Family Guide to Understanding the RI NGSA

RI Next Generation Science Assessment – Spring 2023

Office of Curriculum, Instruction, & Assessment

RIDE Rhode Island Department of Education

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What is RI NGSA?

RI Next Generation Science Assessment (RI NGSA or NGSA) is an annual assessment taken by Rhode Island students in grades 5, 8, and 11 that assesses students' understanding of the Next Generation Science Standards (NGSS). The assessment measures students' science knowledge as well as their ability to think critically, analyze information, and apply science practices.

The NGSA was first given in Spring 2019, and there was no testing in Spring 2020. Rhode Island and Vermont partnered to develop this science assessment, which is also built with test items developed by multiple other states.

How students do on the science test gives us an indication of how ready each student is for the next grade level. The test measures the content standards for the student's grade band (grades 3-5, 6-8, and high school).

What areas of science are covered on the test?

Rhode Island's science assessment measures three disciplines from the Next Generation Science Standards (NGSS): *Life Sciences*, *Physical Sciences*, and *Earth and Space Sciences*.

The NGSS were designed to determine what students should be able to do in order to demonstrate that they are on track to succeed in jobs and opportunities in science, technology, engineering, and mathematics (STEM).

Students learn science by doing science. The science test mimics the "doing" of science through test items that are designed around what students experience using the three dimensions of the NGSS in their science classrooms. Each item incorporates the three dimensions of science. Students apply the scientific *practices* through the lens of the *cross-cutting concepts* to investigate phenomena that relate to the content of the *disciplinary core ideas* for that particular area of science.
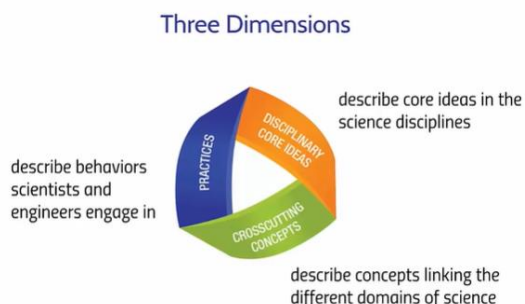
Disciplinary core ideas are the important ideas that are necessary for understanding a particular science discipline.

Crosscutting concepts are the concepts that connect different disciplines or situations that students can use to link new learning to prior experience.

What is the test like?

Students take two sixty-minute sessions, but students may use additional time if they need it to continue working productively.

The assessment is designed to be given on a computer, though a paper version is available for students who have that accommodation documented.

Science

Apply understanding of disciplinary core ideas and crosscutting concepts to solve real-world problems

Engage with scientific scenarios by using science and engineering practices

Interact with items, including simulations and animations that require evidence selection to support answer choices
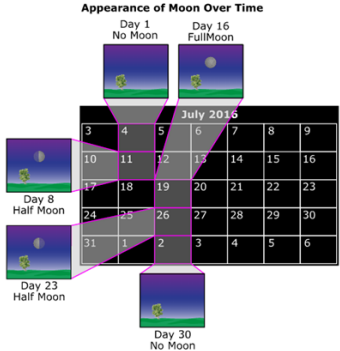
Item and question types

Items are like performance tasks. The "stimulus" provides the information that the student will use to answer the items. This stimulus may include one or more passages, videos, data sets, or diagrams. Sometimes there is only one item for a stimulus; other times, a stimulus may have multiple items associated with it, as in the following example:

When observed from Earth over the course of a month, the appearance of the moon changes.

In the questions that follow, you will develop and use a model to explain why the appearance of the moon changes over time.

Five observations illustrate the change in the moon's appearance over the course of a month. The observations were all made on clear nights around midnight in New York City. The moon's appearance on each of the five nights is shown in the diagram.

Appearance of Moon Over Time

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Two additional parts are necessary for a physical model that can explain why the moon's appearance changes over time.

Click on each blank box and select the word or phrase that completes the statements about what parts should be added to the model.

In order for the model to explain why the moon changes appearance when viewed from Earth, [ ] traveling from [ ] must be added as a part. Additionally, in order to work most effectively, the model should be used [ ].
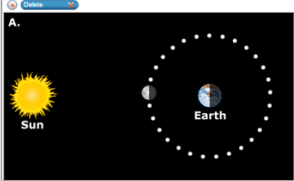
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A virtual model of the Sun, Earth, and moon system is shown. Each dot on the moon's orbit represents one day in the moon's monthly journey around Earth. In this model, the moon moves counterclockwise around Earth. The moon is currently placed at Day 1. The moon will be in that same position on Day 30 of the cycle.

