

**Pittsburgh Public Schools
Library Services
K-12 Scope and Sequence**

**Information Literacy for
Life-Long Learning**

August, 2009

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Information Literacy for Life-Long Learning**Chapter 1 Preliminary Documents** [Revised July, 2009]**1.1 Rationale for *Information Literacy for Life-Long Learning***

Skills and techniques learned and practiced in the library will lead our students towards information literacy, i.e., the wherewithal needed to collect, evaluate, process and appropriately utilize information of all sorts throughout their lives. While the library may be at the center of the “web of learning,” the long-term mission of the Pittsburgh Public School’s (PPS’s) library program is to provide our students with the resources and skills needed to succeed in today’s information-based society.

Methods and strategies for information retrieval and processing – as well as the love of literature and reading – promulgated by the PPS’s library program cannot stand in isolation, and should not be considered ends in themselves. The teacher-librarians of the District are fully cognizant of this, and expend a great deal of time and energy working collaboratively with other teachers in the learning community. In other words, the entire library experience should supplement – not supplant – any learning done within other curricula.

This scope and sequence – created for PPS’s library program – provides teacher-librarians with the roadmap needed to plan our students’ library experiences, thus ensuring students an exposure to the range of information literacy and library-specific skills needed for life-long learning.

Information Literacy for Life-Long Learning**1.2 What is the Pittsburgh Public Schools' Library Network?**

The Pittsburgh Public Schools' Library Network is the active group of teacher-librarians and the administrative staff of Library Services who work together to educate and provide library resources to all members of the school-learning-community.

1.3 Vision and Mission Statements of the Pittsburgh Public Schools' Library Network**Vision Statement of the Pittsburgh Public Schools' Library Network**

Students served by the Pittsburgh Public Schools' Library Network will be able to demonstrate age-appropriate information fluency, exhibit age-appropriate facility with the library and its many functions, and carry a love of reading into their adult lives. As such, the library will be the center of each school's "web of learning."

Mission Statement of the Pittsburgh Public Schools' Library Network

The teacher-librarian in the Pittsburgh Public Schools' Library Network will actively promote collaboration with the faculty and staff to achieve the District's goal of "Excellence for All." Each library will be a safe and welcoming place that includes current materials for both curricular and personal use that are age-appropriate and support our schools' missions. The teacher-librarians collaborate with faculty to help students learn those skills needed for both lifelong learning and lifelong reading. They strive to make the library the place to develop and practice healthy and responsible habits for research and reading. The staff of Library Services will endeavor to support the teacher-librarians' mission so all of the students in our District are well-served.

Information Literacy for Life-Long Learning**1.4 Preface**

This document was created by – and at the behest of – Pittsburgh’s teacher-librarians to help them to address the needs of our school-learning-community.

Pittsburgh, like many other urban school districts, has a mobile student population. The teacher-librarians want to help to provide a uniformity of skills learned during the students’ progression through the grades, so that no child will be left behind when (s)he moves between grades, teachers or schools.

There are differences among schools within the Pittsburgh Public Schools. These differences are based upon some combination of the following:

- The physical differences of the school buildings;
- The demographics of the student population;
- The academic and social needs of the students within those buildings;
- The differences in the site-based budgets;
- Mandated services;
- Mandated usage of varying resources; and/or
- The scheduling of student classes.

Consequently, there are great differences among the school levels in the school libraries – and the roles of the teacher-librarians – from school-to-school. Some elementary and middle schools have a full-time teacher-librarian. Other schools have a teacher-librarian on faculty only half-time, or even just one day per week. Several schools have no teacher-librarian at all. Some elementary and/or middle school teacher-librarians teach each student once per week, while some teach each student three or even five times per week. In fact, within any given school in the District, there may be differences as to how various grade levels utilize the library. This is at the discretion of the school schedule and the principal.

It should also be noted that in secondary schools, there is an open schedule to provide the learning-community individual access to library resources. Instructional time is based upon the academic teachers collaborating with the teacher-librarians. Most of the instructional time given at this level is one-on-one or small group.

Individual lessons conforming to this sequence have been developed by the department, and continue to be developed by individual teacher-librarians. These are shared both on the departmental website and on the TeachLibrary wiki (<http://www.teachlibrary.wikispaces.com>).

Therefore, this document has been designed to be used as a set of recommended guidelines and lessons – rather than as a list of requirements – for the individual teacher-librarians.

Information Literacy for Life-Long Learning**1.5 The Role of the School Library and the Teacher-Librarian** [Added June, 2009]

The school library is the center of each school's "web of learning." The library is a place that is alive with literature, learning and the collective dreams and thoughts of our students and of authors down through the ages. It is not just a room filled with books, but is a place where the patrons – our students and staff – are encouraged to indulge their curiosity and explore the avenues of their imaginations.

The library is the place to come to learn how to learn. It is a place to learn, to learn to do research and then to do research. School libraries facilitate teaching students the requisite skills necessary to become independent life-long learners.

Each school library is staffed by a certified teacher-librarian to promote, coordinate and facilitate these goals. The role of the teacher-librarian is six-fold:

- To make the library a safe and welcoming place within the school;
 - To promote reading and the love of literature;
 - To promote each student's imagination and cognitive abilities;
 - To promote each student's independent, informational literacy;
 - To manage the library's collection of books and other materials, including:
 - Purchasing new and appropriate materials for the collection within the strictures of departmental guidelines and the library's budget;
 - Circulating materials;
 - Providing other management functions, per departmental policies and procedures;
- and,
- To collaborate with the school's faculty and administration to provide each student with additional avenues for learning.

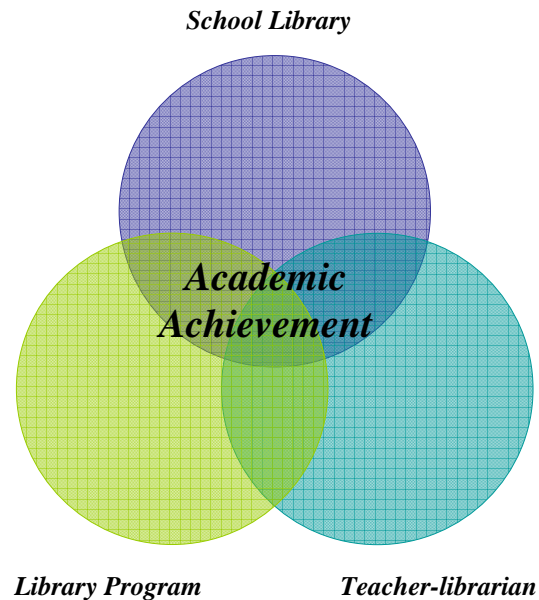
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1.6 Research Supporting the Role of the School Library [Added: June, 2009]

There is a significant body of research which shows a direct correlation between a well-stocked and properly staffed school library and an improvement in both standardized test scores and broad-based learning. This body of knowledge includes research conducted by the education departments of nineteen US states, as well as the education ministry of one Canadian province.

In a study first published in 2000, Keith Curry Lance determined that schools in Pennsylvania absolutely benefited from properly staffed school libraries. **In schools whose libraries had at least one full-time certified teacher-librarian and one full-time support staff member, the study showed a statistically significant increase in**

Pennsylvania System of School Assessment (PSSA) reading scores across all three grades tested. Of Pennsylvania elementary schools with adequately staffed libraries, three out of five reported average or above-average reading scores. In schools with inadequate libraries, the same proportion of students was found to have below-average reading scores.¹ A similar study conducted in Massachusetts in 2002 showed that across all grade levels, schools with library programs consistently had higher scores on the Massachusetts Comprehensive Assessment System (MCAS).²



Scholastic Library Publishing. School Libraries Work! 2008 edition

The Lance study also emphasized the importance of the library collection in promoting student performance. Among Pennsylvania middle schools, the schools with the highest PSSA reading scores spent twice as much money on school library budgets as the lowest-scoring schools. However, Lance also found that the presence of a large school library collection was not enough to increase student achievement on its own. Rather, the collections made a positive contribution to the academic environment only when they were integrated into school-wide initiatives to promote

¹ Lance, Keith Curry, Marcia J. Rodney, and Christine Hamilton-Pennell. (2000). Measuring up to Standards: The Impact of School Library Programs & Information Literacy in Pennsylvania Schools. Greensburg, PA: Pennsylvania Citizens for Better Libraries. <http://www.statelibrary.state.pa.us/libraries/lib/libraries/measuringup.pdf>

² Baughman, James. (2002). School Libraries and MCAS Scores, (Preliminary Edition). A Paper Presented at a Symposium Sponsored by the Graduate School of Library and Information Science, Simmons College, Boston, MA. <http://web.simmons.edu/~baughman/mcas-school-libraries/Baughman%20Paper.pdf>

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information literacy across curricula. Certified teacher-librarians are uniquely qualified to initiate these collaborations.

In fact, the Lance Study in Pennsylvania showed that the size of the school library staff and collection is one of the best overall predictors of academic achievement. **Among school and community predictors, the size of the school library staff and collection is second only to the absence of at-risk conditions, particularly poverty and the low educational attainment among adults. Students who score higher on standardized tests tend to come from schools with more school library staff and more books, periodicals and videos *regardless of other factors including economic ones.*** They also found that PSSA scores tended to increase by 10 to 15 points when all library predictors are maximized.

Another similar study in Illinois³ showed that “**flexible scheduling** continues to exert a positive effect on test scores, **regardless of per pupil spending, teacher-pupil ratio, or students’ race/ethnicity. Elementary Schools with flexibly scheduled libraries performed 10% better in reading and 11% better in writing** on the ISAT tests of fifth graders than schools with less flexibly scheduled libraries.... **High schools with more flexibly scheduled libraries also had 5% higher ACT scores** than schools with less flexibly scheduled libraries.”⁴

³ Lance, Keith Curry, Marcia J. Rodney, and Christine Hamilton-Pennell. (2005). Powerful Libraries Make Powerful Learners: The Illinois study. 2005. Canon, IL: Illinois School Library Media Association.

<http://www.islma.org/pdf/ILStudy2.pdf>

⁴ School Libraries Work! Updated 2008 (Third Edition). Scholastic Library Publishing. p. 20.

Information Literacy for Life-Long Learning**1.7 Collaboration Throughout the School-Learning-Community**

As discussed earlier, skills learned in the library do not just belong within the domain of the library. More to the point, every skill learned and practiced in the library is cross-curricular, teaches critical-thinking skills, and is in service of at least one other academic subject. The library is the locus of the intersection where all of the academics of the school make up the rest of the Venn diagram.

It only makes sense, therefore, that the teacher-librarians collaborate closely with all of the other teachers of the school-learning-community to tailor the lessons taught in the library to teach information literacy skills. This collaboration will promote the students' development towards enhancing and expanding upon the lessons and topics taught elsewhere in the school. To that end, classroom exercises that are done in the library should be shared by the teacher-librarian with the corresponding teacher so that these additional assignments can be added to the academic grade. It becomes superfluous for a teacher-librarian to then assign an additional academic grade to a student.

Academic grades, in point of fact, should not be given for library work. It is this Committee's experience that "library grades" tend to be counter-intuitive, counter-productive and quite often demotivate students from having a life-long appreciation and enjoyment of the library and that for which it can be used: the enjoyment of literature, the enhancement of academic studies and research (whether personal, academic or for business).

Information Literacy for Life-Long Learning**1.8 How To Use This Document**

Teacher-librarians teach cross-curricular critical-thinking skills. Therefore, this Information Literacy Scope and Sequence touches upon every part of a student's education. To this end, the committee identified applicable educational standards within each of the thirteen (13) Pennsylvania Department of Education (PDE) Academic Standards.

The document is not meant as a detailed roadmap that will take each teacher-librarian and their classes, step-by-step, lesson-by-lesson, through the year. Instead, it should be viewed as a generalized guide for the individual teacher-librarian to build upon.

It should also be noted that the skills that are referenced herein, and which are part of this scope and sequence, are tasked to the teacher-librarians so that they may enhance – and not supplant – the work of the teachers within the rest of the learning community. The aim of each teacher-librarian is to teach the skills that will help the students succeed in their other academic subjects (and in their lives), rather than teaching them the subject matters being studied in the other classes. For that reason, teacher-librarians aim to collaborate with their colleagues within the learning community.

As mentioned previously, it is understood that due to the lack of uniformity within the District, not every teacher-librarian will be able cover every topic listed in the Instructional Timelines for each grade every year. This means that the teacher-librarians need to monitor and reassess their students' abilities and needs each year, and throughout the year. If a student – or a class – didn't learn a prerequisite skill, then the teacher-librarian should actively introduce or reinforce the "missing" skill or knowledge.

The Instructional Timelines found within each chapter provide the teacher-librarians with guidelines to determine:

- When students should be introduced to procedural knowledge (at their intellectual levels), and
- Which Pennsylvania Department of Education (PDE) Academic Standard(s) correlate(s) with the listed skill or knowledge.

It is important that it be understood that the Instructional Timelines in each chapter are strictly guidelines, and teacher-librarians cannot be expected to adhere to them without deviation. For example, in Chapter 6 it is suggested that bibliography/Works Cited be formally introduced in fifth and sixth grade, with the topic to be reinforced after that. This is not to say that the general topic cannot be introduced informally – or even formally, if the students can handle it – at a much earlier age. In fact, it may be a good idea to begin informal, age appropriate discussions of the need to give credit for borrowed ideas and/or borrowed text as early as first grade. On the other hand, in a case where the teacher-librarian does not yet feel that the class is ready for a formal introduction to formal bibliographies or Works Cited by fifth grade, (s)he could work towards that goal with less formal references and/or lessons.

The subsequent section within each chapter (Discussion and Guided Questions) provides a more in-depth look at the procedural knowledge concepts to be taught. Along with each concept, questions are suggested to help stimulate learning activities and discussions. These are only suggested questions, as each teacher-librarian will have to adjust the questions to the level of the class and the

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depth to which that class can comprehend the conceptual framework and the material. Also within these matrices is a listing of which of the Pennsylvania Department of Education (PDE) Academic Standard(s) correlate(s) with the listed skill or knowledge.

This scope and sequence is a dynamic document that will be updated by the teacher-librarians of the Library Network as technology and/or practices change. As such, each section has its own page numbering system. The most recent revision date will be found in the bottom left of each page. Along with notices to each of the teacher-librarians when an update occurs, the most recent versions of each section will be available for download from the District's website.

Information Literacy for Life-Long Learning**1.9 Acknowledgements**

This document was developed under the auspices of the Department of Curriculum, Instruction and Professional Development of the Pittsburgh Public Schools. The project was initially developed with the help of Dr. Richard Gutkind, the executive director of Curriculum and Instruction. After his retirement, the project was finished with the support of, and under the auspices of, Dr. Jerri Lippert, the Executive Director of Curriculum, Instruction and Professional Development.

Superintendent Mark Roosevelt and Deputy Superintendent Linda Lane must also be thanked for their support throughout the project.

The project was conceived by the teacher-librarians of the Pittsburgh Public Schools who realized the need to develop some District-wide scope and sequence or curriculum. Seven of our teacher-librarians formed the backbone of the committee that worked throughout the summer of 2007 to develop and write it. Among them, they served all grades during the previous year, ensuring that all viewpoints and student needs (K-12) would be serviced by this document. This committee is to be commended for the cooperative spirit and due diligence that they all brought to the work. These teacher-librarians were:

- Shawna Bayat, M.L.I.S.
- Dale Bizub, M.L.S.
- Rosanne Cipollone, M.L.I.S.
- Elizabeth DeLawder, M.L.I.S.
- Lisa Drwal, M.L.S.
- Melissa Dwyer, M.L.S.
- Judy Ermlick, M.L.S.

Dr. Mary Kay Biagini, Associate Professor of Library and Information Science at the University of Pittsburgh and Director of the School Library Certification Program, served as a consultant to the committee. Her expertise and her insights proved to be invaluable throughout the process.

Daniel Hood, the Information Literacy Fellow at Carnegie Mellon University, served as an additional consultant to the committee. He not only helped throughout the development and writing, but he provided us with great insights, especially as to what our students are “missing” when they reach colleges and universities. He works at Carnegie Mellon University under the auspices of the “Information Literacy for the Region” grant support by the Eden Hall Foundation. This grant aims to build strong relationships between school and academic libraries in order to enhance students’ information skills throughout their K-20 educational careers.

All of the other teacher-librarians – and retired teacher-librarians – of the District who took the time – and will continue to take the time – to comment on, edit, and improve our work also need to be thanked for their efforts.

Very few bodies of work such as this do not build upon the work of others. This project is no exception. We learned a great deal from, and initially built many sections of this project, based

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upon the work and/or formats from departments from around the country, especially the Library Departments of:

- Upper Merion School District, PA (K-12 Library Curriculum: <http://www.umasd.org/13331072184735717/FileLib/browse.asp?A=374&BMDRN=2000&BCOB=0&C=58603>);
- Ephrata School District, PA (EASD K-12 Information Literacy & Technology Skills (ILTS)Curriculum: http://www.easdpa.org/ehs/mediactr/Library_Department.htm); and,
- New York City School District, NY (Information Fluency Continuum: <http://schools.nyc.gov/NR/rdonlyres/BD4FDF5F-F45F-43AE-90BB-410BDBC641AF/6513/INFOFLUENCYCONTK12Final102006.pdf>)

Our Concepts for Lifelong Learning (CL3) and the Glossary are based upon Upper Merion Area School District's Library Information Literacy Skills Curriculum.

