2024-2025 Annual Service Report

The Pennsylvania Basic Education/Higher Education Science and Technology Partnership

Executive Summary

The Science in Motion (SIM) program host institutions have been able to continually assist their local school districts in providing fundamental and impactful instruction in the sciences for the past 38 years. During the 2024-2025 academic year the SIM program provided hands-on, inquiry-based experiences to participating schools in their role as the premier high school science education outreach program for the Commonwealth. Science education specialists (mobile educators) employed at the Science in Motion Consortium's ten college and university member sites presented almost 1,500 hands-on laboratory experiences to 252 different schools during the 2024-2025 school year. The program delivered an additional 10,629 drop-off laboratory kits for short-term loans. In addition, SIM offered 13 different professional development workshop opportunities consortium-wide for over 100 teachers. Overall, the Science in Motion Consortium provided 714 different teachers with 956 different labs, creating 179,047 student experiences throughout the Commonwealth during the 2024-2025 school year. Despite recent growth in demand for our services, the Science in Motion Consortium remains flatlined in the state budget and has encountered funding delays to participating higher education institutions. These delays put our valuable programs at risk of losing key personnel and falling short of our potential to serve Pennsylvania's future science workforce.

What is Science in Motion?

Most Pennsylvania high schools cannot afford the multiple sets of up-to-date, well-maintained equipment that are required to prepare students for today's modern technological careers in science, engineering, and other technical fields. Modern scientific training is especially expensive as it requires multiple sets of equipment so that each student can get a hands-on, inquiry-based experience. This classroom deficiency is compounded by the added need for intensive maintenance and management of equipment and software, training to keep teachers up to date on advances in science and technology, and access to relevant, standards-aligned activities that utilize technology. Additionally, even if an individual school musters the resources to provide an up-to-date lab experience, much of the equipment would sit on the shelf for most of the year as it would be used for only one topic in the extensive curriculum that must be covered. In 1987, a team of Pennsylvania science teachers, a local college, and the National Science Foundation set out to tackle these problems. They developed a hugely successful shared-resources partnership that is now known nationally as Science in Motion.

Science in Motion (SIM) addresses the needs of STEM (science, technology, engineering, and mathematics) education in the classroom by providing the following support to schools:

- Access to well-maintained, modern scientific equipment and supplies costing hundreds of thousands of dollars.
- Visiting science education specialists to team-teach high-tech science labs with the school's faculty.
- Professional development workshops to help teachers keep abreast of the latest developments in science and transfer that knowledge into classroom activities and hands-on laboratory experiments.
- Standards-aligned laboratory activities for students.

Science in Motion provides these services through a partnership between the Commonwealth and ten higher education institutions in Pennsylvania. This shared-resources partnership has several advantages. First, high schools now have access to multiple sets of equipment that they could otherwise never afford. This equipment remains in circulation, shared by a regional cluster of schools rather than sitting on a shelf of a single school most of the time. Teachers in the program say that SIM makes the critical difference between being well-resourced for teaching science as opposed to not being adequately resourced. Additionally, the host institutions provide not only administrative and grant support, but also modern laboratory space for the preparation of experiments, chemical ordering, safety and disposal services, and work-study and assistantship opportunities for pre-service teachers. Finally, with colleges and universities as partners, the door is now open for local corporate, foundation, and community backing for science education.

The value of the SIM model has been proven in multiple assessments. Its success can also be seen by the spread of SIM throughout much of Pennsylvania, a backlog of requests for establishment of new sites in the Commonwealth and others, as well as the adoption of the model in other regions, including a statewide program in Alabama.

Why is Science in Motion important to Pennsylvania's economic future?

As older industries cease to be a source for jobs in the Commonwealth, it is imperative for job creation and sustained economic growth that Pennsylvania has a workforce trained for the new emerging economy in the STEM fields (science, technology, engineering, and math.) Science in Motion addresses this need by providing hands-on experiences with modern technology to hundreds of thousands of students in the Commonwealth - the same technology required for today's skilled workforce. No other program in the Commonwealth delivers so much state-of-the-art science equipment and supports so many schools at so little cost.

Why is Science in Motion cost-effective?