A. Click on a dot to select a day in the moon's orbit around Earth.

B. Place the correct moon phase in the blank box to predict how the moon would appear from Earth on the day you chose.

Item types include selected response, drop-down, fill-in-the-blank, graphing, and simulations. An item may have multiple parts that need to be completed for a student to earn full credit. Students can try out each of the item types through the Item Type Tutorials available on the NGSA Portal's Students and Families page.
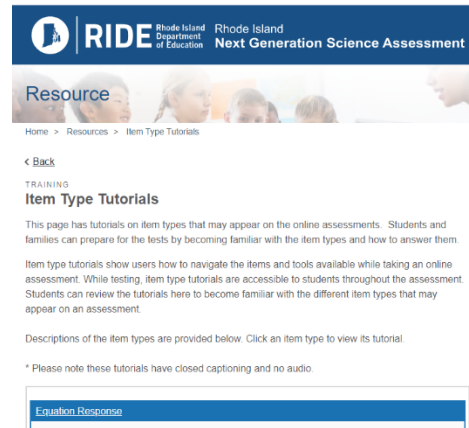
Students can gain experience with the testing platform, various item types, and tools they can use on the test (such as calculators) through the online practice test for their grade level. Practice tests also allow students with accommodations to become familiar with text-to-speech and other supports.
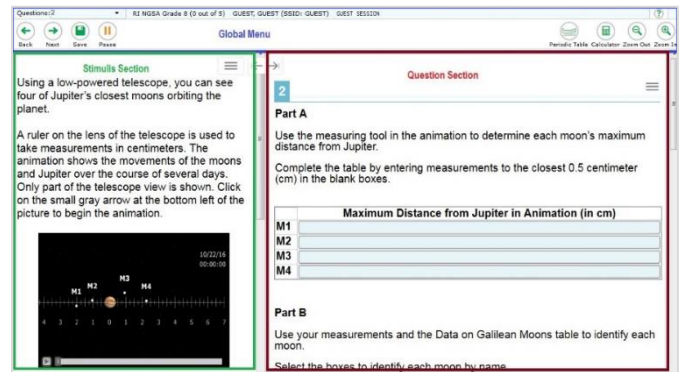
You and your child can access the Practice Test through the NGSA Portal.
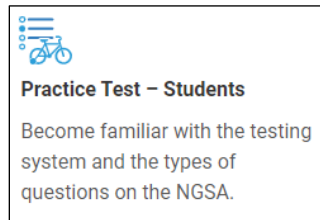
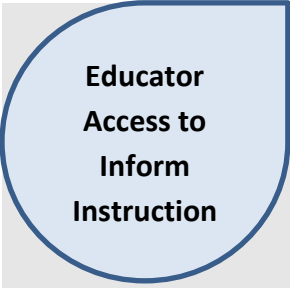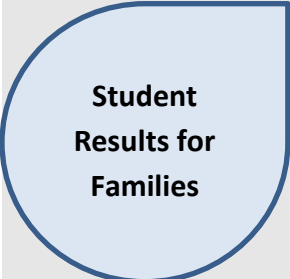The Practice Test brochure provides directions for how to use the practice test system.
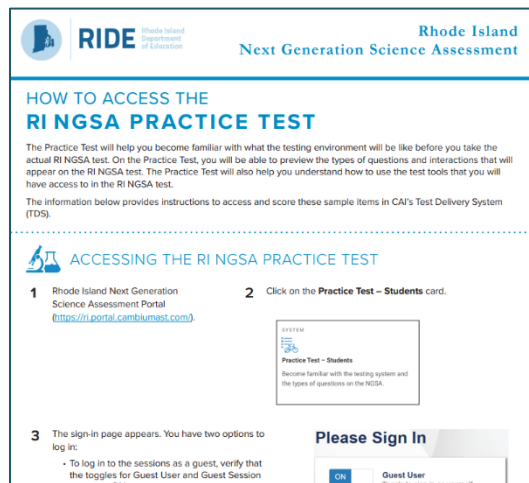
Why are NGSA results important?

NGSA gives teachers, students, and families information about student understanding, school performance, and how to improve teaching and learning. The performance standards for NGSA signal students' readiness for the next grade band.

When and how are NGSA results reported?

NGSA results are reported in the fall of the same calendar year the assessment took place. Spring 2023 assessment results have been released. State-, district-, and school-level results are made available to the public: data that are released in aggregate form (groups) make it possible to see how schools, districts, and the state are doing while keeping individual student results confidential. Student-level information is only available to certain educators and an individual student's family.

Public Aggregate Results

- Posted on the Rhode Island Assessment Data Portal at https://www3.ride.ri.gov/ADP.
- School, district, and state levels in aggregate form: reporting averages for groups of students protects student confidentiality.
- Families, community members, and educators can review this data.
- Review how schools are doing, including comparing between schools within and across districts.

Educator Access to Inform Instruction

- Educators receive access to the results of the students they teach.
- Only accessible through a confidential, secure login system.
- Educators analyze student results to help them better support the students – whether that means refining their instructional practices or adjusting curricular decisions.