These curricula – and the many other curricula from around the country that we looked at – were culled from the wiki of the Council of Great City Schools (CGCS) Library Media Supervisors' Network (greatlibs.wikispaces.com). As such, we need to thank the Library Supervisors from around the country who have posted their work, so that we (and others) could learn from them. As such, we hope that our work will also prove a useful springboard for other similar departments in districts nationwide.

Finally, whenever group or committee work is mentioned, groans are often heard. I must state that this committee was one of the best with whom I have ever worked. Each person in this group provided integral input throughout the development of this entire document. Thank you.

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September, 2007

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Information Literacy for Life-Long Learning**Chapter 2 Concepts for Life-Long Learning¹ (CL³)** [Revised, 11/2007]

- CL³-1 Libraries are places where life-long learning takes place.
- CL³-2 Librarians are professionals who are educated in the management and organization of resources, information and instruction. Teacher-librarians serve as technology leaders in the educational community by incorporating new and emerging information technologies. Teacher-librarians also serve to select books and information resources that will fulfill the many needs of the school-learning-community.
- CL³-3 Library materials are arranged in a logical manner and may be retrieved using knowledge of that arrangement.
- CL³-4 Information may be organized using study, research, reference, and critical thinking skills to foster independent learning.
- CL³-5 Reading for pleasure or information has life-long applications.
- CL³-6 Online databases exist to locate information. Skills mastered to search databases can be applied to online searches.
- CL³-7 Acquisition, evaluation and use of materials should be relevant to a specific need.
- CL³-8 Technology may be used to enhance the acquisition of data and information.
- CL³-9 Information may be readily accessed and evaluated through print and electronic sources.
- CL³-10 Data and information from various resources must be analyzed, evaluated, synthesized and applied appropriately.
- CL³-11 Members of a learning community will understand that all information is not equally valid and that all data is not information.
- CL³-12 Authoritative information may help in making valuable and ethical choices.
- CL³-13 Members of a learning community evaluate information critically for accuracy, relevancy, currency, and comprehensiveness and practice the ethical use of information and information technologies.
- CL³-14 Members of a learning community use information in an ethical and legal manner.
- CL³-15 Members of a learning community exhibit responsible behavior towards people and materials.
- CL³-16 Skills learned and mastered at the school library can be used at the public, academic and other libraries.

¹ The *Concepts for Lifelong Learning* are based upon the *Enduring Understandings* which are found in Library Information Literacy Skills Curriculum of the Upper Merion School District (Upper Merion, PA) <http://www.umasd.org/13331072184735717/FileLib/browse.asp?A=374&BMDRN=2000&BCOB=0&C=58603>. They have been used with permission.

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Information Literacy for Life-Long Learning

Chapter 3 Orienting Students to Use the Library and its Resources [Revised, 11/2007]

CL³-1 Libraries are places where lifelong learning takes place.

CL³-2 Librarians are professionals who are educated in the management and organization of resources, information and instruction. Teacher-librarians serve as technology leaders in the educational community by incorporating new and emerging information technologies. Teacher-librarians also serve to select books and information resources that will fulfill the many needs of the school-learning-community.

CL³-3 Library materials are arranged in a logical manner and may be retrieved using knowledge of that arrangement.

CL³-5 Reading for pleasure or information has life-long applications.

Information Literacy for Life-Long Learning

3.1 Instructional Timeline -

Orienting Students to Use the Library and its Resources

This document is a guide, not a list of requirements. Each concept should be interpreted based upon the students' grade level and integrated with the curriculum.

(I = Introduce R=Reinforce E=Expand/Expect)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Identify the librarian and any helpers.	I	I	I	R	R	R	R	R	E	E	E	E	E
Identify the purposes and functions of a library	I	I	I	R	R	R	R	R	E	E	E	E	E
Recognize and understand the role of the librarian	I	I	I	R	R	R	R	R	E	E	E	E	E
Demonstrate appropriate behavior	I	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Select, borrow and return materials</i>	-	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Demonstrate the appropriate care and handling of materials</i>	I	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Synthesize information and not plagiarize</i>	-	-	-	I	I	R	R	R	R	E	E	E	E
Locate, identify and utilize the parts of the library (if applicable)													
- <i>Circulation desk</i>	I	I	I	R	R	R	R	R	E	E	E	E	E
- <i>OPAC (Destiny®)</i>	-	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Book return</i>	I	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Computers / computer lab</i>	I	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Videos</i>	I	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Fiction collection</i>	I	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Non-fiction collection</i>	I	I	I	R	R	R	R	R	E	E	E	E	E
- <i>Reference collection</i>	-	-	I	I	R	R	R	R	E	E	E	E	E
- <i>Picture books</i>	I	I	I	R	R	R	R	R	E	-	-	-	-
- <i>Easy Reading books</i>	I	I	I	R	R	R	E	E	E	-	-	-	-
- <i>Audio Books</i>	I	I	I	R	R	R	R	R	R	E	E	E	E
- <i>Periodicals / Magazines</i>	-	-	I	I	R	R	R	R	E	E	E	E	E
- <i>Biography</i>	-	-	I	R	R	R	R	R	E	E	E	E	E
- <i>Library webpage and its resources</i>	I	I	I	R	R	R	R	R	E	E	E	E	E

Information Literacy for Life-Long Learning

3.2 Discussion and Guided Questions - Orienting Students to Use the Library and its Resources

Building Skills and Procedural Knowledge – Students will be expected to:	Questions for Discussion	PDE Standards	AASL Standards¹
Identify the librarian and any helpers.	What is the name of the librarian?	6.5B	I 1,2,3
Identify the purposes and functions of a library	- What specific items can be found in a library?	6.5B	III 7,8,9
Recognize and understand the role of the librarian	- What is the role of the librarian within the school and within your learning experience?	6.5B	I 1,2,3
Demonstrate appropriate behavior	- What is appropriate library behavior?	5.1J 5.2B 13.2A,E	III 7,8,9
- <i>Follow library rules and procedures</i>	- What are the library rules and procedures? - What are the rules concerning circulation? - What is the District's Acceptable Internet Use Policy?	5.1B 5.2F	III 7,8,9
- <i>Select, borrow and return materials</i>	- How can materials be selected based on personal needs and interests? - How long do books/materials circulate? - How are books/materials renewed? - Where are books/materials returned? - What happens when books/materials are lost or damaged? - What are library fines? Why are they assessed?	1.1A	III 7,8,9
- <i>Demonstrate the appropriate care and handling of materials</i>	- How should library books be taken care of? - How does appropriate book care influence the life of a book? - How does taking care of books affect the school community? - What happens if books are returned damaged?	5.2B	III 7,8,9

¹ American Association of School Libraries, 1998

Information Literacy for Life-Long Learning

Building Skills and Procedural Knowledge – Students will be expected to:	Questions for Discussion	PDE Standards	AASL Standards¹
<ul style="list-style-type: none"> - <i>Synthesize information and not plagiarize</i> 	<ul style="list-style-type: none"> - What is plagiarism? - What are other forms of copying violations? - What are the consequences of plagiarism or copying violations? - How can you avoid plagiarism? - How can you avoid copying violations? - What is a citation? 	1.8C	III 8
<p>Locate, identify and utilize the sections/resources of the library (if applicable)</p> <ul style="list-style-type: none"> - <i>Circulation desk</i> - <i>OPAC (Destiny®)</i> - <i>Book return</i> - <i>Computers / computer lab</i> - <i>Videos</i> - <i>Fiction collection</i> - <i>Non-fiction collection</i> - <i>Reference collection</i> - <i>Picture books</i> - <i>Easy Reading books</i> - <i>Audio Books</i> - <i>Periodicals/Magazines</i> - <i>Biography</i> - <i>Library webpage and its resources</i> 	<ul style="list-style-type: none"> - Where are specific items located in the library? - How can we locate specific items? - How can knowing the organization of the library help you to locate and use materials? - Why is it important to know where materials are located? - What is the purpose of the call number? - What is the purpose of the prefix locator? - What resources are available linked via the library webpage? 	1.1F	I 1 II 6

Information Literacy for Life-Long Learning

Chapter 4 Encouraging Reading and the Love of Literature [Revised, 11/2007]

CL³-3 Library materials are arranged in a logical manner and may be retrieved using knowledge of that arrangement.

CL³-5 Reading for pleasure or information has life-long applications.

CL³-7 Acquisition, evaluation and use of materials should be relevant to a specific need.

CL³-14 Members of a learning community use information in an ethical and legal manner.

CL³-15 Members of a learning community exhibit responsible behavior towards people and materials.

CL³-16 Skills learned and mastered at the school library can be used at the public, academic and other libraries.

Information Literacy for Life-Long Learning

4.1 Instructional Timeline - Encouraging Reading and the Love of Literature

This document is a guide, not a list of requirements. Each concept should be interpreted based upon the students' grade level and integrated with the curriculum.

(I = Introduce R=Reinforce E=Expand/Expect)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Identify the characteristics of both fiction and non-fiction books.	I	I	R	R	R	E	E	E	E	E	E	E	E
Select appropriate fiction and non-fiction books for informational needs	-	-	-	I	I	R	R	R	R	R	E	E	E
Select appropriate books for recreational and personal enjoyment	-	I	I	R	R	R	R	R	E	E	E	E	E
Identify and appreciate the various styles of illustration.	I	I	I	R	R	R	R	R	E	E	E	E	E
Identify the story elements (e.g., characters, setting and story sequence). Be able to re-tell the story.	I	I	R	R	R	E	E	E	E	-	-	-	-
Respond to a story by writing or drawing.	I	I	R	R	R	E	E	E	E	-	-	-	-
Apply and integrate comprehension skills to answer questions related to previously reviewed materials	I	I	R	R	R	E	E	E	E	-	-	-	-
Identify those persons and organizations involved in the creation of a book and in publishing process	I	I	I	R	R	R	R	E	E	E	E	E	E
Locate and read award-winning titles in the library.	-	-	I	I	R	R	R	E	E	E	E	E	E
Select, read, listen to and/or view literature for enjoyment	I	R	R	R	R	R	R	R	E	E	E	E	E
Identify age-appropriate series	-	-	I	I	R	R	R	E	E	E	E	E	E
Identify age-appropriate authors	-	-	I	I	R	R	R	E	E	E	E	E	E

Information Literacy for Life-Long Learning

4.2 Discussion and Guided Questions - Encouraging Reading and the Love of Literature

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards¹
Identify the characteristics of both fiction and non-fiction books.	- What are some of the characteristics of fiction or non-fiction literature?	1.1A	I 2
Select appropriate fiction and non-fiction books for informational needs	What are some of the reasons for choosing to read a fiction or a non-fiction book?	1.1B	II 5
Select appropriate books for recreational and personal enjoyment	What does genre mean? (Utilize the dictionary definition of the term, where genre is defined as a broad category of literature.) What are various genres of literature? What genres exist within this library?	1.1B	II 4
Identify and appreciate the various styles of illustration.	- What type of illustrations does this book contain? - What do they look like to you? What does this style tell you?	1.3A	II 4,5,6
Identify the story elements (e.g., characters, setting and story sequence). Be able to retell the story.	What are story elements?	1.1G 1.3B	I 2
Respond to a story by writing or drawing.	- What did the story make you feel or think about? - What do you think happened before the story began or after it ended?	1.3D 1.4 A,B	I 3
Apply and integrate comprehension skills to answer questions related to previously reviewed materials	- Can you explain what you just read? - What just happened in the story? - What do you think will happen next?	1.1G 1.3F	I 2
Identify those persons and organizations involved in the creation of a book and in publishing process	- What is a book? - What is the publishing process? - What is an author? - What is an illustrator? - What is an editor?	1.6D	I 3

¹ American Association of School Libraries, 1998

Information Literacy for Life-Long Learning

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards¹
Locate and read award-winning titles in the library.	<p>What are some of the book awards given to books for young people? Why? (i.e., Newbery, Caldecott, Coretta Scott King, Nebula, Hugo, YALSA, Michael Printz,...)</p> <p>[Note: See sites below for lists of awards http://www.bookspot.com/awards/childrens.htm http://falcon.jmu.edu/~ramseyil/awards.htm http://www.ala.org/ala/yalsa/booklistsawards/booklistsbook.htm]</p>	1.3A	II 6
Select, read, listen to and/or view literature for enjoyment	<ul style="list-style-type: none"> - How do you select literature that promotes life-long reading? - How can you share and promote literature to others? - How can you preview materials to meet your needs/desires? (skimming and scanning) - How can reviews help you decide whether a book (or other resource) might be interesting, relevant or worth borrowing or purchasing? 	1.6B	II 4
Identify age-appropriate series	What series are available for readers of your age and your interests?	1.3A	I 1
Identify age-appropriate authors	What authors have written literature that is appropriate for readers of your age and your interests?	1.3A	I 1

Information Literacy for Life-Long Learning**Chapter 5 Teaching Students to Access Information** [Revised, 11/2007]

- CL³-2 Librarians are professionals who are educated in the management and organization of resources, information and instruction. Teacher-librarians serve as technology leaders in the educational community by incorporating new and emerging information technologies. Teacher-librarians also serve to select books and information resources that will fulfill the many needs of the school-learning-community.
- CL³-3 Library materials are arranged in a logical manner and may be retrieved using knowledge of that arrangement.
- CL³-4 Information may be organized using study, research, reference, and critical thinking skills to foster independent learning.
- CL³-6 Online databases exist to locate information. Skills mastered to search databases can be applied to online searches.
- CL³-7 Acquisition, evaluation and use of materials should be relevant to a specific need.
- CL³-8 Technology may be used to enhance the acquisition of data and information.
- CL³-9 Information may be readily accessed and evaluated through print and electronic sources.
- CL³-10 Data and information from various resources must be analyzed, evaluated, synthesized and applied appropriately.
- CL³-11 Members of a learning community will understand that all information is not equally valid and that all data is not information.
- CL³-12 Authoritative information may help in making valuable and ethical choices.
- CL³-13 Members of a learning community evaluate information critically for accuracy, relevancy, currency, and comprehensiveness and practice the ethical use of information and information technologies.
- CL³-16 Skills learned and mastered at the school library can be used at the public, academic and other libraries.

Information Literacy for Life-Long Learning

5.1 Instructional Timeline - Teaching Students to Access Information

This document is a guide, not a list of requirements. Each concept should be interpreted based upon the students' grade level and integrated with the curriculum.

(I = Introduce R=Reinforce E=Expand/Expect)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Identify and locate the resources available from the school library	-	-	I	I	R	R	R	R	E	E	E	E	E
Identify how library resources are arranged in order to select materials	-	I	I	R	R	R	R	R	E	E	E	E	E
Recognize and define the purpose of library classification systems, including Dewey Decimal and Library of Congress	-	-	-	I	I	R	R	R	R	R	E	E	E
Use the OPAC (Destiny [®]) to find specific titles, authors and/or subject	-	-	I	I	R	R	R	R	E	E	E	E	E
Locate relevant materials within the library utilizing the OPAC (Destiny [®])	-	-	-	I	I	R	R	E	E	E	E	E	E
Explain how one item can be available in multiple formats (print, eBooks, or other media).	-	-	I	I	I	R	R	R	E	E	E	E	E
Locate relevant data and information utilizing databases	-	-	-	I	I	I	R	R	R	R	R	E	E
- Identify the differences between a database and a search engine	-	-	-	I	I	I	R	R	R	R	R	E	E
- Understand that search engines utilize the concept of databases to secure results	-	-	-	-	I	I	I	R	R	R	R	E	E
- Define and utilize Boolean operators	-	-	-	-	-	I	I	I	R	R	R	E	E
Conduct a search using PA POWER Library	-	-	-	I	I	I	I	R	R	R	E	E	E
Conduct a county-, regional- and state-wide search for resources not available in the school library	-	-	-	-	-	I	I	R	R	R	E	E	E
Generate a list of relevant resources	-	-	-	I	I	R	R	R	R	R	E	E	E

Information Literacy for Life-Long Learning

5.2 Discussion and Guided Questions - Teaching Students to Access Information

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards ¹
Identify and locate the resources available from the school library	<ul style="list-style-type: none"> - What different resources exist? - Where are they located? 	1.5B 1.8B	I 1
Identify how library resources are arranged in order to select materials	<ul style="list-style-type: none"> - Where are specific types of resources and collections located in our library? - How are books arranged on the library shelves? 	1.5B 1.8B	I 1
Recognize and define the purpose of library classification systems, including Dewey Decimal and Library of Congress	<ul style="list-style-type: none"> - What is a call number? - Why is it used? - What is the Dewey Decimal System? - What is the Library of Congress Classification System? - Why do libraries (usually) use one <u>or</u> the other? Why? - Why does the Carnegie Library of Pittsburgh use both? What problems can this cause? 	9.3	I 1
Use the OPAC (Destiny [®]) to find specific titles, authors and/or subject	How can you access resources to meet your personal and/or informational needs/ (OPAC (Destiny [®]), shelf browsing, online catalog,...)	1.8B 3.7E	I 3
Locate relevant materials within the library utilizing the OPAC (Destiny [®])	<ul style="list-style-type: none"> - What is the OPAC (Destiny[®])? - What is a MARC record? - How can you search the OPAC (Destiny[®]) to find a book in the library? - What information in the OPAC (Destiny[®]) helps to locate library materials? - What are different ways that you can search the OPAC (Destiny[®])? (i.e., author, title, subject, keyword, category...) - What is the <i>Resource List</i> feature of the OPAC (Destiny[®])? - How would you further narrow a search using Boolean operators? - What is a card catalog? Why do some libraries still use them? 	1.8B 3.7E	I 3

