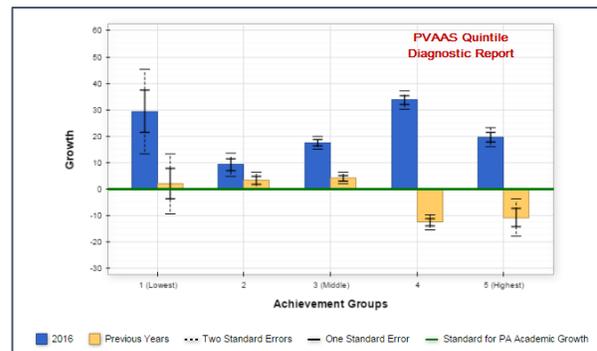
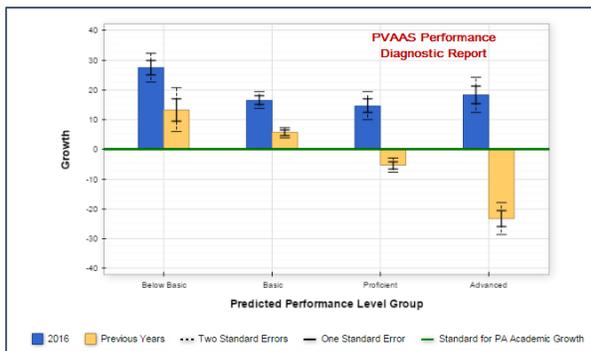


SY2014-15 PVAAS Diagnostic Reports for Keystone Content Areas

What is the difference between the PVAAS Performance Diagnostic and Quintile Diagnostic Reports?

The PVAAS Performance Diagnostic and Quintile Diagnostic Reports are used by educators to identify patterns or trends of academic growth among students at different achievement levels. These reports are similar with one key difference.

In the Performance Diagnostic Report for Keystone content areas, students are assigned to Predicted Performance Level groups based on where their predicted scores fall with regard to the state's academic performance levels. In the Quintile Diagnostic Report for Keystone content areas, students are assigned to Achievement Groups based on where they profile within the state distribution, without regard to the state's academic performance level ranges.



It is important to keep in mind when viewing and using these reports that there are NO individual student measures of growth reported in PVAAS. Rather, academic growth in PVAAS is about the progress of a group of students. An estimate of academic growth, or progress, based on only one student with two scores would have a much larger error, and therefore be considerably less precise, than when considering a group of students. One of the inherent benefits of the PVAAS analyses is that *all* available prior scores for students are included in the analyses. Simplistic approaches will be less precise and sometimes biased. While PVAAS does use individual student data to yield the PVAAS reports, there are no individual student measures of growth reported in PVAAS.

Using the Keystone Data in the Analysis of Measuring Growth

PVAAS is designed as an indicator of the academic growth of groups of students towards the mastery of the Pennsylvania academic standards in key courses. The Keystone exam is the statewide instrument in Pennsylvania that performs a universal assessment of these standards. Additionally, the Keystone exams meet the three criteria to be used in PVAAS analyses.

- Must be aligned to curriculum standards
- Must be reliable and valid
- Must demonstrate sufficient stretch at the extremes

The SAS® EVAAS® team performs routine checks every year to look at the stretch and stability of the assessment scales. To look at stretch, they do two things. First, they ensure there is a sufficient number of different scale scores at the top and bottom of the scales to differentiate student

achievement. The SAS® EVAAS® team then looks at the percentage of students scoring at the top to ensure there is sufficient stretch in the assessment to measure growth. The stability of the scales is also monitored by looking at the state distributions of scale scores every year to determine if the reliability and validity requirement is met.

Since these conditions have been met, the power of using the Keystone data lies in the fact that there are many students who take the Keystone exams. This has resulted in a robust database of students' performance results.

When should the Performance Diagnostic Report and the Quintile Diagnostic Report be used?

Both the Performance Diagnostic Report and the Quintile Diagnostic Report are useful when assessing patterns of academic growth. The Performance Diagnostic Report is useful for assessing growth with students entering the Keystone-designated course at various academic performance levels (i.e., are students who are entering the course at a Proficient level meeting or exceeding the standard for PA Academic Growth?). The Quintile Diagnostic Report, however, is useful for assessing growth with students at achievement levels as compared to students across the state (i.e., are students who profile in the top 20% of the state distribution in terms of achievement meeting or exceeding the standard for PA Academic Growth?).

In general, schools will want to view both types of reports depending on the question they wish to address (see above paragraph). Because the ranges of scores that define the various performance levels have a range of achievement scores, schools may sometimes find that the Quintile Diagnostic Report allows schools to identify differences in academic growth for students at different achievement levels more effectively.