Student Results for Families

- The family of each student receives their student's NGSA results in the form of the individual student score report (ISR).
- ISRs are provided to families from the student's school district.
- Districts also retain a PDF copy of the student's ISR and can securely transfer that to a student's family or use it to re-print the ISR if a duplicate is needed.

More Information about Individual Student Reports

RIDE created a guide to help families understand the individual student score report (ISR) they receive, which is posted at www.ride.ri.gov/Assessment-Families. The NGSA ISRs for grades 5, 8, and 11 and are available in Spanish and Portuguese.

ISRs include the following information, explained in more detail in the guide:

- general information about this year's administration
- student scale score and overall achievement level
- achievement comparison with the school/district/state
- domain performance level for each of the three science disciplines

Example of a grade 8 ISR.

What do these assessment terms mean?

Student Scale Score

- A student earns a scale score between 0 and 120 based on their performance on the test.
- The score indicates how well the student meets the expectations for their grade band and corresponds to a particular performance level.

The report shows:
- Your child's score between   and   and their achievement level
- Your child's achievement compared to school, district, and state averages
- How your child performed in the different areas of science measured by this assessment
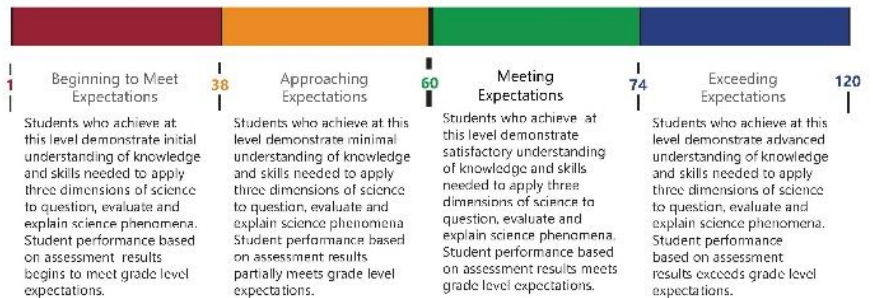
Your Child's Overall Results in Grade 8

Science

Achievement Level

Score

(Score range: -   )
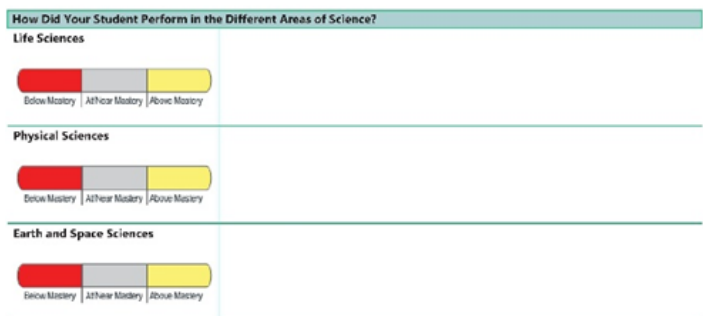
Achievement Level

- NGSA has four performance levels that describe how well students meet the expectations for their grade level:
  - *Beginning to Meet Expectations*
  - *Approaching Expectations*
  - *Meeting Expectations*
  - *Exceeding Expectations*
- *Meeting Expectations* means that students can demonstrate grade band expectations; while *Exceeding Expectations* means that students are showing mastery of the standards for their grade.

Beginning to Meet Expectations — 38

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.

Approaching Expectations — 60

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.

Meeting Expectations — 74

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.

Exceeding Expectations — 120

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.

The horizontal gray bar shown in the graphics above shows the range of likely scores your child would receive if he or she took the test multiple times. The score range for your child is between   and   .

Domain Performance Level

- Students receive a domain performance level that indicates their understanding of the knowledge and skills expected in that discipline for their grade band.
- The domain performance level and its explanation can be used to see where the student is succeeding and where they may need additional support to enhance specific content area knowledge and skills needed to master the science standards for their grade.

How Did Your Student Perform in the Different Areas of Science?

Life Sciences

Below Mastery | At Near Mastery | Above Mastery

Physical Sciences

Below Mastery | At Near Mastery | Above Mastery

Earth and Space Sciences

Below Mastery | At Near Mastery | Above Mastery

How can NGSA results be used?

NGSA is a valid and reliable measure of student performance and can help us understand how our schools are doing in preparing our students with the skills and knowledge they will need to be successful in postsecondary education and careers.

The aggregate results displayed on the Assessment Data Portal provide an indicator of each school's or district's performance. This can support discussions about where the school or district is doing well and where there is a need for improvement.


