



## Keystone Performance Trends from 2014-15 to 2021-22

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### Key Findings

- Between 38%-46% of students in grades 9-11 scored Proficient or Advanced on the Literature Keystone exam from 2014-15 to 2021-22.
- Between 17%-21% of students in grades 8-11 scored Proficient or Advanced on the Algebra I Keystone exam from 2014-15 to 2021-22.
- Between 23%-29% of students in grades 9-11 scored Proficient or Advanced on the Biology Keystone exam from 2014-15 to 2021-22.

### Overview

In Pennsylvania, high school students are required to take three Keystone exams associated with three Keystone courses: Literature, Algebra I, and Biology. Participating in these exams is required for federal accountability purposes. High school students generally are expected to take the Keystone exams after they have taken the associated course, and most often take the Keystone exams in 9th, 10th, and 11th grades.

In addition, starting with the graduating class of 2023, Keystone exam performance is one of the pathways to graduation.<sup>1,2</sup> Students have the opportunity to retake Keystone exams if they are not happy with their original score, and their best score on each Keystone exam by the end of 11th grade (referred to as *Best by 11th*) counts toward the graduation pathway. Students in 9th grade usually take Algebra I; students in 10th usually take Literature and Biology. This brief highlights District-wide performance trends on the Literature, Algebra I, and Biology Keystones from 2014-15 to 2021-22.<sup>3</sup>

<sup>1</sup> Alternative pathways: [pdesas.org/Frameworks/DCEToolKit/Act158PathwaysToGraduationToolkit](https://pdesas.org/Frameworks/DCEToolKit/Act158PathwaysToGraduationToolkit)

<sup>2</sup> Students can earn a composite score that is the equivalent of scoring Proficient or Advanced on all three Keystones, by, for example, scoring Advanced on the first, Proficient on the second, and Basic on the third.

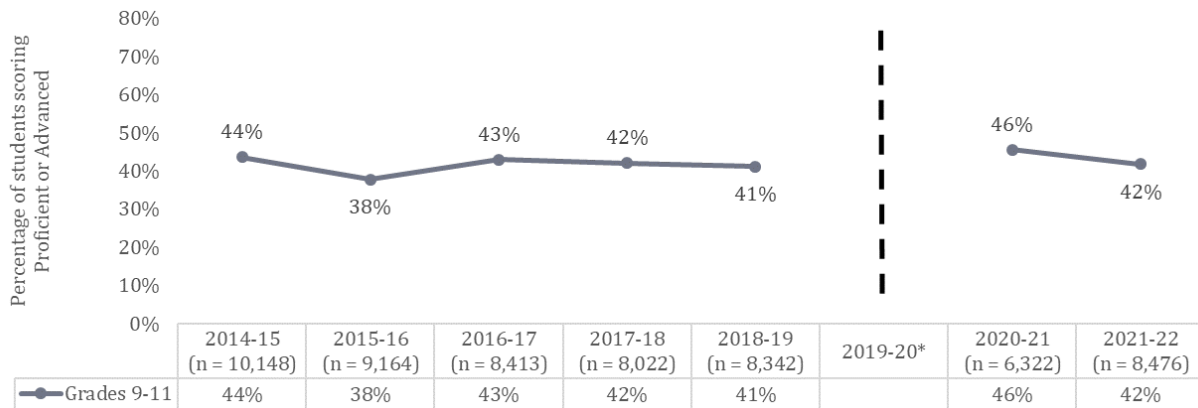
<sup>3</sup> Detailed data on SDP Keystone outcomes are available on our Open Data website: [https://www.philasd.org/performance/programsservices/open-data/school-performance/#pssa\\_keystone](https://www.philasd.org/performance/programsservices/open-data/school-performance/#pssa_keystone)

## Literature Keystone Performance

Each tested year since 2014-15, between 38%-46% SDP grades 9-11 students in scored in the Proficient or Advanced performance groups on the Literature Keystone exam.