Through its shared-resources model and partnerships with higher education, SIM is an extremely cost-effective model. By sharing equipment, science expertise, and professional development resources, SIM provides services that no single school could individually afford. For example, a SIM site can thoroughly support one subject area (e.g., chemistry) in at least 10 schools for only $200,000 per year. A single

school purchasing these services and resources independently would cost over $80,000 per school. The SIM approach realizes a taxpayer cost savings for each subject of nearly $60,000 per school. The typical SIM site serves more than 10 schools, saving at least $595,820 per site to the Commonwealth compared to non-resource-sharing models.

The value of services and resources not charged to the state-awarded budget and thus, not quantified, should be noted. The 10% overhead allowed by the state contracts falls significantly short of the cost of infrastructure provided by the host higher education institutions. This infrastructure, which is provided at the cost of the participating higher education institutions, includes:

- Office and laboratory space
- Access to advanced chemistry and biology research equipment not yet purchased by the outreach program
- Electric, gas, and water utilities
- Deionized/distilled water sources
- Chemical safety, storage, and disposal services
- Shared preparation area equipment including chemical hoods, autoclaves, and dishwashers
- Van parking (at most sites)
- Approved gas tank storage areas
- General clerical and accounting support

It is this infrastructure and the access to higher education science and education faculty expertise that helps make the Pennsylvania Basic Education/Higher Education Science and Technology Partnerships cost-efficient. However, what makes these partnerships most effective in keeping Pennsylvania science curricula current is the constant infusion of new concepts and related activities into high school classrooms through the close relationships formed between teachers at the secondary level and their college/university counterparts who are actively engaged in cutting edge research.

Science in Motion Service Areas

During the 2024-2025 school year, the Science in Motion Consortium consisted of ten higher education institutions including: Commonwealth University- Bloomsburg campus, Drexel University, Elizabethtown College, Gettysburg College, Juniata College, Lehigh Carbon Community College, Pennsylvania Western University- Clarion campus, Ursinus College, Westminster College, and Wilkes University. All sites were operational and offered services to participating schools this fiscal year (Appendix A). Most sites focused on equipment loans over visits due to the lack of mobile educator staff because of budgetary constraints and delays in state appropriation release, which also consistently delays all services to schools. With the delay in receiving funding for the past three school years (2022/2023, 2023/2024, and 2024/2025) from the state, many sites were closed for a large part of this school year, affecting the science teacher assistance and valuable student experiences our program strives to provide.

Subject matter varies among host sites and includes, but is not limited to high school chemistry, biology, physics, and middle school integrated science curricula. Demographics near each site dictate the size of

the service area and the success of obtaining funding beyond state appropriations, which in turn influences the number of individual schools and school districts served per site.



Figure 1

Geographic locations of the Science in Motion (SIM) Consortium ten host Pennsylvania higher education Institutions: Commonwealth University-Bloomsburg campus, Drexel University, Elizabethtown College, Gettysburg College, Juniata College, Lehigh Carbon Community College, Pennsylvania Western University-Clarion campus, Ursinus College, Westminster College, and Wilkes University.

Service Report

During the 2024-25 school year, all the SIM Consortium sites were open for a portion of the school year, if not the entire school year, but most were delayed in opening due to funding delays. Receiving funds varied per site, ranging from January to June 2025. All service record values for 2024-2025 can be seen in Table 1. Sites that run at full capacity have had to secure alternative funding to offer the full-time program schedule. However, most host SIM programs simply do what they can until their financial resources are expended. Even though there were delays in opening some sites, the mobile educator visits (Figure 3) are at their highest since 2018 and equipment loans are at their highest in the shown 22-year history, with a steady increase being shown since 2020 (Figure 4). Student contacts have decreased since 2023, despite the increases in visit and loan values. The SIM Consortium staff members also reported being involved in and helping with over 200 individual students with supplies, materials, and equipment loans for science fairs and special science events such as PA Junior Academy of Science and various science/school club projects.

Table 1

The Science in Motion Consortium site members combined service records for school years 2013 through 2025.