¹American Association of School Libraries, 1998

Information Literacy for Life-Long Learning

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards¹
Explain how one item can be available in multiple formats (print, eBooks, or other media).	<ul style="list-style-type: none"> - What are some of the formats in which an item might be available? - Will the library necessarily have multiple formats of the same title? - What is an eBook? - How do I read or access an eBook? - What other media are available? 	1.8B	II 5
Locate relevant data and information utilizing databases <ul style="list-style-type: none"> - <i>Identify the differences between a database and a search engine</i> - <i>Understand that search engines utilize the concept of databases to secure results</i> - <i>Define and utilize Boolean operators</i> 	<ul style="list-style-type: none"> - What is a <i>search engine</i>? - What is a database? - What is an electronic database? - What is an online database? - When using search engines are you actually using a database? - What other databases are available to you? - Why should you need/use them? - How would you further narrow a search using Boolean operators? 	1.8B	I 1
Conduct a search using PA POWER Library	<ul style="list-style-type: none"> - What is the POWER Library? - What resources are available? - How can you access it? 	1.8B 3.7E 8.2B	I 3
Conduct a county-, regional- and state-wide search for resources not available in the school library	<ul style="list-style-type: none"> - What is a union catalog? - How do you access it through the OPAC (Destiny[®])? - What is Access PA? - What can I use it for? - How can I access it? 	1.8B	I 1
Generate a list of relevant resources	<ul style="list-style-type: none"> - What resources are relevant to your topic? - How do you know? - How should you list them? 	1.1A 1.2A,B 1.5B 1.8B	I 1 III 8

Information Literacy for Life-Long Learning**Chapter 6 Teaching Students to Identify and Evaluate Resources** [Revised, 11/2007]

- CL³-3 Library materials are arranged in a logical manner and may be retrieved using knowledge of that arrangement.
- CL³-4 Information may be organized using study, research, reference, and critical thinking skills to foster independent learning.
- CL³-6 Online databases exist to locate information. Skills mastered to search databases can be applied to online searches.
- CL³-7 Acquisition, evaluation and use of materials should be relevant to a specific need.
- CL³-8 Technology may be used to enhance the acquisition of data and information.
- CL³-9 Information may be readily accessed and evaluated through print and electronic sources.
- CL³-10 Data and information from various resources must be analyzed, evaluated, synthesized and applied appropriately.
- CL³-11 Members of a learning community will understand that all information is not equally valid and that all data is not information.
- CL³-12 Authoritative information may help in making valuable and ethical choices.
- CL³-13 Members of a learning community evaluate information critically for accuracy, relevancy, currency, and comprehensiveness and practice the ethical use of information and information technologies.
- CL³-14 Members of a learning community use information in an ethical and legal manner.
- CL³-15 Members of a learning community exhibit responsible behavior towards people and materials.
- CL³-16 Skills learned and mastered at the school library can be used at the public, academic and other libraries.

Information Literacy for Life-Long Learning

6.1 Instructional Timeline - Teaching Students to Identify and Evaluate Resources

This document is a guide, not a list of requirements. Each concept should be interpreted based upon the students' grade level and integrated with the curriculum.

(I = Introduce R=Reinforce E=Expand/Expect)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Use various types of reference resources													
- Learn the arrangement of various resources (alphabetical order, keywords, etc.)	-	-	I	I	I	R	R	R	R	E	E	E	E
- Use an index and table of contents (TOC) to locate information.	-	-	I	I	R	R	R	E	E	E	E	E	E
- Select appropriate resources to satisfy a specific informational need	-	-	I	I	R	R	R	E	E	E	E	E	E
- Utilize the following parts of a book													
----- title page	I	I	I	R	R	E	E	E	E	E	E	E	E
----- table of contents (TOC)	-	I	I	R	R	R	R	E	E	E	E	E	E
----- appendix	-	-	-	-	-	I	I	R	R	R	E	E	E
----- index	-	-	I	I	R	R	R	R	E	E	E	E	E
----- cross references	-	-	-	-	-	I	I	R	R	R	R	R	E
----- bibliography / Works Cited	-	-	-	-	-	I	I	R	R	R	E	E	E
----- glossary	-	-	I	I	R	R	R	E	E	E	E	E	E
- Utilize the following parts of the text:													
----- outlines	-	-	-	-	I	I	I	R	R	R	E	E	E
----- charts	-	I	I	R	R	R	R	E	E	E	E	E	E
----- legends	-	-	-	-	-	I	R	R	E	E	E	E	E
----- text boxes,	-	-	-	I	I	R	R	R	E	E	E	E	E
----- picture captions,	-	-	-	I	I	R	R	R	E	E	E	E	E
- Use the formatting of text to locate information													
----- bold	-	-	-	I	I	R	R	R	E	E	E	E	E
----- italics	-	-	-	I	I	R	R	R	E	E	E	E	E
----- tables	-	-	-	I	I	R	R	R	E	E	E	E	E

Information Literacy for Life-Long Learning

	K	1	2	3	4	5	6	7	8	9	10	11	12
----- headings	-	-	-	I	I	R	R	R	E	E	E	E	E
----- subheadings	-	-	-	I	I	R	R	R	E	E	E	E	E
- Identify or utilize the following types of reference resources:													
----- almanacs	-	-	-	-	-	I	I	R	R	R	R	E	E
----- atlases	-	-	-	I	I	I	R	R	R	R	E	E	E
----- general encyclopedias	-	-	-	I	I	R	R	R	E	E	E	E	E
----- specialized encyclopedias	-	-	-	-	-	I	I	R	R	R	R	R	E
----- thesauruses (a.k.a. thesauri)	-	-	-	I	I	R	R	R	E	E	E	E	E
----- dictionaries	-	I	I	I	R	R	R	E	E	E	E	E	E
----- specialized dictionaries	-	-	-	-	-	I	I	R	R	R	R	R	E
- Generate a list of relevant resources for any given specific project	-	-	-	-	-	I	I	R	R	R	R	E	E
Select appropriate resources for specific informational needs	-	-	-	I	I	R	R	R	E	E	E	E	E
Compare and contrast sources of information to select appropriate resources for specific informational needs.	-	-	-	I	I	R	R	R	R	R	E	E	E
Use a variety of electronic sources to access information (POWER Library, subscription databases, search engines)	-	-	-	I	I	R	R	R	R	R	E	E	E
Interpret information to evaluate relevancy and appropriateness of the sources, materials, etc.	-	-	-	-	I	I	I	R	R	R	E	E	E
Establish the authenticity, validity and the integrity of a source (electronic or print)	-	-	-	-	I	I	I	R	R	R	R	E	E
Evaluate a website – or other resource – for currency, accuracy and authority	-	-	-	-	I	I	I	R	R	R	R	E	E
Understand the organization/navigation of a web site/page for research purposes	-	-	-	-	-	I	I	R	R	R	R	E	E
Explore post-secondary life-skills													
- Complete an online application	-	-	-	-	-	-	-	I	I	R	R	E	E
- Collect and compile career information	-	-	-	-	I	I	R	R	R	R	R	E	E
- Collect and compile job information	-	-	-	-	-	-	-	-	I	I	R	R	E

Information Literacy for Life-Long Learning

	K	1	2	3	4	5	6	7	8	9	10	11	12
- Collect and compile information on post-secondary training, education, apprenticeship, etc.	-	-	-	-	-	-	-	-	I	I	R	R	E
- Locate and compile scholarship information	-	-	-	-	-	-	-	-	I	I	R	R	E
- Locate examples and compile information for personal resume	-	-	-	-	-	-	-	-	-	I	I	R	R

Information Literacy for Life-Long Learning

6.2 Discussion and Guided Questions - Teaching Students to Identify and Evaluate Resources

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards¹
Use various types of reference resources	What kinds of reference resources exist? (print and online) <ul style="list-style-type: none"> - almanacs - atlases - general encyclopedias - specialized encyclopedias (e.g., - Groves Dictionary of Music...) - thesauruses (a.k.a. thesauri) - dictionaries - biographical dictionaries - Spanish/English What kind of information do you find in each? <ul style="list-style-type: none"> - How is the data/information arranged? (e.g., alphabetical order, keywords, etc.) When and how do you use each of these? <ul style="list-style-type: none"> - title page - table of contents - appendix - index - cross references - bibliography / Works Cited - glossary 	1.1A,B 1.2A,B	I 1,2,3 II 6
Select appropriate resources to satisfy a specific informational need	<ul style="list-style-type: none"> - What types of resources will help you meet your informational needs? - How will “brainstorming” help you? - Where can you find this information? 	1.8B	I 1
Compare and contrast sources of information to select appropriate resources for specific informational needs.	How should you decide what source(s) to use? In what format(s)?	1.1A	I 1 II 6
Use a variety of electronic sources to access information (POWER Library, subscription databases, search engines)	<ul style="list-style-type: none"> - What databases are available to you? - Which databases should you use for your project? - How would you get information that you need from those databases and/or through these search engines? 	1.8B	I 3

¹American Association of School Libraries, 1998

Information Literacy for Life-Long Learning

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards¹
Interpret information to evaluate relevancy and appropriateness of the sources, materials, etc.	What makes one piece of information more relevant to you – at any given point – than another?	1.1G 1.2A	I 2
Establish the authenticity, validity and the integrity of a source (electronic or print)	<ul style="list-style-type: none"> - Is the information current? - Is the source credible? - Who is responsible for the information? - What is bias? - Is there any observable bias? - Is there subrosa bias? - Does it provide information necessary? 	1.1G	I 2
Evaluate a website – or other resource – for currency, accuracy and authority?	<ul style="list-style-type: none"> - How do I evaluate a website? What are the five criteria used to evaluate information found on a website? -- currency -- accuracy -- objectivity -- authority -- coverage 	1.8B	I 2
Utilize the following parts of the text: <ul style="list-style-type: none"> - outlines - charts - legends - text boxes - picture captions 	<ul style="list-style-type: none"> What are the benefits of each of the following? - outlines - charts - legends - text boxes - picture caption 	1.1B,D	I 3
Use the formatting of text to locate information: <ul style="list-style-type: none"> - bold - italics - tables - headings - subheadings 	<ul style="list-style-type: none"> What do different text formats represent within a document? - bold - italics - tables - headings - subheadings 	1.1B,D	I 3
Understand the organization/navigation of a web site/page	<ul style="list-style-type: none"> - What are several ways that a webpage could be organized? (tree-hierarchy, using sidebar as sitemap...) - Where are the standard navigational buttons? (left and top navigation buttons or tabs?) - What are pop-ups? - Are those ads and pop-ups that are visible on a page a part of the site? Or, are they using rented space? 	1.2A,B	I 2

Information Literacy for Life-Long Learning

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards¹
Explore post-secondary life-skills - Complete an online application	Where can you find applications for the post-secondary opportunities of your choice?	1.4D,E 13.1D,E,F,G 13.2B	I 1
- Collect and compile career information	Where is information available within your library and online? Outside this library?	1.4D,E 13.1D,E,F,G 13.2B	I 3
- Collect and compile job information	Where can I find information on a full-time or part-time job?	1.4D,E 13.1D,E,F,G 13.2B	I 3
- Collect and compile information on post-secondary training, education, apprenticeship, etc.	Where can you find information on post-secondary opportunities of your choice?	1.4D,E 13.1D,E,F,G 13.2B	I 3
- Locate and compile scholarship information	- Where can you find scholarship opportunities? - Did you check the PPS website's Link-Library? - What is the FAFSA? - Did you complete and submit it?	1.4D,E 13.1D,E,F,G 13.2B	I 1,2,3
- Locate examples and compile information for personal resume	- Did you find resources to help you build your resume? - Did you have it proofread by someone else?	1.4D,E 13.1D,E,F,G 13.2B	I 1,2,3

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Information Literacy for Life-Long Learning**Chapter 7 Teaching Students to Search for Information** [Revised, 11/2007]

- CL³-2 Librarians are professionals who are educated in the management and organization of resources, information and instruction. Teacher-librarians serve as technology leaders in the educational community by incorporating new and emerging information technologies. Teacher-librarians also serve to select books and information resources that will fulfill the many needs of the school-learning-community.
- CL³-3 Library materials are arranged in a logical manner and may be retrieved using knowledge of that arrangement.
- CL³-4 Information may be organized using study, research, reference, and critical thinking skills to foster independent learning.
- CL³-6 Online databases exist to locate information. Skills mastered to search databases can be applied to online searches.
- CL³-7 Acquisition, evaluation and use of materials should be relevant to a specific need.
- CL³-8 Technology may be used to enhance the acquisition of data and information.
- CL³-9 Information may be readily accessed and evaluated through print and electronic sources.
- CL³-10 Data and information from various resources must be analyzed, evaluated, synthesized and applied appropriately.
- CL³-11 Members of a learning community will understand that all information is not equally valid and that all data is not information.
- CL³-12 Authoritative information may help in making valuable and ethical choices.
- CL³-13 Members of a learning community evaluate information critically for accuracy, relevancy, currency, and comprehensiveness and practice the ethical use of information and information technologies.
- CL³-14 Members of a learning community use information in an ethical and legal manner.
- CL³-16 Skills learned and mastered at the school library can be used at the public, academic and other libraries.

Information Literacy for Life-Long Learning

7.1 Instructional Timeline - Teaching Students to Search for Information

This document is a guide, not a list of requirements. Each concept should be interpreted based upon the students' grade level and integrated with the curriculum.

(I = Introduce R=Reinforce E=Expand/Expect)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Define the question or subject	-	I	I	R	R	R	R	R	E	E	E	E	E
Decide what information is needed to answer a given question or subject	-	I	I	R	R	R	R	R	E	E	E	E	E
Construct retrieval strategies to answer the question	-	-	-	-	I	I	R	R	R	R	R	E	E
Identify, compare and contrast multiple search engines	-	-	-	-	-	-	I	I	R	R	R	E	E
Locate relevant information from appropriate sources	-	-	-	-	I	I	R	R	R	R	R	E	E
Conduct searches that differentiate among author, title, keyword and subject searches.	-	-	-	-	I	I	R	R	R	R	R	E	E
- Use the OPAC (Destiny [®]) catalog record to locate the item, title, call number and availability of the resource.	-	-	-	-	I	I	R	R	R	R	R	E	E
- Conduct various OPAC (Destiny [®]) searches to obtain the best results dependent on the information problem (author, title, keyword, call number, subject, Power).	-	-	-	-	I	I	R	R	R	R	R	E	E
- Construct a search utilizing Boolean operators or truncation	-	-	-	-	-	-	I	I	R	R	R	E	E
Compile a list of appropriate sources using a <i>Resource List</i> in the OPAC (Destiny [®])	-	-	-	-	I	I	R	R	R	R	R	E	E

Information Literacy for Life-Long Learning

7.2 Discussion and Guided Questions - Teaching Students to Search for Information

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards¹
Define the question or subject	What are you looking for?	1.5A	I 2
Decide what information is needed to answer a given question or subject	<ul style="list-style-type: none"> - How much detail do you need? - What do you need it for? 	1.5B	I 2
Construct retrieval strategies to answer the question	<ul style="list-style-type: none"> - Where might you find the information that you need? - How can I determine whether the information is located within those sources? - How can I retrieve that information? - Where else can I search? 	1.8B	I 2
Identify, compare and contrast multiple search engines	<ul style="list-style-type: none"> - What are the advantages and disadvantages of the search strategies used by the different search engines? Why? 	1.8B	II 6
Conduct searches that differentiate between author, title, keyword and subject searches. <ul style="list-style-type: none"> - Use the OPAC (Destiny[®]) catalog record to locate the item, title, call number and check the availability of the resource. - Conduct various OPAC (Destiny[®]) searches to obtain the best results dependent on the information problem (author, title, keyword, call number, subject, Power). - Construct a search utilizing Boolean operators or truncation 	<ul style="list-style-type: none"> - What databases and/or resources are available? Via your school portal? Elsewhere? - What is a keyword search? - How do you construct a keyword search? - How do you select the best resource from available databases? - What are Boolean operators? How should they be used? - What is truncation? When should it be used? 	1.8B	I 2,3 II 6
Compile a list of appropriate sources using the <i>Resource List</i> feature within the OPAC (Destiny [®]).	<ul style="list-style-type: none"> - What is Destiny's <i>Resource List</i> feature? How can you use it to aid your search process? - From your list, how can you identify the most useful resources? 	1.8C	III 8

¹ American Association of School Libraries, 1998

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Information Literacy for Life-Long Learning**Chapter 8 Teaching Students the Research Process^{1,2}** [Revised, 11/2007]

- CL³-2 Librarians are professionals who are educated in the management and organization of resources, information and instruction. Teacher-librarians serve as technology leaders in the educational community by incorporating new and emerging information technologies. Teacher-librarians also serve to select books and information resources that will fulfill the many needs of the school-learning-community.
- CL³-4 Information may be organized using study, research, reference, and critical thinking skills to foster independent learning.
- CL³-8 Technology may be used to enhance the acquisition of data and information.
- CL³-10 Data and information from various resources must be analyzed, evaluated, synthesized and applied appropriately.
- CL³-11 Members of a learning community will understand that all information is not equal and all data is not information.
- CL³-12 Authoritative information may help in making valuable and ethical choices.
- CL³-13 Members of a learning community evaluate information critically for accuracy, relevancy, currency, and comprehensiveness and practice the ethical use of information and information technologies.
- CL³-14 Members of a learning community use information in an ethical and legal manner.
- CL³-15 Members of a learning community exhibit responsible behavior towards people and materials.