Performance peaked in 2020-21 at 46% (Figure 1), however, during that year fewer students than usual took the Keystones assessments, as well as all other assessments, due to hybrid schooling, lower enrollment, and administering the spring 2021 Keystones in fall 2021.<sup>4</sup>

Figure 1. The percentage of grades 9-11 students scoring Proficient or Advanced on the Literature Keystone from 2014-15 to 2021-22



**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 6, 2022.

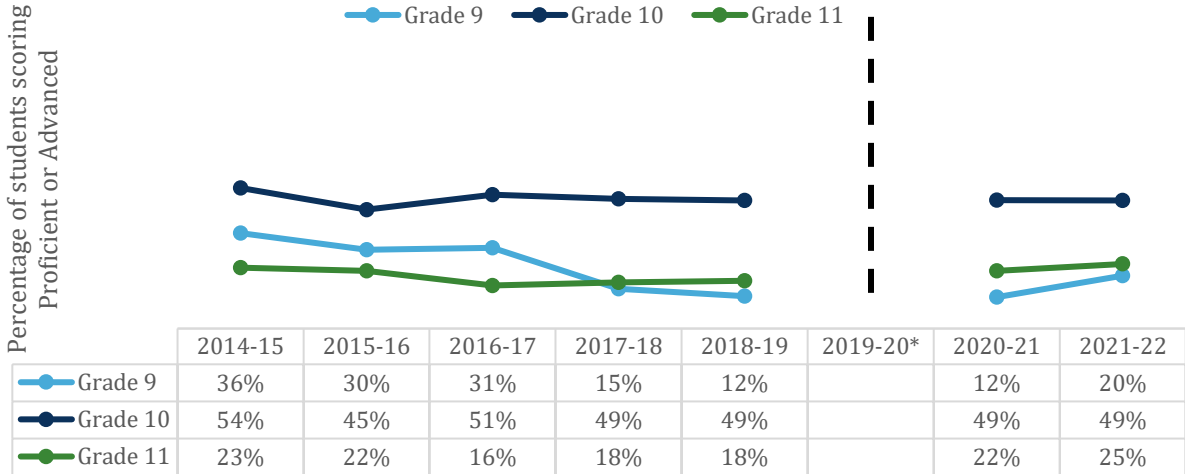
**Note:** This includes all students in grades 9-11 who took the Keystone in the year referenced. In 2019-20, students did not take the Keystone exams due to the COVID-19 pandemic. In 2020-21, fewer students took the Keystone exams than in a typical year.

<sup>4</sup> For more information on 2020-2021 assessments, see [philasd.org/research/2022/02/18/summary-of-district-wide-assessments-administered-to-sdp-students-during-the-2020-21-school-year/](https://philasd.org/research/2022/02/18/summary-of-district-wide-assessments-administered-to-sdp-students-during-the-2020-21-school-year/)

**Each tested year since 2014-15, about 50% of 10th graders scored in the Proficient or Advanced performance groups on the Literature Keystone.**

From 2014-15 to 2021-22, between 45%-54% of 10<sup>th</sup> graders scored in the Proficient or Advanced performance groups on the Literature Keystone on average (Figure 2). In comparison, between 16%-25% of 11<sup>th</sup> graders and 12%-36% of 9<sup>th</sup> graders scored Proficient or Advanced on the Literature Keystone. 9<sup>th</sup> graders experienced the largest decline from 2016-17, although fewer 9<sup>th</sup> graders took the Keystones starting in 2017-18, so this finding should be interpreted with caution.

Figure 2. The percentage of grades 9-11 students scoring Proficient or Advanced on the Literature Keystone from 2014-15 to 2021-22, by grade level



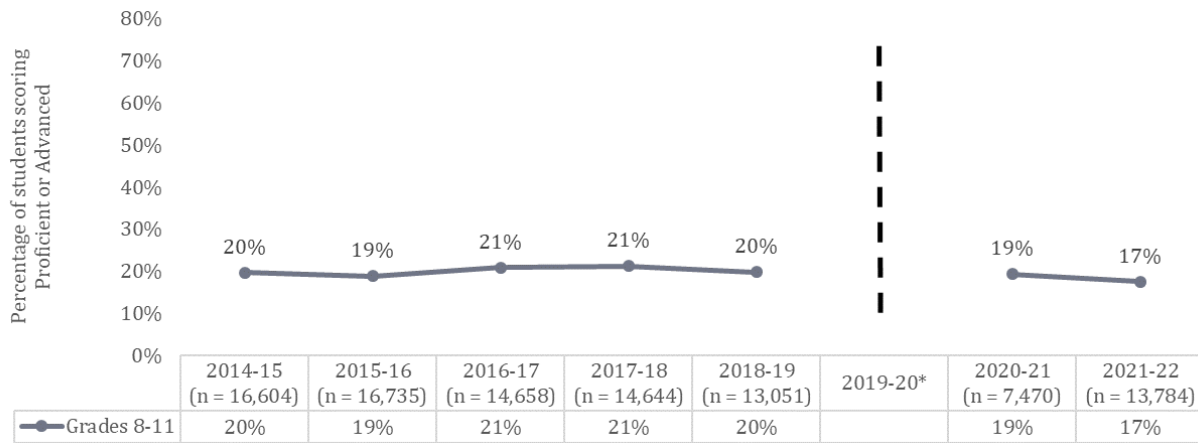
**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 6, 2022.  
**Note:** This includes all students in grades 9-11 who took the Keystone in the year in the header. See Table A1 for the number of students in each grade level.