School Year Totals	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Teaching Visits													
Biology	1,211	1,080	655	665	669	584	724	652	51	334	432	287	603
Chemistry	1,019	900	453	389	393	639	343	229	74	98	154	112	154
Other	646	498	601	686	627	369	395	276	12	233	623	570	736
Total teaching visits	2,886	2,478	1,709	1,740	1,689	1,592	1,462	1,157	186	665	1,209	969	1,493
Equipment loans	7,238	6,298	6,018	5,648	6,046	6,206	6,585	4,326	4,698	6,557	8,243	8,975	10,629
Student contacts	214,164	202,931	143,723	137,100	150,929	158,320	182,229	151,368	73,931	166,528	198,659	186,512	179,047
Schools served	244	231	270	179	221	212	282	194	156	215	247	252	252
Teachers served	626	624	623	443	478	470	642	436	387	527	683	623	714
Labs taught	925	886	858	842	612	759	751	532	742	824	1,078	1,168	956
Accelerated students	50,043	57,221	29,741	25,711	31,018	40,261	25,740	25,511	10,597	43,898	50,965	51,105	42,427

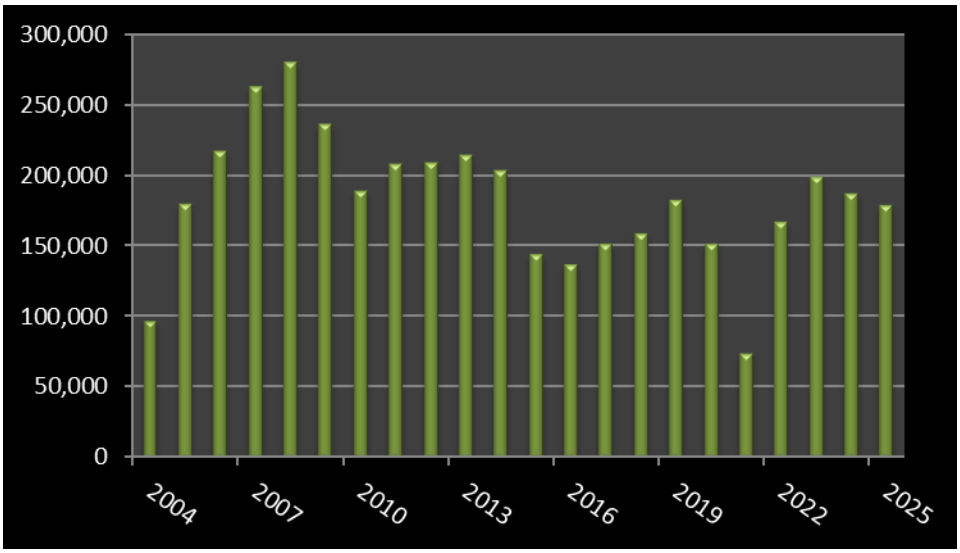


Figure 2

The total number of student contacts by the Science in Motion Consortium from visit and loans for the school year 2004 through 2025.

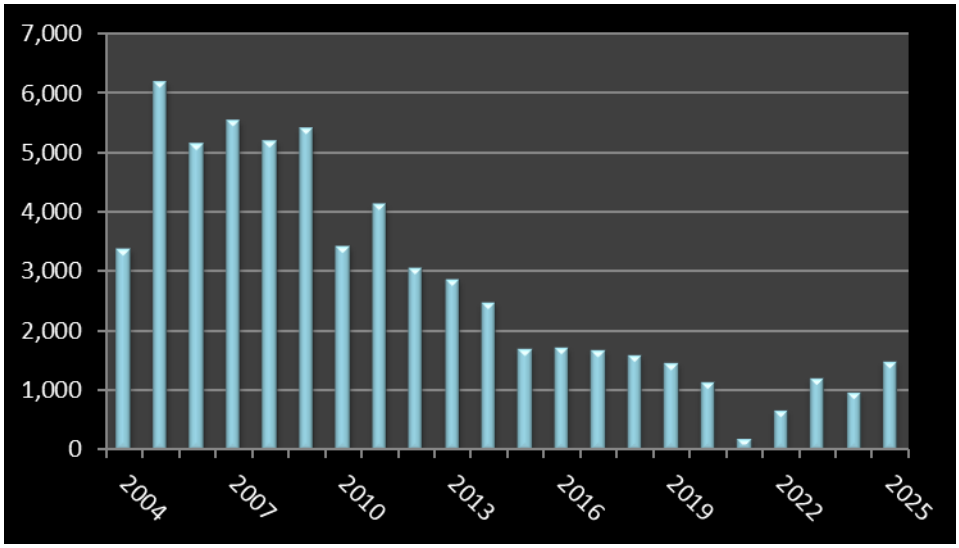


Figure 3
The total number of teaching visits by the Science in Motion Consortium Mobile educators for the school year 2004 through 2025.