¹ Here are links to three research models: [AGOPP](#), [Wm. & Mary](#), [The Big6 Skills™](#)

² For a head-to-head comparison of these three research processes, follow this link: <http://www.mcps.k12.md.us/departments/isa/elit/agopp/MODELS.HTM>

Information Literacy for Life-Long Learning

8.1 Instructional Timeline - Teaching Students the Research Process

This document is a guide, not a list of requirements. Each concept should be interpreted based upon the students' grade level and integrated with the curriculum.

(I = Introduce R=Reinforce E=Expand/Expect)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Define research	I	I	R	R	R	R	E	E	E	E	E	E	E
Define the research process	-	-	-	I	I	R	R	R	E	E	E	E	E
Define, develop and refine the question or project	-	-	-	I	I	R	R	R	E	E	E	E	E
- Analyze what is already known or experienced to form research questions, tentative thesis, theses, hypothesis, or hypotheses	I	I	R	R	R	R	R	E	E	E	E	E	E
- Formulate thesis or hypothesis to guide research	-	-	-	I	I	R	R	R	E	E	E	E	E
Develop or interpret the criteria by which your project will be evaluated (rubric)	I	I	R	R	R	R	R	E	E	E	E	E	E
Determine how much and what types of information are required to answer the question and/or complete the task	-	-	-	I	I	R	R	R	E	E	E	E	E
Assess whether primary and/or secondary sources are needed	-	-	-	-	-	-	I	I	R	R	R	E	E
Determine what types and quantities of information are available for the project	-	-	-	I	I	R	R	R	E	E	E	E	E
Plan project timeline	-	-	-	-	I	I	R	R	R	R	E	E	E
Develop appropriate search strategies	-	-	-	I	I	R	R	R	R	R	R	E	E
Locate and explore resources	-	-	-	I	I	R	R	R	R	R	E	E	E
- Examine, select and reject individual resources	-	-	-	-	I	I	R	R	R	R	E	E	E
- Utilize skimming and scanning	-	-	-	I	I	R	R	R	R	R	E	E	E
Extract and compile information	-	-	-	I	I	R	R	R	R	E	E	E	E
- Utilize appropriate note-taking skills and/or recording technologies	-	-	-	I	I	R	R	R	R	E	E	E	E
- Use appropriate tools to manipulate and process data and report results	-	-	-	-	-	I	I	R	R	R	E	E	E
Organize notes, data, and information	-	-	-	I	I	R	R	R	E	E	E	E	E
- Record data needed for the Works Cited/bibliography or for parenthetical citations	-	-	-	-	I	I	R	R	E	E	E	E	E
Summarize and integrate all notes, data and information into own words	-	-	-	I	I	R	R	E	E	E	E	E	E

Information Literacy for Life-Long Learning

	K	1	2	3	4	5	6	7	8	9	10	11	12
- Create an outline	-	-	-	-	I	I	R	E	E	E	E	E	E
- Prepare a working draft	-	I	I	I	R	R	R	R	E	E	E	E	E
- Edit and refine draft	-	I	I	I	R	R	R	R	E	E	E	E	E
- Shape information into an appropriate format for presentation/communication	-	-	-	I	I	R	R	R	E	E	E	E	E
Create a Works Cited/bibliography	-	-	-	I	I	R	R	R	E	E	E	E	E
Produce and present final product utilizing information from research	-	I	I	R	R	R	R	R	E	E	E	E	E
Participate in the evaluation processes	-	I	I	R	R	R	R	R	E	E	E	E	E
- Engage in reflective self-evaluation	-	I	I	R	R	R	R	R	E	E	E	E	E
- Engage in peer evaluation	-	I	I	R	R	R	R	R	E	E	E	E	E

Information Literacy for Life-Long Learning

8.2 Discussion and Guided Questions -
Teaching Students the Research Process

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards ³
Define research	What is research? <i>(The collecting of information about a particular subject.)</i>	1.8 8.1	II 6
Define the research process	-What is the research process? - What are some examples of how to conduct research? ^{4,5}	1.8 8.1	II 6
Define, develop and refine the question or topic	- What is <u>your</u> research question or topic? - What is your purpose for conducting your research? - What do you expect to learn from this?	1.8A,C 3.2B	I 1,2 II 6
- Analyze what is already known or experienced to form research questions, tentative thesis or tentative hypothesis		1.8A 3.2B	II 6
- Formulate thesis or hypothesis to guide research		1.8A,C 3.2B 9.3A	II 6
Develop or interpret the criteria by which your project will be evaluated (rubric)	- What is a rubric? - How is a rubric developed? By whom? - What are the requirements of <u>this</u> rubric?	1.8A	III 9
Determine how much and what types of information are required to answer the question and/or complete the task	- What is required to satisfy your informational needs or the project's requirements? - How much detail is needed to succeed? - What specific formats or information are required by your teacher?	1.8B 2.5 3.2B 11.1 11.2 13.2B	I 1,2
Assess whether primary and/or secondary sources are needed	- What are primary sources? - Why are primary sources important? - When, and how, can we use them? - What are secondary or tertiary resources?	1.8B 8.1D	I 2
Determine what types and quantities of information are available for the project	- What types of information can you find? In what formats? - Is <u>enough</u> information available?	1.8B 4.9A 5.3J 6.2K 7.1A 10.2C 11.1C 13.2B	I 2

³ American Association of School Libraries, 1998

⁴ Here are links to three research models: [AGOPP](#), [Wm. & Mary](#), [The Big6 Skills™](#)

⁵ For a head-to-head comparison of these research processes, follow this link:
<http://www.mcps.k12.md.us/departments/isa/elit/agopp/MODELS.HTM>

Information Literacy for Life-Long Learning

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards ³
Plan project timeline	<ul style="list-style-type: none"> - What are your deadlines? - Who set the deadline? Why? 		III 9
Develop appropriate search strategies	[See <i>Evaluation and Search Strategies</i>]	1.8B	I 1 II 6
Locate and explore resources <ul style="list-style-type: none"> - Examine, select and reject individual resources - Utilize skimming and scanning 	[See <i>Identify and Evaluate Resources</i>]	1.8B, C	I 1,2 II 4,6 III 9
Extract and compile information <ul style="list-style-type: none"> - Compile an outline - Utilize appropriate note-taking skills and/or recording technologies - Use appropriate tools to manipulate and process data and report results 	<ul style="list-style-type: none"> - Have you put your notes in your own words? - Did you prepare an outline? - What tools do you need to manipulate and process your data? - Do you have the tools that you need? If not, where can you get them? 	1.8C 2.6A 8.1B	II 6 III 9
Organize notes, data, and information <ul style="list-style-type: none"> - Record data needed for the <i>Works Cited</i>/bibliography and for parenthetical citations 	- What is the difference between data and information?	1.8C	II 6 III 9
Summarize and integrate all notes, data and information into own words <ul style="list-style-type: none"> - Modify working-outline - Prepare a working draft - Edit and refine draft - Shape information into an appropriate format for presentation/communication 	- How do you take notes accurately so that you have enough information to give credit to the source(s) and avoid plagiarism?	1.8C	I 3 III 8
Create a <i>Works Cited</i> /bibliography	<ul style="list-style-type: none"> - What are the various citation styles? Which are you required to use? - What technologies can help you format your <i>Works Cited</i>? 	1.8C	II 6
Produce and present final product utilizing information from research	<ul style="list-style-type: none"> - Is the format that you have selected the most appropriate method of presentation? (PowerPoint®, paper, speech, pamphlet, podcast, ...) - Have you included <u>every</u> required element for your final product? 	8.1D	I 3 II 6 III 9
Participate in the evaluation processes <ul style="list-style-type: none"> - Engage in reflective self-evaluation - Engages in peer evaluation 	<ul style="list-style-type: none"> - Can you demonstrate that you met the established criteria? - Did you meet each criterion included in the rubric? 	1.8C	I 3 II 6 III 9

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Information Literacy for Life-Long Learning**Chapter 9 Teaching Students Social Responsibility¹** [Revised, 11/2007]

CL³-12 Authoritative information may help in making valuable and ethical choices.

CL³-13 Members of a learning community evaluate information critically for accuracy, relevancy, currency, and comprehensiveness and practice the ethical use of information and information technologies.

CL³-14 Members of a learning community use information in an ethical and legal manner.

CL³-15 Members of a learning community exhibit responsible behavior towards people and materials.

¹ Copyright and Fair Use Guidelines for Teachers: <http://www.mediafestival.org/copyrightchart.html> A .pdf file with a poster, along with additional links on copyright can be found at the bottom of that page.

Information Literacy for Life-Long Learning

9.1 Instructional Timeline - Teaching Students Social Responsibility

This document is a guide, not a list of requirements. Each concept should be interpreted based upon the students' grade level and integrated with the curriculum.

(I = Introduce R=Reinforce E=Expand/Expect)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Demonstrate the appropriate care and handling of materials.	I	I	R	R	R	E	E	E	E	E	E	E	E
Use information ethically	I	I	R	R	R	R	R	R	E	E	E	E	E
- Define and demonstrate respect for the concept of intellectual property (...The ideas and works of others)	I	I	R	R	R	E	E	E	E	E	E	E	E
- Respect license agreements/copyright and refrain from copying software and other media (e.g., images, music, video, movies, stories, books...)	I	I	R	R	R	E	E	E	E	E	E	E	E
Give appropriate credit for work(s) used (Refrain from plagiarizing information, graphics or ideas)	I	I	R	R	R	E	E	E	E	E	E	E	E
Practice fair use guidelines while photocopying and scanning	-	-	-	-	-	-	-	-	-	I	I	R	R
Uses information technology responsibly	I	I	R	R	R	R	R	R	E	E	E	E	E

Information Literacy for Life-Long Learning

9.2 Discussion and Guided Questions - Teaching Students Social Responsibility

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards ²
Demonstrate the appropriate care and handling of materials.	Why does it matter how you treat a book?	1.8B	I 1 III 8
Use information ethically	<ul style="list-style-type: none"> - What does <i>use information ethically</i> mean? What are some examples? - Why should information be used ethically? - Who could be affected? - Could someone be physically or emotionally harmed? -Who could be hurt? How? 	1.8C	I 3 III 7,8
Define and demonstrate respect for the concept of intellectual property (...The ideas and works of others)	<ul style="list-style-type: none"> -What is intellectual property? - Why should you care? - Are there legal ramifications? 	1.2 A,B 1.8C	I 3 III 7,8
Respect license agreements/copyright and refrain from copying software and other media (music, video, movies, stories, books...)	<ul style="list-style-type: none"> - What are license agreements? - Why should you care? - Are there legal ramifications? 	1.2A,B 1.8C	I 3 III 7,8
Give appropriate credit for work(s) used (Refrain from plagiarizing information, graphics or ideas)	<ul style="list-style-type: none"> - Have you given appropriate credit to your source? - Are there legal ramifications? 	1.2A 1.8C	I 3 III 8
Practice fair use guidelines while photocopying and scanning	What is the District's Fair Use Policy?	1.8B	I 3 III 8
Uses information technology responsibly	<ul style="list-style-type: none"> - What is the District's Acceptable Use Policy? - What are the potential ramifications of misuse? 	1.2B 1.8C	III 7,8

² American Association of School Libraries, 1998

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Information Literacy for Life-Long Learning**Chapter 10 Teaching Students to be Safe Online** [Revised, 11/2007]

CL³-2 Librarians are professionals who are educated in the management and organization of resources, information and instruction. Teacher-librarians serve as technology leaders in the educational community by incorporating new and emerging information technologies. Teacher-librarians also serve to select books and information resources that will fulfill the many needs of the school-learning-community.

CL³-10 Data and information from various resources must be analyzed, evaluated, synthesized and applied appropriately.

CL³-11 Members of a learning community will understand that all information is not equally valid and that all data is not information.

CL³-12 Authoritative information may help in making valuable and ethical choices.

CL³-13 Members of a learning community evaluate information critically for accuracy, relevancy, currency, and comprehensiveness and practice the ethical use of information and information technologies.

CL³-14 Members of a learning community use information in an ethical and legal manner.

CL³-15 Members of a learning community exhibit responsible behavior towards people and materials.

CL³-16 Skills learned and mastered at the school library can be used at the public, academic and other libraries.

Information Literacy for Life-Long Learning

10.1 Instructional Timeline - Teaching Students to be Safe Online

This document is a guide, not a list of requirements. Each concept should be interpreted based upon the students' grade level and integrated with the curriculum.

(I = Introduce R=Reinforce E=Expand/Expect)

	K	1	2	3	4	5	6	7	8	9	10	11	12
Abide by the District's Acceptable Use Policy in all respects	I	I	R	R	R	R	R	R	E	E	E	E	E
Use programs and Internet responsibly and ethically	I	I	R	R	R	R	R	R	E	E	E	E	E
Observe Internet safety procedures, including safeguarding personal information	I	I	R	R	R	R	R	R	E	E	E	E	E
<i>- Discuss and understand that irresponsible or naïve use of online resources might result in personal harm</i>	I	I	R	R	R	R	R	E	E	E	E	E	E
<i>- Discuss and understand that personal information can/will stay on the Internet, and may be used against you when <u>you</u> are looking for a job</i>	I	I	I	R	R	R	R	R	R	E	E	E	E
Identify ways of avoiding viruses and other malware	-	-	-	I	I	R	R	R	E	E	E	E	E

Information Literacy for Life-Long Learning

10.2 Discussion and Guided Questions - Teaching Students to be Safe Online

Building Skills and Procedural Knowledge – Students will be expected to:	Discussion and Guided Questions	PDE Standards	AASL Standards¹
Abide by the District's Acceptable Use Policy in all respects	- What is the District's Acceptable Use Policy? - What are the potential consequences of misuse?	3.7A 10.2D	III 7,8
- Use programs and Internet responsibly and ethically	- What is cyber-bullying? - What is an online predator?	3.7A,C	I 2 III 8
Observe Internet safety procedures, including safeguarding personal information	- What safety procedures can you follow? - What software is out there to help to protect you and your machine? (firewalls, anti-virus software, anti-spyware software,...) - What is a cookie?	3.7A,D 10.3A	I 1 III 8
- Discuss and understand that irresponsible or naïve use of online resources might result in personal harm	- How? - What can I do to safeguard myself?	3.7A,D 10.2C	III 7,8
- Discuss and understand that personal information can/will stay on the Internet, and may be used against you when <u>you</u> are looking for a job	Why should you care that you (or someone else) posted personal information and/or photos of you on social networking sites (e.g., MySpace, Facebook) or elsewhere on the Internet?	3.7A,D 10.2C	III 7,8
Identify ways of avoiding viruses and other malware	- What are different types of malware? - Why should you not click on pop-ups?	3.7A,D 10.2C	III 7,8

¹American Association of School Libraries, 1998

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Chapter 11 Appendix A – Parts of a Book [Revised, 11/2007]

Students – age-appropriately – will be able to identify, define and discuss the utility of each of the following:

1. Appendix (appendices)
2. Author
3. Copyright date
4. Covers, front and back (hard- versus soft- or paperback)
5. Date(s) of publication
6. Dedication
7. Dewey decimal code or other relevant code
8. Dust cover or plastic jacket
9. End pages
10. Foreword
11. Frontispiece
12. Glossary
13. Half title page
14. Illustrations
15. Illustrator
16. Index
17. Other tables (figures, illustrations, etc.)
18. Place of Publication
19. Preface
20. Publisher
21. Spine
22. Spine label
23. Table of Contents
24. Title
25. Title page
26. Verso
27. Where extant: book pocket, charge card, date due slip
28. Where extant: library barcode (versus publisher's barcode)

Pittsburgh Public Schools Library Services K-12 Scope and Sequence
Information Literacy for Life-Long Learning

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**Chapter 12 Appendix B – American Association of School Libraries
(AASL) Standards** [Revised, 11/2007]

This scope and sequence has been developed utilizing concepts found in both the earlier *Information Literacy Standards for Student Learning* (1998) and the now current *21st Century Library and Learning Standards* (October, 2007) from AASL. The “Discussion and Guided Questions” found in each chapter are tied to the 1998 standards because the 2007 standards had not yet been officially adopted.

B.1 Information Literacy Standards for Student Learning (1998)

By the American Association of School Librarians and the Association for Educational Communications and Technology: www.ala.org/aasl/ip_nine.html

The Information Literacy Standards were developed as a foundation upon which to base lifelong learning. Prepared by the American Association of School Librarians (AASL) and the Association for Educational Communications and Technology (AECT), they have been widely promoted by the American Library Association. The nine standards fall into three categories: information literacy, independent learning, and social responsibility.

I. Information Literacy

- Standard 1: The student who is information literate accesses information efficiently and effectively.
- Standard 2: The student who is information literate evaluates information critically and competently.
- Standard 3: The student who is information literate uses information accurately and creatively.

II. Independent Learning

- Standard 4: The student who is an independent learner is information literate and pursues information related to personal interests.
- Standard 5: The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.
- Standard 6: The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.

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III. Social Responsibility

- Standard 7: The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.
- Standard 8: The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.
- Standard 9: The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information.

B.2 AASL Standards for the 21st-Century Learner (October, 2007)

Preface:

Reading is a window to the world.

Reading is a foundational skill for learning, personal growth, and enjoyment. The degree to which students can read and understand text in all formats (e.g., picture, video, print) and all contexts is a key indicator of success in school and in life. As a lifelong learning skill, reading goes beyond decoding and comprehension to interpretation and development of new understandings.

Inquiry provides a framework for learning.

To become independent learners, students must gain not only the skills but also the disposition to use those skills, along with an understanding of their own responsibilities and self-assessment strategies. Combined, these four elements build a learner who can thrive in a complex information environment.