## Algebra I Keystone Performance

Each tested year since 2014-15, between 17%-21% SDP students in grades 8-11 scored in the Proficient or Advanced performance groups on the Algebra I Keystone exam.

Student performance on the Algebra I Keystone exam was rather consistent from 2014-15 to 2018-19 at about 20% (Figure 3). Performance returned to the 19% average in 2020-21, and subsequently declined again in 2021-22 at 17%.

Figure 3. The percentage of grades 8-11 students scoring Proficient or Advanced on the Algebra I Keystone from 2014-15 to 2021-22



**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 8, 2022.

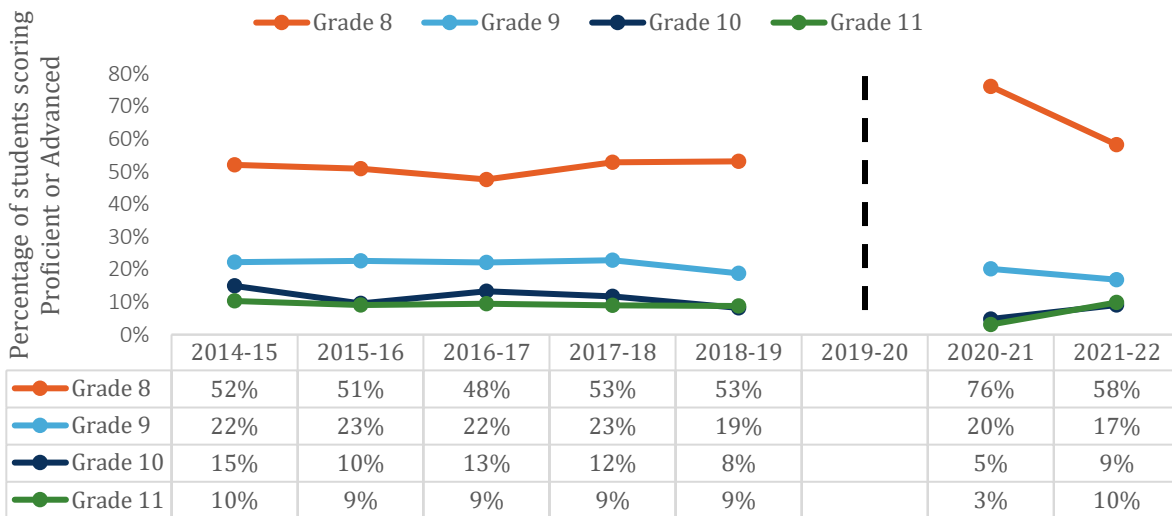
**Note:** This includes all students in grades 8-11 who took the Keystone in the year referenced. In 2019-20, students did not take the Keystone exams due to the COVID-19 pandemic. In 2020-21, fewer students took the Keystone exams than in a typical year.

**Looking at performance by grade level, we find that since 2014-15, higher percentages of 8th graders scored in the Proficient or Advanced performance groups on the Algebra I Keystone than other grades.**

Each year from 2014-15 to 2021-22, between 52%-76% of 8<sup>th</sup> graders scored in the Proficient or Advanced performance groups on the Algebra I Keystone (Figure 4).

In comparison, between 17%-23% of 9<sup>th</sup> graders scored in the Proficient or Advanced performance groups on the Algebra I Keystone. Additionally, between 5%-15% of 10<sup>th</sup> graders and 3%-10% of 11<sup>th</sup> graders scored in the Proficient or Advanced performance groups on the Literature Keystone. 8<sup>th</sup> graders saw the greatest spike in performance at 76% in 2020-21, and the largest decline to 58% in 2021-22, however, fewer 8<sup>th</sup> graders took the Keystones starting in 2020-21 than in other years, so this finding should be interpreted with caution.