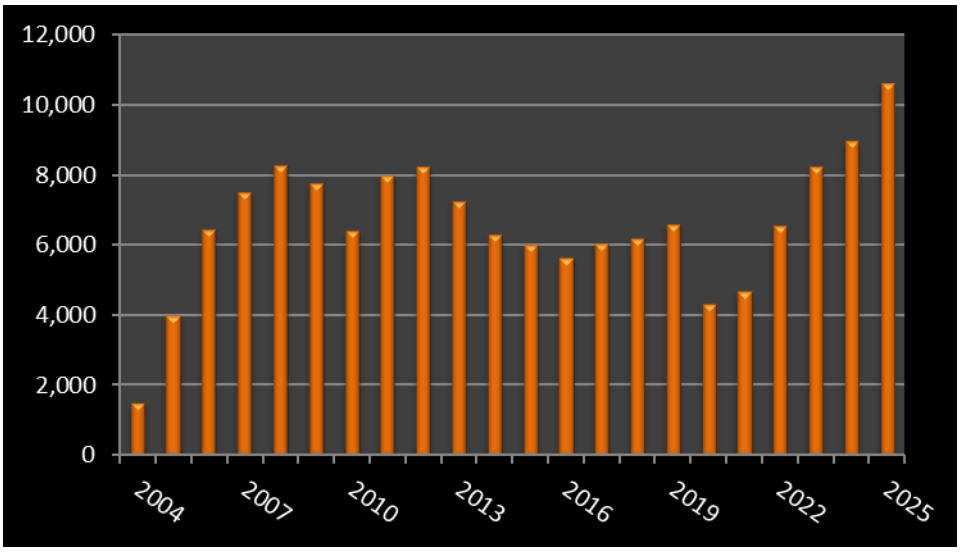


Figure 4
The total number of equipment loans by the Science in Motion Consortium for the school year 2004 through 2025.

It has been difficult for the SIM Consortium higher education member institutions to make business decisions and adequately judge the risk involved with continuing the state partnership and hosting the SIM program at their institutions when they are unsure of budget allocations each year. Annual funding uncertainties also make it difficult for even the established SIM sites to keep their outstanding and experienced employees from accepting other sources of employment that can assure them of continuing employment.

The SIM consortium has shifted our advocacy events within the past several years. Starting in 2022 and having returned for 2024, the SIM Consortium "Capitol Day" has been replaced by the "Bring Your Child to Work Day" event. This event is sponsored by the Senate Republican caucus services and its goal is to showcase the SIM consortium sites to state leaders so they can see first-hand the importance of science in education and, more specifically, the importance of the Science in Motion program to our state. During these events, our consortium sites showcase the state-of-the-art science equipment that we have and different hands-on laboratory activities in the Capitol Rotunda to the families attending, ranging from toddlers to college-age children. Along with the "Bring Your Child to Work Day" events, the consortium has also been working with local Senators and Representatives to support a STEM Day in their districts. The first event of this kind was in 2023 at the Juniata College campus in Huntingdon, PA, and it is set to return in the fall of 2025 to Juniata College. The "Discover STEM: A Day for Families" events in both 2023 and 2025 are sponsored by State Senator Judy Ward and the Senate Republican caucus services, and showcase the SIM consortium sites and everything we have to offer in terms of equipment and experiences. Each year that we do one of these events, the SIM Consortium is praised for their professionalism and engaging hands-on activities.

Conclusion

Science in Motion is a unique program doing fantastic work that is needed and cherished by the school systems, teachers, and students that participate in the program. We look towards a future of keeping teachers and high school/middle school courses up to date with the latest discoveries and techniques in science in line with the latest state standards. The Science in Motion Consortium outreach staff has been able to successfully maintain a consistent level of service to its participating schools. At some host higher-education institutions the Educational Improvement Tax Credit (EITC) program, peripheral grants, gifts, and donations have allowed them to enhance the program beyond the level supported by the state allocation. The Science in Motion program has been supporting STEM efforts in Pennsylvania classrooms for the past **38 years**!

Science in Motion Consortium services are of significant value to:
1) The Office of the Governor - because no other program in the Commonwealth delivers so much state-of-the-art science equipment and supports so many schools at so little cost,
2) The Pennsylvania Department of Education- for providing access to advanced STEM/laboratory equipment and resources to rural and inner-city school districts that could not otherwise afford to purchase and maintain the components of these science labs/equipment, and
3) Teachers' efforts in the classroom- to offer students opportunities to engage in hands-on experiences in the classroom which translates to a better future Pennsylvania workforce.

