evidence to explain speed and energy transfer; and modeling particles of matter and light waves.
Earth and Space Science	Your student can consistently display data to show the results of Earth’s movements around the sun; graph global distribution of fresh and salt water; model interactions of the geosphere, biosphere, hydrosphere, and atmosphere; and use evidence to analyze solutions to hazards caused by weather.	Your student can sometimes display data to show the results of Earth’s movements around the sun; graph where fresh and salt water exist on Earth; model interactions of the geosphere, biosphere, hydrosphere, and atmosphere; and use evidence to analyze solutions to hazards caused by weather.	Your student may have difficulty presenting data to show the results of Earth’s movements around the sun; graphing where fresh and salt water exist on Earth; modeling interactions of the geosphere, biosphere, hydrosphere, and atmosphere; and using evidence to analyze solutions to hazards caused by weather.

Grade 8 – Domain Performance Level Descriptors

Students achieving “Above Mastery” or “At/Near” Mastery are considered on track to be proficient on the standards for their grade level in that science domain. Level of mastery is not a numerical score, though in the NGSA Reporting System students' performance is further distilled by performance expectations within each domain.

Domain	Above Mastery	At/Near Mastery	Below Mastery
Life Sciences	Your student can consistently use experimental data and models to describe cells and systems of living things; model links between genetic variation, organisms, populations, energy, and matter in ecosystems; and use fossil data to explain changes in populations over time.	Your student can sometimes use experimental data and models to describe cells and systems of living things; model links between genetic variation, organisms, populations, energy, and matter in ecosystems; and use fossil data to explain changes in populations over time.	Your student may difficulty using experimental data and models to describe cells and systems of living things; modeling links between genetic variation, organisms, populations, energy, and matter in ecosystems; and using fossil data to explain changes in populations over time.
Physical Sciences	Your student can consistently model and interpret data about chemical reactions; predict, model, and calculate features and energy of waves; and investigate, graph, and make claims about the motion, mass, forces, and energy of objects.	Your student can sometimes model and interpret data about chemical reactions; predict, model, and calculate features and energy of waves; and investigate, graph, and make claims about the motion, mass, forces, and energy of objects.	Your student may difficulty modeling and interpreting data about chemical reactions; predicting, modeling, and calculating features and energy of waves; and investigating, graphing, and making claims about the motion, mass, forces, and energy of objects.
Earth and Space Science	Your student can consistently develop and use models to describe the motion of celestial bodies, gravity, energy flow, and matter cycles; and analyze data to explain properties of the solar system, Earth’s history, geologic time scales and processes, Earth’s resources, and human impact on the environment.	Your student can sometimes develop and use models to describe the motion of celestial bodies, gravity, energy flow, and matter cycles; and analyze data to explain properties of the solar system, Earth’s history, geologic time scales and processes, Earth’s resources, and human impact on the environment.	Your student may have difficulty developing and using models to describe the motion of celestial bodies, gravity, energy flow, and matter cycles; and analyzing data to explain properties of the solar system, Earth’s history, geologic time scales and processes, Earth’s resources, and human impact on the environment.

Grade 11 – Domain Performance Level Descriptors

Students achieving “Above Mastery” or “At/Near” Mastery are considered on track to be proficient on the standards for their grade level in that science domain. Level of mastery is not a numerical score, though in the NGSA Reporting System students' performance is further distilled by performance expectations within each domain.

Domain	Above Mastery	At/Near Mastery	Below Mastery
Life Sciences	Your student can almost always model atomic structure, properties of waves in various media, and the effects of energy and forces on systems; explain changes in matter, reactions, and energy as conditions are modified; and plan experiments to collect data showing relationships between force, mass and acceleration.	Your student can sometimes investigate homeostatic feedback loops; explain the role of DNA in heredity and protein synthesis; support claims about changes of matter, energy, and organisms in ecosystems; and use data to explain changes in genetic variation and distribution of traits within populations.	Your student may have trouble investigating homeostatic feedback loops; explaining the role of DNA in heredity and protein synthesis; supporting claims about changes of matter, energy, and organisms in ecosystems; and using data to explain changes in genetic variation and distribution of traits within populations.
Physical Sciences	Your student can almost always model atomic structure, properties of waves in various media, and the effects of energy and forces on systems; explain changes in matter, reactions, and energy as conditions are modified; and plan experiments to collect data showing relationships between force, mass, and acceleration.	Your student can sometimes model atomic structure, properties of waves in various media, and the effects of energy and forces on systems; explain changes in matter, reactions, and energy as conditions are modified; and plan experiments to collect data showing relationships between force, mass, and acceleration.	Your student may have trouble modeling atomic structure, properties of waves in various media, and the effects of energy and forces on systems; explaining changes in matter, reactions, and energy as conditions are modified; and planning experiments to collect data on relationships of force, mass, and acceleration.
Earth and Space Science	Your student can almost always use math to predict the motion of objects in the solar system, evaluate information to describe stars of various masses and ages, model the effects of energy flow on Earth’s systems, and predict changes to climate based on data.	Your student can sometimes use math to predict the motion of objects in the solar system, evaluate information to describe stars of various masses and ages, model the effects of energy flow on Earth’s systems, and predict changes to climate based on data.	Your student may have trouble using math to predict the motion of objects in the solar system, evaluating information to describe stars of various masses and ages, modeling the effects of energy flow on Earth’s systems, and predicting changes to climate based on data.