Figure 4. The percentage of grades 8-11 students scoring Proficient or Advanced on the Algebra I Keystone from 2014-15 to 2021-22, by grade level



**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 8, 2022.

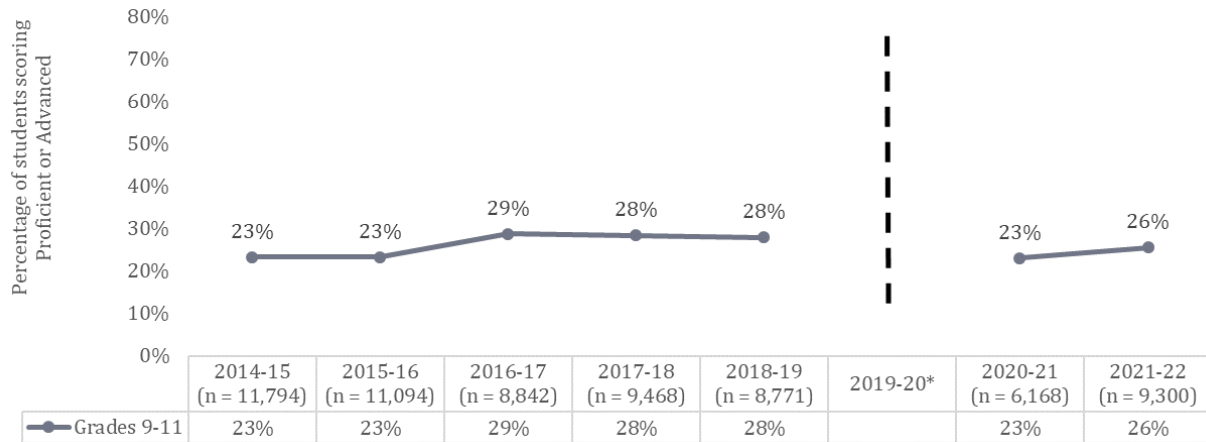
**Note:** This figure includes all students in grades 8-11 who took the Keystone in the year in the header. See Table A2 for the number of students in each grade level.

## Biology Keystone Performance

Each tested year since 2014-15, between 23%-29% of grades 9-11 students scored Proficient or Advanced on the Biology Keystone exam.

Performance peaked in 2016-17 at 29% (Figure 5). By 2020-21, performance had declined back to the 2014-15 and 2015-16 performance at 23%.

Figure 5. The percentage of grades 9-11 students scoring Proficient or Advanced on the Biology Keystone from 2014-15 to 2021-22



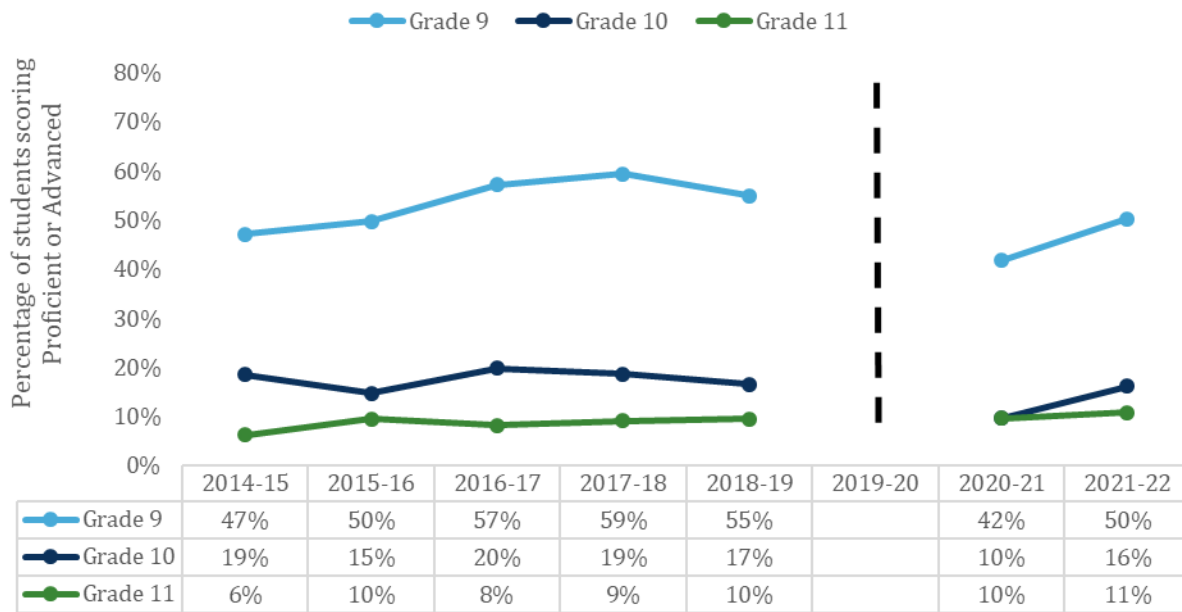
**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 8, 2022.