The Science in Motion Consortium host sites receive more requests for school service than their sites can provide with the current funding allocation and our goal is to change that, because we have the infrastructure, knowledge, and a network of science teachers to do so. Investing in the SIM program is investing in the future because no other program in the commonwealth delivers so much STEM equipment and supports so many schoolteachers in educating Pennsylvania's youth at so little cost.

Appendix A: School districts and individual schools served during the 2024-2025 school year by each active site of the Science in Motion Consortium (10 total, in alphabetical order).

Commonwealth University- Bloomsburg Campus	
School Districts and Private School Systems (12)	**Individual Schools (13)**
Central Columbia School District	Central Columbia Elementary School
Central Dauphin School District	Central Dauphin High School
Greenwood School District	Greenwood High School
Keystone Central School District	Central Mountain High School
Line Mountain School District	Line Mountain High School
Midd-West School District	Midd-West High School
Mifflinburg Area School District	Mifflinburg High School
Private School	Northumberland Christian School
	River Valley Nature School
Selinsgrove Area School District	Selinsgrove High School
Shamokin Area School District	Shamokin High School
South Williamsport Area School District	South Williamsport High School
Warrior Run School District	Warrior Run Jr/Sr High School

Drexel University	
School Districts and Private School Systems (1)	**Individual Schools (6)**
School District of Philadelphia	George Washington High School
	Northeast High School
	Parkway Northwest High School
	Philadelphia Learning Academy North
	SPARC (Space Research Center) of the Magnet School and Northeast High School
	West Philadelphia High School

Elizabethtown College	
School Districts & Private School Systems (27)	**Individual Schools (38)**
Big Spring School District	Big Spring High School
Carlisle Area School District	Carlisle High School
Conestoga Valley School District	Gerald Huesken Middle School
Cornwall-Lebanon School District	Cedar Crest Middle School
Cumberland Valley School District	Cumberland Valley High School
	Mountain View Middle School
Diocese of Harrisburg	St. John Neuman
Donegal School District	Donegal Intermediate School
	Donegal Junior High School
Elizabethtown Area School District	Bear Creek Upper Elementary School
	Elizabethtown Area High School
	Elizabethtown Area Middle School

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Hempfield School District	Hempfield High School
Lancaster School District	J P McCaskey High School
	Lincoln Middle School
	Wheatland Middle School
Lampeter-Strasburg School District	Lampeter-Strasburg High School
Lititz Christian School	Lititz Christian High School
Manheim Central School District	Manheim Central High School
	Manheim Central Middle School
Manheim Township School District	Manheim Township Intermediate School
Milton Hershey School	Milton Hershey Middle Division
	Milton Hershey Senior Division
Muhlenberg School District	Muhlenberg High School
Mt. Calvary Christian School	Mt. Calvary High School
New School Montessori	Middle Level
Northern Lebanon School District	Northern Lebanon High School
Palmyra Area School District	Palmyra Area High School
	Palmyra Area Middle School
Penn Manor School District	Penn Manor High School
	Penn Mannor Middle School
Schuylkill Valley School District	Schuylkill Valley High School
Shippensburg Area School District	Shippensburg Area High School
Solanco School District	Solanco High School
South Middletown School District	Boiling Springs High School
The Janus School	The Janus School Upper Division
The Stone Independent School	The Stone Independent High School
	The Stone Independent Middle School

Gettysburg College	
School Districts and Private School Systems (16)	**Individual Schools (32)**
Bermudian Springs School District	Bermudian Springs Elementary School
	Bermudian Springs High School
	Bermudian Springs Middle School
Camp Hill School District	Camp Hill High School
Chambersburg Area School District	Chambersburg Area Senior High
	Chambersburg Area Middle School North
Conewago Valley School District	Conewago Valley Intermediate School
	New Oxford Middle School
Diocese of Harrisburg	St. Francis Xavier
	St. Teresa of Calcutta Catholic School
	St. Rose of Lima Elementary School
Fairfield School District	Fairfield Area Middle School
Gettysburg Area School District	Franklin Twp Elementary School
	Gettysburg Area High School