Ethical behavior in the use of information must be taught.

In this increasingly global world of information, students must be taught to seek diverse perspectives, gather and use information ethically, and use social tools responsibly and safely.

Technology skills are crucial for future employment needs.

Today's students need to develop information skills that will enable them to use technology as an important tool for learning, both now and in the future.

Equitable access is a key component for education.

All children deserve equitable access to books and reading, to information, and to information technology in an environment that is safe and conducive to learning.

The definition of information literacy has become more complex as resources and technologies have changed.

Information literacy has progressed from the simple definition of using reference resources to find information. Multiple literacies, including digital, visual, textual, and technological, have now joined information literacy as crucial skills for this century.

The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.

The amount of information available to our learners necessitates that each individual acquire the skills to select, evaluate, and use information appropriately and effectively.

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Learning has a social context.

Learning is enhanced by opportunities to share and learn with others. Students need to develop skills in sharing knowledge and learning with others, both in face-to-face situations and through technology.

School libraries are essential to the development of learning skills.

School libraries provide equitable physical and intellectual access to the resources and tools required for learning in a warm, stimulating, and safe environment. School librarians collaborate with others to provide instruction, learning strategies, and practice in using the essential learning skills needed in the 21st century.

LEARNERS USE SKILLS, RESOURCES, & TOOLS TO:

- 1 Inquire, think critically, and gain knowledge.**
- 2 Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.**
- 3 Share knowledge and participate ethically and productively as members of our democratic society.**
- 4 Pursue personal and aesthetic growth.**

Information Literacy for Life-Long Learning**1 Learners use skills, resources, & tools to:****Inquire, think critically, and gain knowledge.****1.1 Skills**

- 1.1.1 Follow an inquiry- based process in seeking knowledge in curricular subjects, and make the real- world connection for using this process in own life.
- 1.1.2 Use prior and background knowledge as context for new learning.
- 1.1.3 Develop and refine a range of questions to frame the search for new understanding.
- 1.1.4 Find, evaluate, and select appropriate sources to answer questions.
- 1.1.5 Evaluate information found in selected sources on the basis of accuracy, validity, appropriateness for needs, importance, and social and cultural context.
- 1.1.6 Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.
- 1.1.7 Make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias.
- 1.1.8 Demonstrate mastery of technology tools for accessing information and pursuing inquiry.
- 1.1.9 Collaborate with others to broaden and deepen understanding.

1.2 Dispositions in Action

- 1.2.1 Display initiative and engagement by posing questions and investigating the answers beyond the collection of superficial facts.
- 1.2.2 Demonstrate confidence and self- direction by making independent choices in the selection of resources and information.
- 1.2.3 Demonstrate creativity by using multiple resources and formats.
- 1.2.4 Maintain a critical stance by questioning the validity and accuracy of all information.
- 1.2.5 Demonstrate adaptability by changing the inquiry focus, questions, resources, or strategies when necessary to achieve success.
- 1.2.6 Display emotional resilience by persisting in information searching despite challenges.
- 1.2.7 Display persistence by continuing to pursue information to gain a broad perspective.

1.3 Responsibilities

- 1.3.1 Respect copyright/ intellectual property rights of creators and producers.
- 1.3.2 Seek divergent perspectives during information gathering and assessment.
- 1.3.3 Follow ethical and legal guidelines in gathering and using information.
- 1.3.4 Contribute to the exchange of ideas within the learning community.
- 1.3.5 Use information technology responsibly.

Information Literacy for Life-Long Learning**1.4 Self-Assessment Strategies**

- 1.4.1 Monitor own information-seeking processes for effectiveness and progress, and adapt as necessary.
- 1.4.2 Use interaction with and feedback from teachers and peers to guide own inquiry process.
- 1.4.3 Monitor gathered information, and assess for gaps or weaknesses.
- 1.4.4 Seek appropriate help when it is needed.

2 Learners use skills, resources, & tools to:

Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

2.1 Skills

- 2.1.1 Continue an inquiry- based research process by applying critical-thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.
- 2.1.2 Organize knowledge so that it is useful.
- 2.1.3 Use strategies to draw conclusions from information and apply knowledge to curricular areas, real- world situations, and further investigations.
- 2.1.4 Use technology and other information tools to analyze and organize information. Collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems.
- 2.1.5 Use the writing process, media and visual literacy, and technology skills to create products that express new understandings.

2.2 Dispositions in Action

- 2.2.1 Demonstrate flexibility in the use of resources by adapting information strategies to each specific resource and by seeking additional resources when clear conclusions cannot be drawn.
- 2.2.2 Use both divergent and convergent thinking to formulate alternative conclusions and test them against the evidence.
- 2.2.3 Employ a critical stance in drawing conclusions by demonstrating that the pattern of evidence leads to a decision or conclusion.
- 2.2.4 Demonstrate personal productivity by completing products to express learning.

2.3 Responsibilities

- 2.3.1 Connect understanding to the real world.
- 2.3.2 Consider diverse and global perspectives in drawing conclusions.
- 2.3.3 Use valid information and reasoned conclusions to make ethical decisions.

Information Literacy for Life-Long Learning**2.4 Self-Assessment Strategies**

- 2.4.1 Determine how to act on information (accept, reject, modify).
- 2.4.2 Reflect on systematic process, and assess for completeness of investigation.
- 2.4.3 Recognize new knowledge and understanding.
- 2.4.4 Develop directions for future investigations

**3 Learners use skills, resources, & tools to:
Share knowledge and participate ethically and productively as members of our democratic society.****3.1 Skills**

- 3.1.1 Conclude an inquiry- based research process by sharing new understandings and reflecting on the learning.
- 3.1.2 Participate and collaborate as members of a social and intellectual network of learners.
- 3.1.3 Use writing and speaking skills to communicate new understandings effectively.
- 3.1.4 Use technology and other information tools to organize and display knowledge and understanding in ways that others can view, use, and assess.
- 3.1.5 Connect learning to community issues.
- 3.1.6 Use information and technology ethically and responsibly.

3.2 Dispositions in Action

- 3.2.1 Demonstrate leadership and confidence by presenting ideas to others in both formal and informal situations.
- 3.2.2 Show social responsibility by participating actively with others in learning situations and by contributing questions and ideas during group discussions.
- 3.2.3 Demonstrate teamwork by working productively with others.

3.3 Responsibilities

- 3.3.1 Solicit and respect diverse perspectives while searching for information, collaborating with others, and participating as a member of the community.
- 3.3.2 Respect the differing interests and experiences of others, and seek a variety of viewpoints.
- 3.3.3 Use knowledge and information skills and dispositions to engage in public conversation and debate around issues of common concern.
- 3.3.4 Create products that apply to authentic, real-world contexts.
- 3.3.5 Contribute to the exchange of ideas within and beyond the learning community.
- 3.3.6 Use information and knowledge in the service of democratic values.
- 3.3.7 Respect the principles of intellectual freedom.

Information Literacy for Life-Long Learning**3.4 Self-Assessment Strategies**

- 3.4.1 Assess the processes by which learning was achieved in order to revise strategies and learn more effectively in the future.
- 3.4.2 Assess the quality and effectiveness of the learning product.
- 3.4.3 Assess own ability to work with others in a group setting by evaluating varied roles, leadership, and demonstrations of respect for other viewpoints.

**4 Learners use skills, resources, & tools to:
Pursue personal and aesthetic growth.****4.1 Skills**

- 4.1.1 Read, view, and listen for pleasure and personal growth.
- 4.1.2 Read widely and fluently to make connections with self, the world, and previous reading.
- 4.1.3 Respond to literature and creative expressions of ideas in various formats and genres.
- 4.1.4 Seek information for personal learning in a variety of formats and genres.
- 4.1.5 Connect ideas to own interests and previous knowledge and experience.
- 4.1.6 Organize personal knowledge in a way that can be called upon easily.
- 4.1.7 Use social networks and information tools to gather and share information.
- 4.1.8 Use creative and artistic formats to express personal learning.

4.2 Dispositions in Action

- 4.2.1 Display curiosity by pursuing interests through multiple resources.
- 4.2.2 Demonstrate motivation by seeking information to answer personal questions and interests, trying a variety of formats and genres, and displaying a willingness to go beyond academic requirements.
- 4.2.3 Maintain openness to new ideas by considering divergent opinions, changing opinions or conclusions when evidence supports the change, and seeking information about new ideas encountered through academic or personal experiences.
- 4.2.4 Show an appreciation for literature by electing to read for pleasure and expressing an interest in various literary genres.

Information Literacy for Life-Long Learning**4.3 Responsibilities**

- 4.3.1 Participate in the social exchange of ideas, both electronically and in person.
- 4.3.2 Recognize that resources are created for a variety of purposes.
- 4.3.3 Seek opportunities for pursuing personal and aesthetic growth.
- 4.3.4 Practice safe and ethical behaviors in personal electronic communication and interaction.

4.4 Self-Assessment Strategies

- 4.4.1 Identify own areas of interest.
- 4.4.2 Recognize the limits of own personal knowledge.
- 4.4.3 Recognize how to focus efforts in personal learning.
- 4.4.4 Interpret new information based on cultural and social context.
- 4.4.5 Develop personal criteria for gauging how effectively own ideas are expressed.
- 4.4.6 Evaluate own ability to select resources that are engaging and appropriate for personal interests and needs.

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Information Literacy for Life-Long Learning**Chapter 13 Appendix C – Pennsylvania Department of Education Academic Standards¹⁹** [Revised, 2007]

This appendix only includes those standards that were used within the document. The complete documents, with all of the Standards are found in the external appendices and online.²⁰

Pennsylvania Department of Education Academic Standards

1. Reading, Writing, Speaking and Listening
2. Mathematics
3. Science and Technology
4. Environment and Ecology
5. Civics and Government
6. Economics
7. Geography
8. History
9. Arts and Humanities
10. Health, Safety and Physical Education
11. Family and Consumer Sciences
12. – This space left intentionally blank –
13. Career Education and Work

Each Standard is usually set up for four (4) grade levels: 3, 5, 8 and 11. In a very few cases, they were written for four other grade levels. For each of the Standards, all four grade levels for that Standard are listed, and the grade levels may be inferred.

¹⁹ PDE Academic Standards: http://www.pde.state.pa.us/stateboard_ed/cwp/view.asp?a=3&Q=76716

²⁰ PDE Academic Standards: http://www.pde.state.pa.us/stateboard_ed/cwp/view.asp?a=3&Q=76716

Information Literacy for Life-Long Learning**Standard 1: Reading, Writing, Speaking and Listening****1.1A Learning to Read Independently**

Identify the purposes and types of text (e.g., literature, information) before reading.

Establish the purpose for reading a type of text (literature, information) before reading.

Locate appropriate texts (literature, information, documents) for an assigned purpose before reading.

Locate various texts, media and traditional resources for assigned and independent projects before reading.

1.1B Learning to Read Independently

Preview the text formats (e.g., title, headings, chapters and table of contents).

Select texts for a particular purpose using the format of the text as a guide.

Identify and use common organizational structures and graphic features to comprehend information

Analyze the structure of informational materials explaining how authors used these to achieve their purposes.

1.1D Learning to Read Independently

Read text using self-monitoring comprehension strategies (e.g., predict, revise predictions, reread, use text organization including headings, graphics, and charts, and adjust reading rate).

Identify the basic ideas and facts in text using strategies (e.g., prior knowledge, illustrations and headings) and information from other sources to make predictions about text.

Identify basic facts and ideas in text using specific strategies (e.g., recall genre characteristics, set a purpose for reading, generate essential questions as aids to comprehension and clarify understanding through rereading and discussion).

Identify, describe, evaluate and synthesize the essential ideas in text. Assess those reading strategies that were most effective in learning from a variety of texts.

1.1F Learning to Read Independently

Understand the meaning of and use correctly new vocabulary learned in various subject areas.

Identify, understand the meaning of and use correctly key vocabulary from various subject areas.

Understand the meaning of and apply key vocabulary across the various subject areas.

Understand the meaning of and apply key vocabulary across the various subject areas.

Information Literacy for Life-Long Learning**1.1G Learning to Read Independently**

Demonstrate fluency and comprehension in reading.

- Read familiar materials aloud with accuracy.
- Self-correct mistakes.
- Use appropriate rhythm, flow, meter and pronunciation.
- Read a variety of genres and types of text.
- Demonstrate comprehension (Standard 1.1.3.G.).
(Recommend: 25 books/year)

Demonstrate after reading understanding and interpretation of both fiction and nonfiction text.

- Summarize the major ideas, themes or procedures of the text.
- Relate new information or ideas from the text to that learned through additional reading and media (e.g., film, audiotape).
- Clarify ideas and understandings through rereading and discussion.
- Make responsible assertions about the ideas from the text by citing evidence.
- Extend ideas found in the text.

Demonstrate after reading understanding and interpretation of both fiction and nonfiction text, including public documents.

- Make, and support with evidence, assertions about texts.
- Compare and contrast texts using themes, settings, characters and ideas.
- Make extensions to related ideas, topics or information.
- Describe the context of a document.

Analyze the positions, arguments and evidence in public documents

Demonstrate after reading understanding and interpretation of both fiction and nonfiction text, including public documents.

- Make, and support with evidence, assertions about texts.
- Compare and contrast texts using themes, settings, characters and ideas.
- Make extensions to related ideas, topics or information.
- Assess the validity of the document based on context.
- Analyze the positions, arguments and evidence in public documents.
- Evaluate the author's strategies.
- Critique public documents to identify strategies common in public discourse.

1.2A Reading Critically in All Content Areas

Read and understand essential content of informational texts and documents in all academic areas.

- Differentiate fact from opinion within text.
- Distinguish between essential and nonessential information within a text.
- Make inferences from text when studying a topic (e.g., science, social studies) and draw conclusions based on text.
- Analyze text organization and content to derive meaning from text using established criteria.

Read and understand essential content of informational texts and documents in all academic areas.

- Differentiate fact from opinion across texts.
- Distinguish between essential and nonessential information across a variety of texts, identifying stereotypes and exaggeration where present.
- Make inferences about similar concepts in multiple texts and draw conclusions.
- Evaluate text organization and content to determine the author's purpose and effectiveness.

Information Literacy for Life-Long Learning

Read and understand essential content of informational texts and documents in all academic areas.

- Differentiate fact from opinion utilizing resources that go beyond traditional text (e.g., newspapers, magazines and periodicals) to electronic media.
- Distinguish between essential and nonessential information across texts and going beyond texts to a variety of media; identify bias and propaganda where present.
- Draw inferences based on a variety of information sources.
- Evaluate text organization and content to determine the author's purpose and effectiveness according to the author's theses, accuracy and thoroughness.

Read and understand essential content of informational texts and documents in all academic areas.

- Differentiate fact from opinion across a variety of texts by using complete and accurate information, coherent arguments and points of view.
- Distinguish between essential and nonessential information across a variety of sources, identifying the use of proper references or authorities and propaganda techniques where present.
- Use teacher and student established criteria for making decisions and drawing conclusions.
- Evaluate text organization and content to determine the author's purpose and effectiveness according to the author's theses, accuracy, thoroughness, logic and reasoning.

1.2B Reading Critically in All Content Areas

Use and understand a variety of media and evaluate the quality of material produced.

- Use electronic media for research.
- Identify techniques used in television and use the knowledge to distinguish between facts and misleading information.
- Assess the quality of media project (e.g., script, play, audiotape) that has been developed for a targeted audience.

Use and understand a variety of media and evaluate the quality of material produced.

- Use a variety of media (e.g., computerized card catalogues, encyclopedias) for research.
- Evaluate the role of media as a source of both entertainment and information.
- Use established criteria to design and develop a media project (e.g., script, play, audiotape) for a targeted audience.

Use and understand a variety of media and evaluate the quality of material produced.

- Compare and analyze how different media offer a unique perspective on the information presented.
- Analyze the techniques of particular media messages and their effect on a targeted audience.
- Use, design and develop a media project that expands understanding (e.g., authors and works from a particular historical period).

Use and understand a variety of media and evaluate the quality of material produced.

- Select appropriate electronic media for research and evaluate the quality of the information received.
- Explain how the techniques used in electronic media modify traditional forms of discourse for different purposes.
- Use, design and develop a media project to demonstrate understanding (e.g., a major writer or literary period or movement).

Information Literacy for Life-Long Learning**1.3A Reading, Analyzing and Interpreting Literature**

Read and understand works of literature.

Read and understand works of literature.

Read and understand works of literature.

Read and understand works of literature

1.3B Reading, Analyzing and Interpreting Literature

Identify literary elements in stories describing characters, setting and plot.

Compare the use of literary elements within and among texts including characters, setting, plot, theme and point of view.

Analyze the use of literary elements by an author including characterization, setting, plot, theme, point of view, tone and style.

Analyze the relationships, uses and effectiveness of literary elements used by one or more authors in similar genres including characterization, setting, plot, theme, point of view, tone and style.

1.3D Reading, Analyzing and Interpreting Literature

Identify the structures in poetry (e.g., pattern books, predictable books, nursery rhymes).

Identify and respond to the effects of sound and structure in poetry (e.g., alliteration, rhyme, verse form

Identify poetic forms (e.g., ballad, sonnet, couplet).

Analyze and evaluate in poetry the appropriateness of diction and figurative language (e.g., irony, understatement, overstatement, paradox).

