



A Family's Guide to the Vermont Science Assessment (VTSA) Individual Student Reports and the Next Generation Science standards (NGSS)

A new kind of test for a new type of standards:

The Vermont Science Assessment (VTSA) is designed to help parents and educators determine if students are on target to achieve proficiency in the state adopted Next Generation Science Standards (NGSS). The NGSS focus on helping students use scientific inquiry, interdisciplinary thinking, and science content to make sense of their natural and designed world.

The VTSA is different than previous science assessments taken by Vermont students. The test questions are computer-based and are anchored by a phenomenon. Phenomena are observable events that occur in the universe that we can use our science knowledge to explain or predict. The goal of building knowledge in science is to develop general ideas, based on evidence, that can explain and predict phenomena.

The VTSA consists of a variety of question types and interactions, many of which students will have experienced before on the Smarter Balanced Assessments. However, other item types will be new. Some questions will be shorter stand-alone items, while others will be organized into interaction clusters that are designed to engage the students in deeper scientific inquiry. Both item types are grade-appropriate, phenomena-based scientific activities that align to the three dimensions of a specific NGSS performance expectation. Each student receives 6 item clusters and 12 stand alone items on the VTSA. Because the test is delivered on a computer each student is able to receive a different set of item clusters and stand-alone items.

Finally, the assessment provides a variety of embedded accessibility tools that can improve the assessment experience, not only for students with special assessment needs, but for all students.

Because of these changes, the **Individual Student Report** for parents will also look different.

This **Parent Guide** provides information that may help navigate the parts of the report that are complex and unfamiliar. It's important to note that this is only one measure of a student's achievement and should be used with other in-class assessments to have a more comprehensive view of a student's proficiency in science. Parents should consult with teachers for help interpreting the VTSA results, and to see what other useful information may be available.

A few important terms and concepts:

- ✓ **Achievement Levels 1** through 4 indicate how well a student did on the test. Level 4 is the highest. Students who score at Levels 3 and 4 are considered proficient and are said to have met the standard. The test scores that define the four levels were set by panels of teachers and curriculum experts who reviewed test questions and student results to determine what a "proficient" student should know or be able to do. **Achievement Levels provide a broad view of a student's knowledge and skills and work best as a starting point for understanding a student's successes and needs.**
- ✓ **Scale Scores** divide the achievement levels into smaller and more meaningful units. Think of this like traveling on an interstate highway: the achievement level is like the distance between two exits and the scale scores are like mile markers. The VTSA scale uses numbers between 1 and 120 to map student results in each grade assessed.
- ✓ **Confidence Bands**, the tiny gray numbers next to the student's test score, represent the range of scale scores a student might achieve if tested multiple times. They are included because no test is 100% accurate. Each test score is an estimate of the student's true ability based on a limited number of questions, and the precision of the estimate is affected by student factors such as health and motivation on test day. Confidence bands reflect the precision of the estimate, not the skills and knowledge a student may or may not have. **The reported score is our best estimate of the student's true ability.**
- ✓ **Disciplines** are the broad categories of science the assessment is designed to measure. They help categorize what we know about a student's understanding of the NGSS from the test results. On the VTSA, the disciplines categorize different areas of content covered in the NGSS.

Understanding your Student's Assessment Scores

1 Subject Area and Grade Level

This heading tells you which subject and grade level the score report covers.

2 Summary of Test Performance

An overview that includes your student's name, student identification number, student's demographic information, scale score, and overall achievement level.

3 Your Student's Scale Score and Overall Performance

Your student's scale score and where it falls on the four achievement levels.

- Achievement Levels 4 and 3 indicate Exceeding Expectations and Meeting Expectations.
- Achievement Levels 2 and 1 indicate Approaching Expectations and Beginning to Meet Expectations.
- The small number to the right of your student's score, following the (\pm) sign, represents the score range that your student would likely fall within if they took the same test multiple times with exactly the same level of knowledge and preparation.

4 Student Reporting Category Performance

Your student's performance on Reporting Categories (content areas) within this subject area.

- Discipline performance is reported as: Below (⚠️), At/Near (📏), or Above (✅).
- Bar charts show how your student performed on each discipline (black dot), relative to the discipline achievement standard (dashed line). The lines to the left and right of the dot show the score range that your student would likely fall within if they took the test multiple times.