When reviewing your student's ISR, look closely at where your student's score falls within the achievement level. If your student's score is not *Meeting Expectations* or *Exceeding Expectations*, talk with your student's teacher about how you can work together to help your child learn the science knowledge and skills for their grade level.
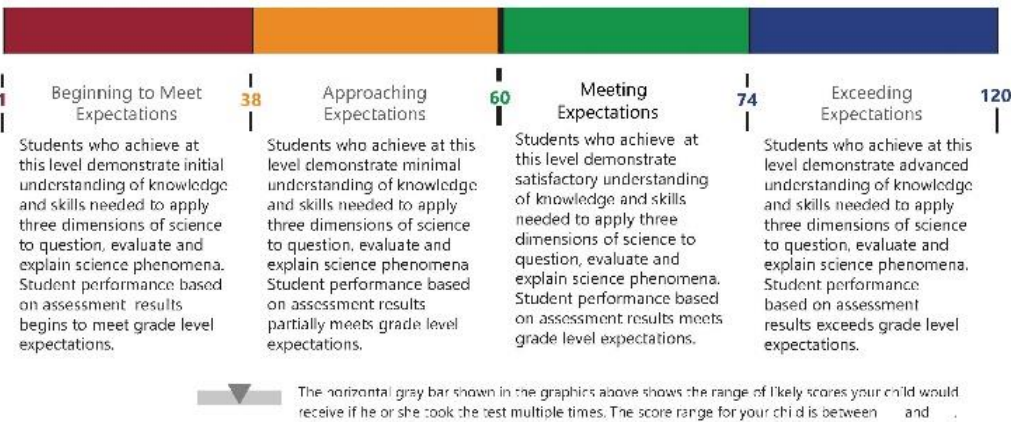

Domain performance levels and descriptions can be used – in conjunction with classroom assignments and assessments – to see where a student is succeeding and where they may need additional support to enhance specific skills needed to master grade-level standards.

Where can I learn more about NGSA results?

Scanning the QR code on your student's ISR will bring you to RIDE's Resources for Families page at www.ride.ri.gov/Families. This page provides answers to frequently asked questions about content standards, curriculum, and RI's statewide assessments. It also includes resources about student growth percentiles, the NGSA ISRs translated into Spanish and Portuguese, and the NGSA ISR Guide for Families in the ride.ri.gov/instruction-assessment/assessment/resources-families section.
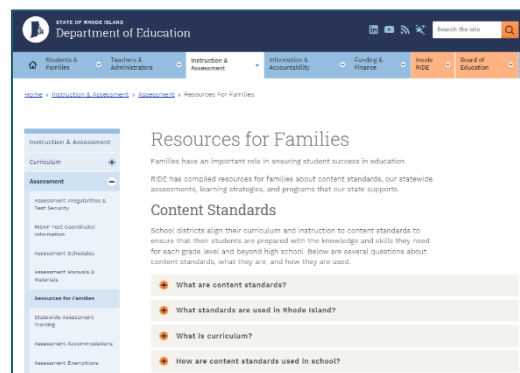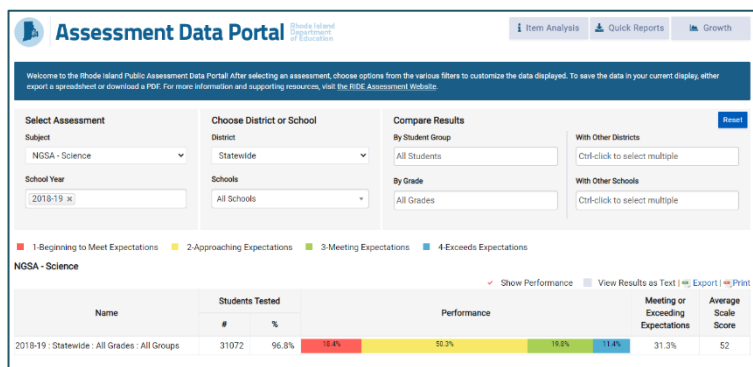

RIDE's Assessment Results page includes links to the Assessment Data Portal, as well as supporting materials for current and past assessment results (www.ride.ri.gov/Assessment-Results).
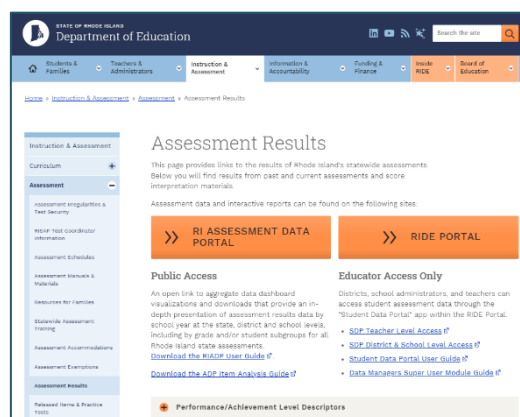
The Assessment Data Portal (https://www3.ride.ri.gov/ADP) displays school and district performance for all state assessments.

The NGSA Portal provides access to practice tests and student resources on the families page at https://ri.portal.cambiumast.com/families.html.