1.3F Reading, Analyzing and Interpreting Literature

Read and respond to nonfiction and fiction including poetry and drama

Read and respond to nonfiction and fiction including poetry and drama

Read and respond to nonfiction and fiction including poetry and drama

Read and respond to nonfiction and fiction including poetry and drama

Information Literacy for Life-Long Learning**1.4A Types of Writing**

Write narrative pieces (e.g., stories, poems, plays).

- Include detailed descriptions of people, places and things.
- Use relevant illustrations.
- Include literary elements
(Standard 1.3.3.B.).

Write poems, plays and multi-paragraph stories.

- Include detailed descriptions of people, places and things.
- Use relevant illustrations.
- Utilize dialogue.
- Apply literary conflict.
- Include literary elements
(Standard 1.3.5.B.).
- Use literary devices
(Standard 1.3.5.C.).

Write short stories, poems and plays.

- Apply varying organizational methods.
- Use relevant illustrations.
- Utilize dialogue.
- Apply literary conflict.
- Include literary elements
(Standard 1.3.8.B.).
- Use literary devices
(Standard 1.3.8.C.).

Write short stories, poems and plays.

- Apply varying organizational methods.
- Use relevant illustrations.
- Utilize dialogue.
- Apply literary conflict.
- Include varying characteristics (e.g., from limerick to epic, from whimsical to dramatic).
- Include literary elements
(Standard 1.3.11.B.).
- Use literary devices
(Standard 1.3.11.C.).

Information Literacy for Life-Long Learning**1.4B Types of Writing**

Write informational pieces (e.g., descriptions, letters, reports, instructions) using illustrations when relevant.

Write multi-paragraph informational pieces (e.g., essays, descriptions, letters, reports, instructions).

- Include cause and effect.
- Develop a problem and solution when appropriate to the topic.
- Use relevant graphics (e.g., maps, charts, graphs, tables, illustrations, photographs).

Write multi-paragraph informational pieces (e.g., letters, descriptions, reports, instructions, essays, articles, interviews).

- Include cause and effect.
- Develop a problem and solution when appropriate to the topic.
- Use relevant graphics (e.g., maps, charts, graphs, tables, illustrations, photographs).
- Use primary and secondary sources.

Write complex informational pieces (e.g., research papers, analyses, evaluations, essays).

- Include a variety of methods to develop the main idea.
 - Use precise language and specific detail.
 - Include cause and effect.
 - Use relevant graphics (e.g., maps, charts, graphs, tables, illustrations, photographs).
 - Use primary and secondary sources.

1.4D Types of Writing (Grades 8 and 11 only)

Maintain a written record of activities, course work, experience, honors and interests.

Maintain a written record of activities, course work, experience, honors and interests

1.4E Types of Writing (Grade 12 only)

Write a personal resum—.

1.5A Quality of Writing

Write with a sharp, distinct focus identifying topic, task and audience

Write with a sharp, distinct focus identifying topic, task and audience

Write with a sharp, distinct focus.

- Identify topic, task and audience.
- Establish a single point of view.

Write with a sharp, distinct focus.

- Identify topic, task and audience.
- Establish and maintain a single point of view

Information Literacy for Life-Long Learning**1.5B Quality of Writing**

Write using well-developed content appropriate for the topic.

- Gather and organize information.
- Write a series of related sentences or paragraphs with one central idea.
- Incorporate details relevant and appropriate to the topic.

Write using well-developed content appropriate for the topic.

- Gather, organize and select the most effective information appropriate for the topic, task and audience.
- Write paragraphs that have a topic sentence and supporting details.

Write using well-developed content appropriate for the topic.

- Gather, determine validity and reliability of and organize information.
- Employ the most effective format for purpose and audience.
- Write paragraphs that have details and information specific to the topic and relevant to the focus.

Write using well-developed content appropriate for the topic.

- Gather, determine validity and reliability of, analyze and organize information.
- Employ the most effective format for purpose and audience.
- Write fully developed paragraphs that have details and information specific to the topic and relevant to the focus.

1.6B Speaking and Listening

Listen to a selection of literature (fiction and/or nonfiction).

- Relate it to similar experiences.
- Predict what will happen next.
- Retell a story in chronological order.
- Recognize character and tone.
- Identify and define new words and concepts.

Listen to a selection of literature (fiction and/or nonfiction).

- Relate it to what is known.
- Predict the result of the story actions.
- Retell actions of the story in sequence, explain the theme and describe the characters and setting.
- Identify and define new words and concepts.
- Summarize the selection.

Listen to selections of literature (fiction and/or nonfiction).

- Relate them to previous knowledge.
- Predict content/events.
- Summarize events and identify the significant points.
- Identify and define new words and concepts.
- Analyze the selections

Listen to selections of literature (fiction and/or nonfiction).

- Relate them to previous knowledge.
- Predict solutions to identified problems.
- Summarize and reflect on what has been heard.
- Identify and define new words and concepts.
- Analyze and synthesize the selections relating them to other selections heard or read

Information Literacy for Life-Long Learning**1.6D Speaking and Listening**

Contribute to discussions.

- Ask relevant questions.
- Respond with appropriate information or opinions to questions asked.
- Listen to and acknowledge the contributions of others.
- Display appropriate turn-taking behaviors.

Contribute to discussions.

- Ask relevant questions.
- Respond with relevant information or opinions to questions asked.
- Listen to and acknowledge the contributions of others.
- Adjust involvement to encourage equitable participation.
- Give reasons for opinions.
- Summarize, when prompted Display appropriate turn-taking behaviors.

Contribute to discussions.

- Ask relevant, probing questions.
- Respond with relevant information, ideas or reasons in support of opinions expressed.
- Listen to and acknowledge the contributions of others.
- Adjust tone and involvement to encourage equitable participation.
- Clarify, illustrate or expand on a response when asked.
- Present support for opinions.
- Paraphrase and summarize, when prompted.

Contribute to discussions.

- Ask relevant, clarifying questions.
- Respond with relevant information or opinions to questions asked.
- Listen to and acknowledge the contributions of others.
- Adjust tone and involvement to encourage equitable participation.
- Facilitate total group participation.
- Introduce relevant, facilitating information, ideas and opinions to enrich the discussion.
- Paraphrase and summarize as needed.

1.8A Research

Select a topic for research.

Select and refine a topic for research

Select and refine a topic for research

Select and refine a topic for research

Information Literacy for Life-Long Learning**1.8B Research**

Locate information using appropriate sources and strategies.

- Locate resources for a particular task (e.g., newspapers, dictionary).
- Select sources (e.g., dictionaries, encyclopedias, interviews to write a family history, observations, electronic media).
- Use tables of contents, key words and guide words.
- Use traditional and electronic search tools.

Locate information using appropriate sources and strategies.

- Evaluate the usefulness and qualities of the sources.
- Select appropriate sources (e.g., dictionaries, encyclopedias, other reference materials, interviews, observations, computer databases).
- Use tables of contents, indices, key words, cross-references and appendices.
- Use traditional and electronic search tools.

Locate information using appropriate sources and strategies.

- Determine valid resources for researching the topic, including primary and secondary sources.
- Evaluate the importance and quality of the sources.
- Select essential sources (e.g., dictionaries, encyclopedias, other reference materials, interviews, observations, computer databases).
- Use tables of contents, indices, key words, cross-references and appendices.
- Use traditional and electronic search tools.

Locate information using appropriate sources and strategies.

- Determine valid resources for researching the topic, including primary and secondary sources.
- Evaluate the importance and quality of the sources.
- Select sources appropriate to the breadth and depth of the research (e.g., dictionaries, thesauruses, other reference materials, interviews, observations, computer databases).
- Use tables of contents, indices, key words, cross-references and appendices.
- Use traditional and electronic search tools.

Information Literacy for Life-Long Learning**1.8C Research**

Organize and present the main ideas from research.

- Take notes from sources using a structured format.
- Summarize, orally or in writing, the main ideas.

Organize and present the main ideas from research.

- Take notes from sources using a structured format.
- Present the topic using relevant information.
- Credit sources using a structured format (e.g., author, title).

Organize, summarize and present the main ideas from research.

- Identify the steps necessary to carry out a research project.
- Take relevant notes from sources.
- Develop a thesis statement based on research.
- Give precise, formal credit for others' ideas, images or information using a standard method of documentation.
- Use formatting techniques to create an understandable presentation for a designated audience.

Organize, summarize and present the main ideas from research.

- Take notes relevant to the research topic.
- Develop a thesis statement based on research.
- Anticipate readers' problems or misunderstandings.
- Give precise, formal credit for others' ideas, images or information using a standard method of documentation.
- Use formatting techniques (e.g., headings, graphics) to aid reader understanding.

Information Literacy for Life-Long Learning**Standard 2: Mathematics****2.5A Mathematical Problem Solving and Communication**

Use appropriate problem-solving strategies (e.g., guess and check, working backwards).

Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, check whether an answer makes sense and explain how the problem was solved.

Invent, select, use and justify the appropriate methods, materials and strategies to solve problems.

Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multi-step problems.

2.5B Mathematical Problem Solving and Communication

Determine when sufficient information is present to solve a problem and explain how to solve a problem.

Use appropriate mathematical terms, vocabulary, language symbols and graphs to explain clearly and logically solutions to problems.

Verify and interpret results using precise mathematical language, notation and representations, including numerical tables and equations, simple algebraic equations and formulas, charts, graphs and diagrams.

Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas and results.

2.5C Mathematical Problem Solving and Communication

Select and use an appropriate method, materials and strategy to solve problems, including mental mathematics, paper and pencil and concrete objects.

Show ideas in a variety of ways, including words, numbers, symbols, pictures, charts, graphs, tables, diagrams and models.

Justify strategies and defend approaches used and conclusions reached.

Present mathematical procedures and results clearly, systematically, succinctly and correctly

2.5D Mathematical Problem Solving and Communication

NA

Connect, extend and generalize problem solutions to other concepts, problems and circumstances in mathematics.

Determine pertinent information in problem situations and whether any further information is needed for solution.

Conclude a solution process with a summary of results and evaluate the degree to which the results obtained represent an acceptable response to the initial problem and why the reasoning is valid.

Information Literacy for Life-Long Learning**2.5E Mathematical Problem Solving and Communication**

Select, use and justify the methods, materials and strategies used to solve problems. (Grade 5 only)

2.5F Mathematical Problem Solving and Communication

Use appropriate problem-solving strategies (e.g., solving a simpler problem, drawing a picture or diagram). (Grade 5 only)

2.6A Statistics and Data Analysis

Gather, organize and display data using pictures, tallies, charts, bar graphs and pictographs.

Organize and display data using pictures, tallies, tables, charts, bar graphs and circle graphs.

Compare and contrast different plots of data using values of mean, median, mode, quartiles and range.

Design and conduct an experiment using random sampling. Describe the data as an example of a distribution using statistical measures of center and spread. Organize and represent the results with graphs. (Use standard deviation, variance and t-tests.)

Information Literacy for Life-Long Learning**Standard 3: Science and Technology****3.2B Inquiry and Design**

Describe objects in the world using the five senses.

- Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough).
- Use observations to develop a descriptive vocabulary.

Apply process knowledge to make and interpret observations.

- Measure materials using a variety of scales.
- Describe relationships by making inferences and predictions.
- Communicate, use space / time relationships, define operationally, raise questions, formulate hypotheses, test and experiment,
- Design controlled experiments, recognize variables, and manipulate variables.
- Interpret data, formulate models, design models, and produce solutions.

Apply process knowledge and organize scientific and technological phenomena in varied ways.

- Describe materials using precise quantitative and qualitative skills based on observations.
- Develop appropriate scientific experiments: raising questions, formulating hypotheses, testing, controlled experiments, recognizing variables, manipulating variables, interpreting data, and producing solutions.
- Use process skills to make inferences and predictions using collected information and to communicate, using space / time relationships, defining operationally.

Evaluate experimental information for appropriateness and adherence to relevant science processes.

- Evaluate experimental data correctly within experimental limits.
- Judge that conclusions are consistent and logical with experimental conditions.
- Interpret results of experimental research to predict new information or improve a solution.

3.7A Technological Devices

Explore the use of basic tools, simple materials and techniques to safely solve problems.

- Describe the scientific principles on which various tools are based.
- Group tools and machines by their function.
- Select and safely apply appropriate tools and materials to solve simple problems.

Describe the safe and appropriate use of tools, materials and techniques to answer questions and solve problems.

- Identify uses of tools, machines, materials, information, people, money, energy and time that meet specific design criteria.
- Describe safe procedures for using tools and materials.
- Assess materials for appropriateness of use.

Identify and safely use a variety of tools, basic machines, materials and techniques to solve problems and answer questions.

- Select and safely apply appropriate tools, materials and processes necessary to solve complex problems.
- Apply advanced tool and equipment manipulation techniques to solve problems.

Apply advanced tools, materials and techniques to answer complex questions.

- Demonstrate the safe use of complex tools and machines within their specifications.
- Select and safely apply appropriate tools, materials and processes necessary to solve complex problems that could result in more than one solution.
- Evaluate and use technological resources to solve complex multi-step problems.
-

Information Literacy for Life-Long Learning**3.7D Technological Devices**

Use basic computer software.

- Apply operating system skills to perform basic computer tasks.
- Apply basic word processing skills.
- Identify and use simple graphic and presentation graphic materials generated by the computer.
- Apply specific instructional software.

Apply computer software to solve specific problems.

- Identify software designed to meet specific needs (e.g., Computer Aided Drafting, design software, tutorial, financial, presentation software).
- Identify and solve basic software problems relevant to specific software applications.
- Identify basic multimedia applications.
- Demonstrate a basic knowledge of desktop publishing applications.
- Apply intermediate skills in utilizing word processing, database and spreadsheet software.

Utilize computer software to solve specific problems.

- Identify legal restrictions in the use of software and the output of data.
- Apply advanced graphic manipulation and desktop publishing techniques.
- Apply basic multimedia applications.
- Apply advanced word processing, database and spreadsheet skills.
- Describe and demonstrate how two or more software applications can be used to produce an output.
- Select and apply software designed to meet specific needs.
- apply basic graphic manipulation techniques.

Evaluate the effectiveness of computer software to solve specific problems.

- Evaluate the effectiveness of software to produce an output and demonstrate the process.
- Design and apply advanced multimedia techniques.
- Analyze, select and apply the appropriate software to solve complex problems.
- Evaluate the effectiveness of the computer as a presentation tool.
- Analyze the legal responsibilities of computer users.

Information Literacy for Life-Long Learning**3.7E Technological Devices**

Identify basic computer communications systems.

- Apply a web browser.
- Apply basic electronic mail functions.
- Use on-line searches to answer age appropriate questions

Explain basic computer communications systems.

- Describe the organization and functions of the basic parts that make up the World Wide Web.
- Apply advanced electronic mail functions.
- Apply basic on-line research techniques to solve a specific problem.

Apply basic computer communications systems.

- Identify and explain various types of on-line services.
- Identify and explain the function of the parts of a basic network.
- Describe and apply the components of a web page and their function.
- Explain and demonstrate file transfer within and out side of a computer network.
- Identify, describe and complete advanced on-line research

Assess the effectiveness of computer communications systems.

- Assess the effectiveness of a computer based communications system.
- Transfer files among different computer platforms.
- Analyze the effectiveness of on-line information resources to meet the needs for collaboration, research, publications, communications and productivity.
- Apply knowledge of protocol standards to solve connectivity problems.

Information Literacy for Life-Long Learning**Standard 4: Environment and Ecology****4.9A Environmental Laws and Regulations**

Know that there are laws and regulations for the environment.

- Identify local and state laws and regulations regarding the environment.
- Explain how the recycling law impacts the school and home.
- Identify and describe the role of a local or state agency that deals with environmental laws and regulations.

Explain the role of environmental laws and regulations.

- Identify and explain environmental laws and regulations (e.g., Clean Air Act, Clean Water Act, Recycling and Waste Reduction Act, Act 26 on Agricultural Education).
- Explain the role of local and state agencies in enforcing environmental laws and regulations (e.g., Department of Environmental Protection, Department of Agriculture, Game Commission)

Explain why environmental laws and regulations are developed and enacted.

- Explain the positive and negative impacts associated with passing environmental laws and regulations.
- Understand conflicting rights of property owners and environmental laws and regulations.
- Analyze the roles that local, state and federal governments play in the development and enforcement of environmental laws.
- Identify local and state environmental regulations and their impact on environmental health.
- Explain the positive and negative impacts of the Endangered Species Act.

Analyze environmental laws and regulations as they relate to environmental issues.

- Analyze and explain how issues lead to environmental law or regulation (e.g., underground storage tanks, regulation of water discharges, hazardous, solid and liquid industrial waste, endangered species).
- Compare and contrast environmental laws and regulations that may have a positive or negative impact on the environment and the economy.
- Research and describe the effects of an environmental law or regulation and how it has impacted the environment.

Information Literacy for Life-Long Learning**Standard 5: Civics and Government****5.1B Principles and Documents of Government**

Explain the purposes of rules and laws and why they are important in the classroom, school, community, state and nation.

Explain the importance of the rule of law for the protection of individual rights and the common good in the community, state, nation and world

Describe historical examples of the importance of the rule of law.

- Sources
- Purposes
- Functions

Analyze the sources, purposes and functions of law.

5.1J Principles and Documents of Government

Explain the importance of respect for the property and the opinions of others

Describe how the government protects individual and property rights and promotes the common good.

Explain how law protects individual rights and the common good.

Analyze how the law promotes the common good and protects individual rights.

5.2B Rights and Responsibilities of Citizenship

Identify personal rights and responsibilities.

Explain the relationship between rights and responsibilities.

Analyze citizens' rights and responsibilities in local, state and national government.