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	Gettysburg Area Middle School
	James Gettys Elementary School
	Lincoln Elementary School
	Vida Charter School
Greencastle-Antrim School District	Greencastle-Antrim High School
Hanover Public School District	Hanover Middle School
Littlestown Area School District	Alloway Creek Elementary School
Northern York County School District	Northern York High School
Private	Providence Christian Academy
	Shalom Christian Academy
Shippensburg Area School District	Grace B Luhr's University Elementary School
	Shippensburg Area Intermediate School
Spring Grove Area School District	Spring Grove Area Middle School
Upper Adams School District	Biglerville Elementary
	Biglerville High School
	Upper Adams Intermediate School
	Upper Adams Middle School
Waynesboro School District	Waynesboro Middle School

Juniata College	
School Districts and Private School Systems (19)	**Individual Schools (31)**
Bellefonte Area School District	Bellefonte Area High School
	Bellefonte Area Middle School
Bellwood-Antis School District	Bellwood-Antis High School
Central Fulton School District	McConnellsburg Middle/High School
Claysburg-Kimmel School District	Claysburg-Kimmel Jr/Sr High School
Diocese of Altoona-Johnstown	Bishop Guilfoyle Academy
Forbes Road School District	Forbes Road Jr/Sr High School
Glendale School District	Glendale Senior High School
Hollidaysburg Area School District	Charles W. Longer Elementary School
	Food of Ten Elementary School
	Frankstown Elementary School
	Hollidaysburg Area Junior High School
	Hollidaysburg Area Senior High School
Huntingdon Area School District	Huntingdon Area High School
	Huntingdon Area Middle School
Juniata Valley School District	Juniata Valley Jr/Sr High School
New Day Charter School	Huntingdon Campus
	Mifflintown Campus
Mifflin County School District	Mifflin County High School
	Mifflin County Junior High School
	Mifflin County Middle School
Mount Union Area School District	Mount Union Area Junior High School

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	Mount Union Area Senior High School
Penn Mont Academy	Penn Mont Academy
Northern Bedford County School District	Northern Bedford County High School
Penns Valley Area School District	Penns Valley Area Jr/Sr High School
Southern Huntingdon County School District	Southern Huntingdon County Middle/High School
Spring Cove School District	Central High School
	Spring Cove Middle School
Tyrone Area School District	Tyrone Area High School
	Tyrone Area Middle School

Lehigh Carbon Community College	
School Districts and Private School Systems (12)	**Individual Schools (17)**
Allentown School District	Dieruff High School
	Trexler Middle School
Bethlehem School District	Broughal Middle School
	Freedom High School
	Liberty High School
East Penn School District	Emmaus High School
Nazareth School District	Nazareth Intermediate School
Northampton School District	Northampton High School
Palmerton School District	Palmerton High School
Panther Valley School District	Panther Valley High School
Parkland School District	Parkland High School
Reading Area School District	Reading High School
Salisbury School District	Salisbury High School
Whitehall-Coplay School District	Whitehall-Coplay High School
Weatherly School District	Weatherly Elementary School
	Weatherly High School
	Weatherly Middle School

PennWest University - Clarion Campus	
School Districts and Private School Systems (14)	**Individual Schools (16)**
Allegheny-Valley Area School District	Allegheny-Valley Area Jr/Sr High School
Armstrong Area School District	Armstrong Jr/Sr High School
	West Shamokin Jr/Sr High School
Clarion Area School District	Clarion Area Jr/Sr High School
Clarion-Limestone Area School District	Clarion-Limestone Jr/Sr High School
Cranberry Area School District	Cranberry Area Jr/Sr High School
DuBois Area School District	DuBois Area High School
	DuBois Area Middle School
DuBois Christian School	DuBois Christian School
Forest Area School District	East Forest Area Jr/Sr High School

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Keystone Area School District	Keystone Area Jr/Sr High School
Nonpublic School	Saint Thomas More Homeschool Co-Op
Oil City Area School District	Oil City Area High School
Punxsutawney Area School District	Punxsutawney High School
Redbank Valley Area School District	Redbank Valley Jr/Sr High School
Titusville Area School District	Titusville Middle School