**Note:** This includes all students in grades 9-11 who took the Keystone in the year referenced. In 2019-20, students did not take the Keystone exams due to the COVID-19 pandemic. In 2020-21, fewer students took the Keystone exams than in a typical year.

Looking at performance by grade level, we find that since 2014-15, about 42%-59% of 9th graders scored in the Proficient or Advanced performance groups on the Biology Keystone exam.

From 2014-15 to 2021-22, between 42%-59% of 9<sup>th</sup> graders scored in the Proficient or Advanced performance groups on the Biology Keystone on average (Figure 6). In comparison, between 10%-20% of 10<sup>th</sup> graders and 6%-11% of 11<sup>th</sup> graders scored in the Proficient or Advanced performance groups on the Biology Keystone during those same years.

Figure 6. The percentage of grades 9-11 students scoring Proficient or Advanced on the Biology Keystone from 2014-15 to 2021-22, by grade level



**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 6, 2022.

**Note:** This includes all students in grades 9-11 who took the Keystone in the respective year. See Table A3 for the number of students in each grade level.

## Appendix

Table A1. The number of students scoring Proficient or Advanced out of the number who took the Literature Keystone from 2014-15 to 2021-22, by grade level

School Year	Number of 9 <sup>th</sup> grade students who		Number of 10 <sup>th</sup> grade students who		Number of 11 <sup>th</sup> grade students who	
	Scored Proficient or Advanced	Took the Keystone	Scored Proficient or Advanced	Took the Keystone	Scored Proficient or Advanced	Took the Keystone
2014-2015	175	481	3,537	6,600	710	3,067
2015-2016	123	409	2,734	6,031	600	2,724
2016-2017	148	481	3,197	6,270	273	1,662
2017-2018	21	139	3,054	6,172	300	1,711
2018-2019	24	195	3,068	6,281	339	1,866
2020-2021	17	142	2,733	5,578	132	602
2021-2022	38	188	2,955	6,049	551	2,239

**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 6, 2022.

**Note:** This table corresponds to Figure 2.

Table A2. The number of students scoring Proficient or Advanced out of the number who took the Algebra I Keystone from 2014-15 to 2021-22, by grade level

School Year	Number of 8 <sup>th</sup> grade students who		Number of 9 <sup>th</sup> grade students who		Number of 10 <sup>th</sup> grade students who		Number of 11 <sup>th</sup> grade students who	
	Scored Pro/ Adv	Took the Keystone	Scored Pro/ Adv	Took the Keystone	Scored Pro/ Adv	Took the Keystone	Scored Pro/ Adv	Took the Keystone
2014-2015	569	1,092	1,612	7,252	750	5,020	334	3,240
2015-2016	724	1,422	1,683	7,444	453	4,723	286	3,146
2016-2017	752	1,580	1,528	6,889	626	4,693	141	1,496
2017-2018	922	1,745	1,478	6,478	561	4,803	146	1,618
2018-2019	944	1,776	1,236	6,574	258	3,161	135	1,540
2020-2021	201	264	1,181	5,847	45	939	13	420
2021-2022	696	1,194	1,213	7,201	324	3,582	179	1,807

**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 7, 2022.

**Note:** This table corresponds to Figure 4.

Table A3. The number of students scoring Proficient or Advanced out of the number who took the Biology Keystone from 2014-15 to 2021-22, by grade level

School Year	Number of 9 <sup>th</sup> grade students who		Number of 10 <sup>th</sup> grade students who		Number of 11 <sup>th</sup> grade students who	
	Scored Proficient or Advanced	Took the Keystone	Scored Proficient or Advanced	Took the Keystone	Scored Proficient or Advanced	Took the Keystone
2014-2015	1,629	3,456	897	4,843	219	3,495
2015-2016	1,602	3,222	635	4,308	341	3,564
2016-2017	1,525	2,670	872	4,386	146	1,786
2017-2018	1,626	2,738	878	4,701	186	2,029
2018-2019	1,609	2,929	662	4,003	175	1,839
2020-2021	1,067	2,551	286	2,947	65	670
2021-2022	1,471	2,925	650	4,026	255	2,349

**Source:** Qlik PSSA & Keystones, Performance Levels: Multi-Year Trends, downloaded September 6, 2022.

**Note:** This table corresponds to Figure 6.