Evaluate citizens' participation in government and civic life.

5.2F Rights and Responsibilities of Citizenship

Explain the benefits of following rules and laws and the consequences of violating them.

Describe the impact of the consequences of violating rules and laws in a civil society.

Analyze the consequences of violating laws of Pennsylvania compared to those of the United States.

Evaluate how individual rights may conflict with or support the common good.

Information Literacy for Life-Long Learning

5.3J How Government Works

Identify the role of the media in society.

Describe the influence of media in reporting issues

Analyze the importance of freedom of the press.

Evaluate the role of media in political life in the United States and explain the role of the media in setting the public agenda.

Information Literacy for Life-Long Learning**Standard 6: Economics****6.2K Markets and the Functions of Governments**

Identify forms of advertising designed to influence personal choice.

Explain how advertisements influence perceptions of the costs and benefits of economic decisions.

Interpret how media reports can influence perceptions of the costs and benefits of decisions.

Analyze the impact of media on decision-making of consumers, producers and policymakers

6.5B Work and Earnings

Identify different occupations.

Explain the concept of labor productivity.

Describe how productivity is measured and identify ways in which a person can improve his or her productivity

Evaluate how changes in education, incentives, technology and capital investment alter productivity

Information Literacy for Life-Long Learning**Standard 7: Geography****7.1A Basic Geographic Literacy**

Identify geographic tools and their uses.

- Characteristics and purposes of different geographic representations
 - Maps and basic map elements
 - Globes
 - Graphs
 - Diagrams
 - Photographs
- Geographic representations to display spatial information
 - Sketch maps
 - Thematic maps
- Mental maps to describe the human and physical features of the local area

Describe geographic tools and their uses.

- Basis on which maps, graphs and diagrams are created
 - Aerial and other photographs
 - Reference works
 - Field observations
 - Surveys
- Geographic representations to display spatial information
 - Absolute location
 - Relative location
 - Flows (e.g., goods, people, traffic)
 - Topography
 - Historic events
- Mental maps to organize an understanding of the human and physical features of Pennsylvania and the home county
- Basic spatial elements for depicting the patterns of physical and human features
 - Point, line, area, location, distance, scale
 - Map grids
 - Alpha-numeric system
 - Cardinal and intermediate directions

Explain geographic tools and their uses.

- Development and use of geographic tools
 - Geographic information systems [GIS]
 - Population pyramids
 - Cartograms
 - Satellite-produced images
 - Climate graphs
 - Access to computer-based geographic data (e.g., Internet, CD-ROMs)
- Construction of maps
 - Projections
 - Scale
 - Symbol systems
 - Level of generalization
 - Types and sources of data
- Geographic representations to track spatial patterns
 - Weather
 - Migration
 - Environmental change (e.g., tropical forest reduction, sea-level changes)

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- Mental maps to organize and understand the human and physical features of the United States

Analyze data and issues from a spatial perspective using the appropriate geographic tools.

- Spatial patterns of human features that change over time (e.g., intervening opportunity, distance decay, central place theory, locational preference)
- Physical patterns of physical features that change over time (e.g., climate change, erosion, ecological invasion and succession)
- Human and physical features of the world through mental maps

Information Literacy for Life-Long Learning**Standard 8: History****8.1A Historical Analysis and Skills Development**

Understand chronological thinking and distinguish between past, present and future time.

- Calendar time
- Time lines
- Continuity and change
- Events (time and place)

Understand chronological thinking and distinguish between past, present and future time.

- Calendar time
- Time lines
- People and events in time
- Patterns of continuity and change
- Sequential order
- Context for events

Analyze chronological thinking.

- Difference between past, present and future
- Sequential order of historical narrative
- Data presented in time lines
- Continuity and change
- Context for events

Evaluate chronological thinking.

- Sequential order of historical narrative
- Continuity and change
- Context for events

8.1B Historical Analysis and Skills Development

Develop an understanding of historical sources.

- Data in historical maps
- Visual data from maps and tables
- Mathematical data from graphs and tables
- Author or historical source

Explain and analyze historical sources.

- Literal meaning of a historical passage
- Data in historical and contemporary maps, graphs and tables
- Author or historical source
- Multiple historical perspectives
- Visual evidence
- Mathematical data from graphs and tables

Analyze and interpret historical sources.

- Literal meaning of historical passages
- Data in historical and contemporary maps, graphs, and tables
- Different historical perspectives
- Data from maps, graphs and tables
- Visual data presented in historical evidence

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Synthesize and evaluate historical sources.

- Literal meaning of historical passages
- Data in historical and contemporary maps, graphs and tables
- Different historical perspectives
- Data presented in maps, graphs and tables
- Visual data presented in historical evidence

8.1C Historical Analysis and Skills Development

Understand fundamentals of historical interpretation.

- Difference between fact and opinion
- The existence of multiple points of view
- Illustrations in historical stories
- Causes and results

Explain the fundamentals of historical interpretation.

- Difference between fact and opinion
- Multiple points of view
- Illustrations in historical stories
- Causes and results
- Author or source of historical narratives

Analyze the fundamentals of historical interpretation.

- Fact versus opinion
- Reasons/causes for multiple points of view
- Illustrations in historical documents and stories
- Causes and results
- Author or source used to develop historical narratives
- Central issue

Evaluate historical interpretation of events.

- Impact of opinions on the perception of facts
- Issues and problems in the past
- Multiple points of view
- Illustrations in historical stories and sources
- Connections between causes and results
- Author or source of historical narratives' points of view
- Central issue

Information Literacy for Life-Long Learning**8.1D Historical Analysis and Skills Development**

Understand historical research.

- Event (time and place)
- Facts, folklore and fiction
- Formation of a historical question
- Primary sources
- Secondary sources
- Conclusions (e.g., storytelling, role playing, diorama)

Describe and explain historical research.

- Historical events (time and place)
- Facts, folklore and fiction
- Historical questions
- Primary sources
- Secondary sources
- Conclusions (e.g., simulations, group projects, skits and plays)

Analyze and interpret historical research.

- Historical event (time and place)
 - Facts, folklore and fiction
 - Historical questions
 - Primary sources
 - Secondary sources
 - Conclusions (e.g., History Day projects, mock trials, speeches)
- Credibility of evidence

Synthesize historical research.

- Historical event (time and place)
- Facts, folklore and fiction
- Historical questions
- Primary sources
- Secondary sources
- Conclusions (e.g., Senior Projects, research papers, debates)
- Credibility of evidence

Information Literacy for Life-Long Learning**8.2B Pennsylvania History**

Identify and describe primary documents, material artifacts and historic sites important in Pennsylvania history.

- Documents, Writings and Oral Traditions (e.g., Penn’s Charter, Pennsylvania “Declaration of Rights”)
- Artifacts, Architecture and Historic Places (e.g., Local historical sites, museum collections, Independence Hall)
- Liberty Bell
- Official Commonwealth symbols (e.g., tree, bird, dog, insect)

Identify and explain primary documents, material artifacts and historic sites important in Pennsylvania history from Beginnings to 1824.

- Documents, Writings and Oral Traditions (e.g., Charter of Privileges, The Gradual Abolition of Slavery Act of 1780, *Letters from a Pennsylvania Farmer*)
- Artifacts, Architecture and Historic Places (e.g., Conestoga Wagon, Pennsylvania rifle, Brig Niagara)

Identify and analyze primary documents, material artifacts and historic sites important in Pennsylvania history from 1787 to 1914.

- Documents, Writings and Oral Traditions (e.g., Pennsylvania Constitutions of 1838 and 1874, The “Gettysburg Address”, *The Pittsburgh Survey*)
- Artifacts, Architecture and Historic Places (e.g., Gettysburg, Eckley Miners’ Village, Drake’s Well)

Identify and evaluate primary documents, material artifacts and historic sites important in Pennsylvania history from 1890 to Present.

- Documents, Writings and Oral Traditions (e.g., Constitution of 1968, *Silent Spring* by Rachel Carson, Pennsylvania historical markers)
- Artifacts, Architecture and Historic Places (e.g., 28th Division Shrine, Fallingwater, Levittown, Allegheny Ridge heritage corridor)

Information Literacy for Life-Long Learning**Standard 9: Arts and Humanities****9.3A Critical Response**

Recognize critical processes used in the examination of works in the arts and humanities.

- Compare and contrast
- Analyze
- Interpret
- Form and test hypotheses
- Evaluate/form judgments

Identify critical processes in the examination of works in the arts and humanities.

- Compare and contrast
- Analyze
- Interpret
- Form and test hypotheses

Evaluate/form judgments

Know and use the critical process of the examination of works in the arts and humanities.

- Compare and contrast
- Analyze
- Interpret
- Form and test hypotheses
- Evaluate/form judgments

Explain and apply the critical examination processes of works in the arts and humanities.

- Compare and contrast
- Analyze
- Interpret
- Form and test hypotheses
- Evaluate/form judgments

9.3B Critical Response

Know classification skills with materials and processes used to create works in the arts (e.g., sorting and matching textiles, musical chants, television comedies).

Describe works in the arts comparing similar and contrasting characteristics (e.g., staccato in Grieg's *In the Hall of the Mountain King* and in tap dance).

Analyze and interpret specific characteristics of works in the arts within each art form (e.g., pentatonic scales in Korean and Indonesian music).

Apply systems of classification for interpreting works in the arts and forming a critical response.

Information Literacy for Life-Long Learning**9.3C Critical Response**

Explain meanings in the arts and humanities through individual works and the works of others using a fundamental vocabulary of critical response.

Classify works in the arts by forms in which they are found (e.g., farce, architecture, graphic design).

Identify and classify styles, forms, types and genre within art forms (e.g., modern dance and the ethnic dance, a ballad and a patriotic song).

Determine and apply criteria to a person's work and works of others in the arts (e.g., use visual scanning techniques to critique the student's own use of sculptural space in comparison to Julio Gonzales' use of space in *Woman Combing Her Hair*).

9.3D Critical Response

Explain meanings in the arts and humanities through individual works and the works of others using a fundamental vocabulary of critical response.

Compare similar and contrasting important aspects of works in the arts and humanities based on a set of guidelines using a comprehensive vocabulary of critical response

Evaluate works in the arts and humanities using a complex vocabulary of critical response.

Analyze and interpret works in the arts and humanities from different societies using culturally specific vocabulary of critical response.

9.3E Critical Response

Recognize and identify types of critical analysis in the arts and humanities.

- Contextual criticism
- Formal criticism
- Intuitive criticism .

Describe and use types of critical analysis in the arts and humanities.

- Contextual criticism
- Formal criticism
- Intuitive criticism

Interpret and use various types of critical analysis in the arts and humanities.

- Contextual criticism
- Formal criticism
- Intuitive criticism

Examine and evaluate various types of critical analysis of works in the arts and humanities.

- Contextual criticism
- Formal criticism
- Intuitive criticism

Information Literacy for Life-Long Learning**9.3F Critical Response**

Know how to recognize and identify similar and different characteristics among works in the arts (e.g., Amish and Hawaiian quilts, Navaho weavings and Kente cloth from West Africa).

Know how to recognize the process of criticism in identifying and analyzing characteristics among works in the arts.

Apply the process of criticism to identify characteristics among works in the arts.

Analyze the processes of criticism used to compare the meanings of a work in the arts in both its own and present time.

9.3G Critical Response

Know and demonstrate what a critic's position or opinion is related to works in the arts and humanities (e.g., I like patriotic songs because...; The movie was enjoyed for its exceptional special effects)

Describe a critic's position or opinion about selected works in the arts and humanities (e.g., student's presentation of a critical position on Walt Disney's *Evolution of Mickey and Minnie Mouse*).

Compare and contrast critical positions or opinions about selected works in the arts and humanities (e.g., critic's review and comparison of Alvin Ailey's *Revelations* to Tchaikovsky's *Swan Lake*).

Analyze works in the arts by referencing the judgments advanced by arts critics as well as one's own analysis and critique.

Information Literacy for Life-Long Learning**Standard 10: Health, Safety and Physical Education****10.2C Healthful Living**

Identify media sources that influence health and safety.

Explain the media's effect on health and safety issues

Analyze media health and safety messages and describe their impact on personal health and safety.

Compare and contrast the positive and negative effects of the media on adult personal health and safety.

10.2D Healthful Living

Identify the steps in a decision-making process.

Describe and apply the steps of a decision-making process to health and safety issues.

Analyze and apply a decision-making process to adolescent health and safety issues.

Examine and apply a decision-making process to the development of short and long-term health goals.

Information Literacy for Life-Long Learning**Standard 11: Family and Consumer Sciences****11.1A Financial and Resource Management**

Identify money denominations, services and material resources available as trade-offs within the home, school and community.

Justify the decision to use or not use resources based on scarcity.

Analyze current conservation practices and their effect on future renewable and non-renewable resources.

- Refuse
- Reduce
- Reuse
- Recycle

Evaluate the impact of family resource management on the global community

11.1B Financial and Resource Management

Define the components of a spending plan (e.g., income, expenses, savings).

Know the relationship of the components of a simple spending plan and how that relationship allows for managing income, expenses and savings.

Explain the responsibilities associated with managing personal finances (e.g., savings, checking, credit, non-cash systems, investments, insurance).

Analyze the management of financial resources across the lifespan.

11.1C Financial and Resource Management

Explain the need for shelter for the purpose of safety, warmth and comfort.

Describe the adaptability to meet basic human needs of the different types of housing available (e.g., single home, apartment, mobile home, shelter, recreational vehicle, public housing).

Delineate and assess the factors affecting the availability of housing (e.g., supply and demand, market factors, geographical location, community regulations).

Analyze the relationship among factors affecting consumer housing decisions (e.g., human needs, financial resources, location, legal agreements, maintenance responsibilities).

11.1D Financial and Resource Management

Explain consumer rights and responsibilities.

- To be safe
- To be informed
- To be heard
- To choose
- To redress

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Analyze information in care instructions, safety precautions and the use of consumable goods as a demonstration of understanding of consumer rights and responsibilities

Explain how consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups).

Evaluate the role of consumer rights and responsibilities in the resolution of a consumer problem through the practical reasoning process.

11.1E Financial and Resource Management

Explain the relationship between work and income.

Explain the principles of child labor laws and the opportunity cost of working by evaluating the advantages and disadvantages of holding a job while a teenager.

Compare the influences of income and fringe benefits to make decisions about work

Compare and contrast factors affecting annual gross and taxable income and reporting requirements (e.g., W-2 form, Income tax form).

11.1F Financial and Resource Management

Describe criteria needed to identify quality in consumer goods and services (e.g., food, clothing, furniture, home technology, health care, transportation, services).

Explain practices to maintain and/or repair consumer goods and services.

Evaluate different strategies to obtain consumer goods and services.

Compare and contrast the selection of goods and services by applying effective consumer strategies.

11.1G Financial and Resource Management

Identify the services that communities provide for individuals and families

Identify the public and nonpublic services that are available to serve families within the community.

Analyze how public, nonpublic and for-profit service providers serve the family.

Compare the availability, costs and benefits of accessing public, nonpublic and for-profit services to assist the family.

Standard 12: – This page left intentionally blank as no Standard 12 exists –

Information Literacy for Life-Long Learning**Standard 13: Career Education and Work****13.1D Career Awareness and Preparation**

Identify the range of jobs available in the community

Describe the range of career training programs in the community such as, but not limited to:

- Two-and-four year colleges
- Career and technical EDUCATION PROGRAMS AT centers (FORMERLY AVTS) AND HIGH SCHOOLS
- CareerLinks
- Community/recreation centers
- Faith-based organizations
- Local industry training centers
- Military
- Registered apprenticeship
- Vocational rehabilitation centers
- Web-based training

Explain the relationship of career training programs to employment opportunities

Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to:

- Career days
- Career portfolio
- Community service
- Cooperative education
- Graduation/senior project
- Internship
- Job shadowing
- Part-time employment
- Registered apprenticeship
- School-based enterprise

Information Literacy for Life-Long Learning**13.1E Career Awareness and Preparation**

Describe the work done by school personnel and other individuals in the community

Describe the factors that influence career choices, such as, but not limited to:

- Geographic location
- Job description
- Salaries/benefits
- Work schedule
- Working conditions

Analyze the economic factors that impact employment opportunities, such as, but not limited to:

- Competition
- Geographic location
- Global influences
- Job growth
- Job openings
- Labor supply
- Potential advancement
- Potential earnings
- Salaries/benefits
- Unemployment

Justify the selection of a career

13.1F Career Awareness and Preparation

Explore how people prepare for careers.

Investigate people's rationale for making career choices

Analyze the relationship of school subjects, extracurricular activities, and community experiences to career preparation

Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to:

- Associate degree
- Baccalaureate degree
- Certificate/licensure
- Entrepreneurship
- Immediate part/full time employment
- Industry training
- Military training
- Professional degree
- Registered apprenticeship
- Tech Prep
- VOCATIONAL REHABILITATION CENTERS

Information Literacy for Life-Long Learning**13.1G Career Awareness and Preparation**

Explain why education and training plans are important to careers.

Identify the components of a career plan, such as, but not limited to:

- Beginnings of career portfolio
- Career goals
- Individual interests and abilities
- Training/education requirements and costs

Create an individualized career plan including, such as, but not limited to:

- Assessment and continued development of career portfolio
- Career goals
- Cluster/pathway opportunities
- Individual interests and abilities
- Training/education requirements and financing

Assess the implementation of the individualized career plan through the ongoing development of the career portfolio.

13.2A Career Acquisition (Getting a Job)

Identify appropriate speaking and listening techniques used in conversation.