The diagrams on the last page of this document provide visuals of the percentile cut points for the student groups on the PVAAS Performance Diagnostic and Quintile Diagnostic Reports in the three Keystone content areas. General information on the history of Pennsylvania's state assessment system, along with the development of the academic performance levels, can be found below.

Pennsylvania State Assessment History

The Pennsylvania System of School Assessment (PSSA) program was instituted in 1992 as a school evaluation model with reporting at the school level only. The PSSA initially measured performance in the content areas of mathematics and reading at grades 5, 8, and 11, and in writing at grades 6 and 9. Starting in 1994, as part of the Chapter 5 regulations, the PSSA added student-level reports. In 1999, as part of Chapter 4 regulations, the State Board of Education adopted the Pennsylvania Academic Standards for mathematics and for reading, writing, speaking, and listening. Proficiency levels for Advanced, Proficient, Basic, and Below Basic were defined in 2000. In 2001 and 2004, the reading and mathematics assessments underwent various content enhancements to improve alignment to the 1999 Academic Standards. Grade 11 was added to the writing assessment in 2001. Then, in 2004–2005, the PSSA Assessment Anchors and Eligible Content were developed to clarify content structure and improve articulation between assessment and instruction. In addition, in 2005, the grade 6 and 9 writing assessments were moved to grades 5 and 8. By 2006, the operational mathematics and reading assessments incorporated grades 3 through 8 and 11. In 2007, the PSSA and the PSSA Assessment Anchors and Eligible Content underwent additional content enhancements. In 2008, science was added to the PSSA as an operational assessment. Starting with the 2013 field test, the PSSA began a multi-year transition with Pennsylvania's Academic Standards.

In 2008, the Commonwealth of Pennsylvania initiated a comprehensive graduation competency assessment program. As a key piece of this initial program, the Keystone exams were planned to assess proficiency in various subject areas, including Algebra I, Algebra II, Biology, Chemistry, Civics and Government, English Composition, Geometry, Literature, U.S. History, and World History. In 2013-14 the only three Keystone exams developed are in the areas of Algebra I, Literature, and Biology. The Keystone exams are just one component of Pennsylvania's high school graduation requirements. Students must also earn state-specified credits, fulfill the state's service learning and attendance requirements, and complete any additional local school system requirements to receive a Pennsylvania high school diploma.

Development of the Academic Performance Levels for Keystone Exams

The Keystone Performance Level Descriptors (PLDs) are paragraphs that describe the knowledge and skills expected at different performance levels with respect to the content standards (Pennsylvania Keystone Assessment Anchor Content Standards and Eligible Content) for each of the Keystone Exams. Descriptors are clearly written to ensure that all stakeholders have a common understanding of what describes expected performance at the various levels (i.e., Below Basic, Basic, Proficient, and Advanced). Performance Level Descriptors were developed, reviewed, and finalized by the PDE/QRT and committees of Pennsylvania educators as required by the Chapter 4 Regulations. (The PDE/QRT includes representatives from the PA Department of Education, members of the Quality Review Team, and/or others appointed by the Quality Review Team.) After the development and final review by PDE/QRT and Pennsylvania educators, the descriptors were prepared for use during a standard setting workshop. During this meeting, the descriptors were used to guide the standard setting process for each of the Keystone Exams. They were instrumental to the validity and defensibility of the standard setting process.

Pennsylvania has identified four levels of academic performance.

- The **Advanced** Level reflects superior academic performance. **Advanced** work indicates an in-depth understanding and exemplary display of the skills included in the Keystone Assessment Anchors and Eligible Content.
- The **Proficient** Level reflects satisfactory academic performance. **Proficient** work indicates a solid understanding and adequate display of the skills included in the Keystone Assessment Anchors and Eligible Content.
- The **Basic** Level reflects marginal academic performance. **Basic** work indicates a partial understanding and limited display of the skills included in the Keystone Assessment Anchors and Eligible Content. This work is approaching satisfactory performance, but has not been reached. There is a need for additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level.
- The **Below Basic** Level reflects inadequate academic performance. **Below Basic** work indicates little understanding and minimal display of the skills included in the Keystone Assessment Anchors and Eligible Content. There is a major need for additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level.

The standard setting for the Algebra I, Biology, and Literature Keystone exams was conducted by Data Recognition Corporation (DRC) using a Bookmark procedure (Lewis, Mitzel, & Green, 1996) during a workshop held in Harrisburg, Pennsylvania, June 23–24, 2011. After the standard setting event, the descriptors were finalized. Along with the recommended cut scores, the final Performance Level Descriptors for each of the Keystone Exams were submitted to the Pennsylvania Board of Education for final approval. Additional details about the standard setting event can be found in the *Keystone Standard Setting Technical Report* (Pennsylvania Department of Education, 2011).

PVAAS Performance Diagnostic and Quintile Diagnostic Reports: Percentile Cut Points for Student Groups