Ursinus College	
School Districts and Private School Systems (17)	**Individual Schools (21)**
Boyertown Area School District	Boyertown Area Senior High School
Chester County Technical College High School	Chester County Technical College High School
Colonial School District	Plymouth-Whitemarsh High School
Downingtown Area School District	Downingtown High School East
	Downingtown Middle School
Great Valley School District	Great Valley High School
Marple-Newtown School District	Marple-Newtown High School
Methacton School District	Methacton High School
Norristown Area School District	East Norriton Middle School
	Roosevelt Campus
North Penn School District	North Penn High School
Owen J Roberts School District	JMJ Cooperative
	Owen J Roberts High School
Pennsylvania Leadership Charter School	University Scholars Program
Perkiomen Valley School District	Perkiomen Valley High School
	Perkiomen Valley Middle School East
Phoenixville School District	Phoenixville High School
Salem Christian School	Salem Christian School
Spring-Ford School District	Spring-Ford 7th Grade Center
Twin Valley School District	Twin Valley High School
Wilson School District	Wilson High School

Westminster College	
School Districts and Private School Systems (20)	**Individual Schools (35)**
Creative Learning Christian School	Creative Learning Christian School
Crossroads Private School	Crossroads Private School
Erie Diocese	Kennedy Catholic High School
Farrell Area School District	Farrell High School
Greenville Area School District	Greenville Elementary School
	Greenville Jr/Sr High School
Grove City Christian Academy	Grove City Christian Academy
Hermitage School District	Artman Elementary School
	Delahunty Middle School

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	Hickory High School
	Ionta Elementary
Jamestown Area School District	Jamestown Elementary School
	Jamestown Jr/Sr High School
Laurel School District	Laurel Elementary School
	Laurel Jr/Sr High School
Mercer Area School District	Mercer Elementary School
	Mercer Middle-High School
Neshannock Township School District	Memorial Elementary School
	Neshannock Jr/Sr High School
New Castle Christian Academy	New Castle Christian Academy
New Castle Area School District	New Castle Jr/ Sr High School
Penncrest School District	Maplewood Middle-High School
Reynolds School District	Reynolds Elementary School
	Reynolds Jr/Sr High School
Seneca Valley School District	Seneca Valley Intermediate High School
	Seneca Valley Senior High School
Sharon School District	Case Elementary
	Musser Elementary
	Sharon High School
Sharpsville Area School District	Sharpsville Elementary School
	Sharpsville Jr/Sr High School
Slippery Rock Area School District	Slippery Rock High School
Wilmington Area School District	New Wilmington Area Elementary
	Wilmington Area High School
	Wilmington Area Middle School

Wilkes University	
School Districts and Private School Systems (33)	**Individual Schools (45)**
Abington Heights School District	Abington Heights High School
Crestwood Area School District	Crestwood High School
Dallas School District	Dallas High School
	Dallas Intermediate School
Danville Area School District	Danville Area High School
Diocese of Scranton	Good Shepherd Academy
	Holy Family Academy
	Holy Rosary School
	St. Nick's/ St. Mary's School
Dunmore School District	Dunmore High School
Elk Lake School District	Elk Lake High School
Forest City Regional School District	Forest City Regional High School
Greater Nanticoke Area School District	Greater Nanticoke Area High School
Hanover Area School District	Hanover Area Jr/Sr High School

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Hazleton Area School District	Hazleton Area Academy of Sciences
	Hazleton Area High School
Honesdale Area School District	Honesdale Area High School
Lake-Lehman School District	Lake-Lehman Jr/Sr High School
Lakeland School District	Lakeland Jr/Sr High School
Mid Valley School District	Mid Valley High School
Northwest Area School District	Northwest Area High School
Old Forge School District	Old Forge Jr/Sr High School
Palmerton Area School District	Palmerton Area High School
Pittston Area School District	Pittston Area High School
Pocono Mountain School District	Pocono Mountain East High School
	Pocono Mountain West High School
Scranton Preparatory School	Scranton Preparatory School
Scranton School District	West Scranton High School
Stroudsburg Area School District	Stroudsburg Area School District
Tamaqua Area School District	Tamaqua Area High School
Towanda Area School District	Towanda Area Jr/Sr High School
Tri-Valley School District	Tri-Valley Jr/Sr High School
Tunkhannock Area School District	Tunkhannock Area High School
Wallenpaupack Area School District	Wallenpaupack Area High School
Western Wayne School District	Western Wayne High School
Wilkes-Barre Area School District	Dan Flood Elementary School
	Dr. David W. Kistler Elementary School
	GAR Middle School
	Solomon Plains Elementary School
	Solomon Plains Middle School
	Wilkes-Barre Area High School
Wyoming Area School District	Wyoming Area Secondary Center
Wyoming Seminary Private School	Wyoming Seminary Lower School
Wyoming Valley West School District	Wyoming Valley West High School
	Wyoming Valley West Middle School