Apply appropriate speaking and listening techniques used in conversation.

Identify effective speaking and listening skills used in a job interview.

Apply effective speaking and listening skills used in a job interview.

Information Literacy for Life-Long Learning**13.2B Career Acquisition (Getting a Job)**

Discuss resources available in researching job opportunities, such as, but not limited to:

- Internet
- Magazines
- Newspapers

Identify and review resources available in researching job opportunities, such as, but not limited to:

- Internet
- Magazines
- Newspapers

Evaluate resources available in researching job opportunities, such as, but not limited to:

- CareerLinks
- Internet (i.e. O-NET)
- Networking
- Newspapers
- Professional associations
- Resource books (that is *Occupational Outlook Handbook, PA Career Guide*)

Apply research skills in searching for a job.

- CareerLinks
- Internet (i.e. O-NET)
- Networking
- Newspapers
- Professional associations
- Resource books (that is *Occupational Outlook Handbook, PA Career Guide*)

13.2E Career Acquisition (Getting a Job)

Discuss the importance of the essential workplace skills, such as, but not limited to:

- Dependability
- Health/safety
- Team building
- Technology

Apply to daily activities, the essential workplace skills, such as, but not limited to:

- Commitment
- Communication
- Dependability
- Health/safety
- Personal initiative
- Scheduling/time management
- Team building
- Technical literacy
- Technology

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Explain, in the career acquisition process, the importance of the essential workplace skills/knowledge, such as, but not limited to:

- Commitment
- Communication
- Dependability
- Health/safety
- Laws and regulations (that is AMERICANS WITH DISABILITIES ACT, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets)
- Personal initiative
- SELF-ADVOCACY
- Scheduling/time management
- Team building
- Technical literacy
- Technology

Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to:

- Commitment
- Communication
- Dependability
- Health/safety
- Laws and regulations (that is AMERICANS WITH DISABILITIES ACT, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets)
- Personal initiative
- SELF-ADVOCACY
- Scheduling/time management
- Team building
- Technical literacy
- Technology

Chapter 14 Appendix D – Pittsburgh Public Schools Fair Use Policy [Revised, 2007]

No. 814.

SECTION: OPERATIONS

TITLE: COPYRIGHT MATERIAL

ADOPTED:

REVISED:

Pittsburgh Public Schools

COPYRIGHT MATERIAL

P.L.94-553 Sec. 107

1. Purpose

The Board recognizes that the United States Code makes it illegal for anyone to duplicate copyrighted materials without permission. The Board further realizes that severe penalties will be provided for unauthorized copying of audio, visual, or printed materials unless the copying falls within the bounds of the "fair use" doctrine.

2. Definition

Under the "fair use" doctrine, unauthorized reproduction of copyrighted materials will be permissible for such purposes as criticism, comment, news reporting, teaching, scholarship or research. If duplicating or changing a product is to fall within the bounds of fair use, these four standards must be met for any of the foregoing purposes:

- a. THE PURPOSE AND CHARACTER OF THE USE. The use must be for such purposes as teaching or scholarship and must be nonprofit.
- b. THE NATURE OF THE COPYRIGHTED WORK. Staff may make single copies of: book chapters for use in research, instruction or preparation for teaching; articles from periodicals or newspapers; short stories, essays or poems; and charts, graphs, diagrams, drawings, cartoons or pictures from books, periodicals or newspapers in accordance with these guidelines.
- c. THE AMOUNT AND SUBSTANTIALITY OF THE PORTION USED. Copying the whole of a work cannot be considered fair use; copying a small portion may be if these guidelines are followed.

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814. COPYRIGHT MATERIAL - Pg. 2

d. THE EFFECT OF THE USE UPON THE POTENTIAL MARKET FOR OR VALUE OF THE COPYRIGHTED WORK. If resulting economic loss to the copyright holder can be shown, even making a single copy of certain materials may be an infringement, and making multiple copies presents the danger of greater penalties.

3. Authority

The School District staff may make copies of copyrighted materials that fall within the following guidelines. Where there is reason to believe the material to be copied does not fall within these guidelines, prior permission shall be obtained from the principal.

Staff members who fail to follow this policy may be held personally liable for copyright infringement.

A. Permitted Copies

1. Multiple copies, not exceeding more than one per pupil, may be made for classroom use or discussion if the copying meets the tests of "brevity, spontaneity and cumulative effect" set by the following guidelines. Each copy must include a notice of copyright.

a. Brevity

A complete poem, if less than 250 words and two pages long, may be copied; excerpts from longer poems cannot exceed 250 words;

Complete articles, stories or essays of less than 2500 words or excerpts from prose works not more than 1000 words or 10% of the work, whichever is less may be copied; in any event, the minimum is 500 words;

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814. COPYRIGHT MATERIAL - Pg. 3

Each numerical limit may be expanded to permit the completion of an unfinished line of a poem or prose paragraph;

One chart, graph, diagram, drawing, cartoon or picture per book, book or periodical issue may be copied. "Special" works cannot be reproduced in full; this includes children's books combining poetry, prose or poetic prose.

b. Spontaneity

Should be at the "instance and inspiration" of the individual teacher.

c. Cumulative Effect

Teachers are limited to using copied material for only one course in the school in which copies are made. No more than one short poem, article, story or two excerpts from the same author may be copied, and no more than three works can be copied from a collective work or periodical column during one class term. Teachers are limited to nine instances of multiple copying for one course during one class term. Limitations do not apply to current news periodicals, newspapers and current news sections of other periodicals.

2. A library or archive may reproduce one copy or recording of a copyrighted work and distribute it if: the reproduction or distribution is made without any purpose of direct or indirect commercial advantage; the collection of the library or archives is open to the public, or available not only to researchers affiliated with the library or archives or with the institution of which it is a part, but also to other persons doing research in a specialized field; and if the reproduction or distribution of a work includes a notice of copyright libraries and their employees are not liable for unsupervised use.

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814. COPYRIGHT MATERIAL - Pg. 4

3. Copies of materials for "face-to-face" teaching activities involving performances or displays made by students or instructors, religious services, live performances without commercial advantage, and the use of instructional broadcasts are permitted.

B. Prohibited Copies

1. The Act prohibits using copies to replace or substitute for anthologies, consumable works or compilations or collective works. "Consumable" works include: workbooks, exercises, standardized tests, test booklets and answer sheets. Teachers cannot substitute copies for the purchase of books, publishers' reprints or periodicals, nor can they repeatedly copy the same item from term to term. Copying cannot be directed by a "higher authority" and students cannot be charged more than actual cost of photocopying.

2. Schools must be licensed to play copyrighted music where the performer is paid or admission is charged, even if the admission is used to cover refreshment costs.

3. Juke boxes must be licensed and a certificate of license must be displayed on each machine.

4. Taping copyrighted audiovisual works (such as broadcasts) and using them in the classroom is not fully resolved in the new law. When such use is contemplated, a request for an approved method of such use shall be made to the Superintendent's office.

Federal Regulations P.L.94-553

Information Literacy for Life-Long Learning

Chapter 15 Appendix E - Glossary¹ [Revised, 11/2007]

Term	Definition
Abstract	A brief summary of the major points of a nonfiction work
Acceptable Use Policy	Document that sets forth the rules and regulations for use of the school's computers, network, and internet
AccessPA	Statewide system used to locate library materials in school, public, academic libraries across the state of Pennsylvania
Almanac	Compilation of useful information and statistics, usually published every year
Alphabetical Order	Arranged in the order of the letters of the alphabet
Anthology	Collection of literary pieces by one or more authors, such as poems, plays or short stories
Appendix (part of a book)	Supplementary material usually located at the end of a book, such as a list of references, statistical tables, or explanatory matter (Plural is appendices)
APA	American Psychological Association
APA Format	One format often required for papers and bibliographies (works cited, works consulted, page setup,...)
APA Guide	online and print document with directions and examples of the APA format, printed by the American Psychological Association
Article	<ul style="list-style-type: none"> - brief information on a topic - parts of an article can include: <ul style="list-style-type: none"> · links to fact boxes · headings · subheadings · sidebars · web pages (or links to web pages) · related information · graphics
Atlas	book of maps
Audio	source of information that you can hear
Audio Book	version of a book that can be listened to
Audiovisual	electronic forms of information and entertainment that provide sounds and/or images to the listener or viewer
Author	person who writes the words in a book or other literary work
Authority	criterion used in evaluating the quality of information
Autobiography	true story of a person's life written by himself or herself
Availability	<ul style="list-style-type: none"> - whether a material is on hand or not - part of the record in OPAC (Destiny[®]) that tells whether a material is on hand
Barcode	<ul style="list-style-type: none"> - small label that can be read by a computer scanner - used on books and student IDs to check out materials from the library

¹ The basis for this Glossary is the *Library Information Literacy Skills Curriculum* of the Upper Merion School District (Upper Merion, PA):

<http://www.umasd.org/13331072184735717/FileLib/browse.asp?A=374&BMDRN=2000&BCOB=0&C=58603> It was used with the permission of the authors.

Revised, 11/2007

Information Literacy for Life-Long Learning

Term	Definition
Beginning (parts of a story)	event that happens at the start of the story
Bias	- a personal, sometimes unreasoned or unsubstantiated, prejudice - an organizational, sometimes unreasoned or unsubstantiated, prejudice
Bibliographic Entry	Information on a work listed in the bibliography/works cited; usually includes author, title, source, place and date of publication
Bibliography / Works Cited	list of sources used for research purposes
Bibliography / Works Consulted	list of works looked at during the course of research, but not actually quoted in the paper
Bibliography, Annotated	notes that provide critical or descriptive information on the works listed
Big 6	tool for organizing the research process
Biographical Notation	note or citation to a publication, book or article
Biography	true story of a person's life written by someone other than the subject of the work
Biography, Collective	collection of written histories of various peoples' lives that are compiled into one resource
Blog	- a Web site containing an online personal journal (noun) - to blog is to write or create a blog
Blogger	a person who blogs
Bluetooth	a wireless protocol that allows two, or more, appropriately configured, low power devices to communicate over short distances. Examples include: Bluetooth earpieces and some cellular phones, wireless keyboards and wireless mice, etc.
Book Care	handling books and materials appropriately
Book Jacket	usually a decorative paper book cover to catch the readers' attention
Book Pocket	paper pocket used to hold Charge Card or Date Due Slip (Card)
Book Return	the location designated for returned library materials
Book Selection	process of choosing books to borrow
Bookmark	thin paper placed in a book to mark the place
Bookmark, Electronic	- the process of marking a chosen website for future reference - an electronic shortcut to reach a chosen website
Boolean Searching	logical system that uses operators such as "AND", "OR", and "NOT" that either broaden or narrow the results of a search
Borrower	someone who checks something out and returns it by the due date
Browse	to look through a collection of materials with or without a particular goal
Browser	software used to locate and display Web pages
Call Number	combination of letters and numbers assigned to a book that gives it a unique location in the library (See also Dewey and Library of Congress)
Captions	text used to explain pictures and illustrations

Information Literacy for Life-Long Learning

Term	Definition
Catalog	- searchable online database which provides a listing of the materials owned by a library - indicates location and loan status of the materials (See also OPAC)
CD (Compact Disk)	portable computer storage device used to store and access information including text, music, images
CD-ROM	CD-Read Only Memory a CD that only allows writing to it once, and then it can only be read
CD-RW	CD-Read-Write A form of CD that allows the user to read, write, erase, and re-write data
Characters	- individuals who take part in the events of the story - graphic symbols used in writing or printing
Charge Card	card that patron fills out when checking out materials from library (where extant)
Check Out	process of borrowing materials (How do librarians die? ²)
Circulation	process of selecting and borrowing library materials that are later returned to the library media center
Circulation Desk	service area where books and materials are checked out and returned
Computer	electronic machine used for inputting, processing, storing and retrieving data
Content Page	Information page(s) of a web site; linked to the homepage on a multi-page website
Controlled Vocabulary	- for librarians' purposes, either authorized or agreed upon terms used for subject indexing - vocabulary based upon reading level
Copyright	legal right granted to the creator of a work to control its use
Copyright Date	year in which the author applies to the Library of Congress for a copyright on the book
Cover	protects the pages of the book from damage
Cross Reference	a term that leads to another term or name where additional or similar information can be found (as in "see," "see also" or a hyperlink)
Currency / Current	a criterion used to evaluate quality of information; whether or not the information is up-to-date
Data	- factual information (as measurements or statistics) used as a basis for reasoning, discussion, or calculation - information output by a sensing device or organ that includes both useful and irrelevant or redundant information and must be processed to be meaningful - information in a numerical form that can digitally transmitted or processed (www.m-w.com/dictionary/data)
Datum	- singular of data - something used as a basis for calculating or measuring (www.m-w.com/dictionary/datum)
Date Due Slip	notice placed in book pocket at time of check-out reminding patron of materials due date
Date(s) of Publication	year(s) when a work was published

² They check-out. Gotcha!

Information Literacy for Life-Long Learning

Term	Definition
Database	searchable index or catalog in electronic form [examples: Gale Resources, Facts on File, OPAC (Destiny®)]
Dedication	the inscription at the front of a book, by the author(s) as a mark of respect or affection for another person
Destiny®	the OPAC software, created by the Follett software company, currently in use by the Pittsburgh Public Schools.
Dewey Decimal Classification System	system used for organizing library materials by subject content
Dewey Decimal Code (or Number)	number or code used to locate specific library material by Fiction or Non-Fiction
Diagram	photograph or drawing with important parts labeled
Dictionary	an alphabetical listing of words and their meanings, pronunciations, syllabication, etymology, etc.
Dictionary, Abridged	condensed dictionary, fewer entries
Dictionary, Biographical	dictionary of people, with short descriptions
Dictionary, Foreign Language	definitions of non-English words
Dictionary, Geographical	dictionary of places, with short descriptions
Dictionary, Subject	dictionary terms for one area of knowledge
Dictionary, Unabridged	expanded dictionary, more entries
Dictionary, Visual	dictionary with pictures rather than text
Dongle	A device that plugs into and protrudes (dangles) from a computer. Examples include: USB drives, USB blue-tooth transmitters, external USB wireless adaptors, devices that act as a security measure to enable the use of certain software, etc.
Due Date	the date material must be returned to the library
Dust cover	usually a clear plastic (mylar) cover to protect the book
Dust Jacket	see book jacket
DVD	Digital Video Disk – larger storage capacity than a CD
E	location prefix for Everybody book (a.k.a. “Easy Book”)
eBook	book in digital format
eMail	electronic mail sent over a network
Encyclopedia	work containing informative articles on subjects in every field of knowledge in logical, searchable order, usually alphabetical by subject
Encyclopedia, Electronic	encyclopedia that is in electronic format (CD-ROM or web-based)

Information Literacy for Life-Long Learning

Term	Definition
Encyclopedia, Subject	reference book with all articles on one area of knowledge
End (parts of a story)	culmination of events that happen during the last few pages of the story
End pages	the pages that attach the front and back covers to the book – essential for binding
Everybody Books	easy-to-read and picture books
Everybody Section	section of the library where Everybody Books are located
FIC	location prefix for Fiction
Fable	a narrative intended to convey a moral. Animals or inanimate objects with human characteristics often serve as characters in fables
Fair Use	a legal concept that allows for the reproduction of copyrighted material for certain purposes without obtaining permission and without paying a fee or royalty
Fiction	an invented or imagined story (e.g., historical fiction, science fiction, fantasy, realistic fiction, mystery, romance, horror, etc.)
Field	space allocated for a particular item of information in a database
File sharing	the practice of making files available for other users to download over the Internet and smaller networks (Sharing files often infringes copyright and/or fair use)
Firewall	Software and hardware designed to filter inbound and (hopefully) outbound communications to/from users' computers and/or a network to keep out "spam" and malware.
Folktales	stories originally told orally for many generations to teach lessons such as how to act, right or wrong, and the history of the people
Footer	- part of the web page, usually at the bottom which contains the author, institution, date created and/or date updated along with contact information (footer may only appear on the homepage of the site) - part of a printed page that appears at the bottom of every page in that document
Foreword	-a foreword is a short (or long) piece of writing often found at the beginning of a book, and written by someone other than the author of the book
Frontispiece	a decorative illustration which precedes and usually faces the title page
Full Record	(in the OPAC) contains information about the selected item such as the call number, subjects, summary, number of pages, etc.
Full Text	complete contents of a journal article online
Genre	<ul style="list-style-type: none"> • a category of artistic, musical, or literary composition characterized by a particular style, form, or content • style of literature that has specific conventions of writing: e.g., <ul style="list-style-type: none"> - Biography - Fable - Fairytale - Fantasy - Fiction - Fiction, Historical - Fiction, Realistic - Fiction, Science - Folklore - Legend - Nonfiction - Poetry

Information Literacy for Life-Long Learning

Term	Definition
Glossary	alphabetical list, in a book, that contains definitions of special or difficult words
Half Title Page	the title of a book as printed , in full or in brief, on the leaf preceding the title page , usually in a smaller size of the font in which the title proper is printed on the title page
Hold Shelf	shelf where book(s) await the patron who requested it
Hyperlink	an electronic link from one place in a document to another place in that document or to a site on the Web
Hypothesis	- an assumption made for the sake of argument - the supposition made to test against
Illustration	a picture or diagram that helps make something clear or attractive
Illustrator	the person that illustrated a book or written work
Instant messaging	an online tool that allows text messages to be sent bi-directionally between two people
Interlibrary Loan (ILL)	process of requesting and borrowing materials from another library
Internet	- a computer communication network used to retrieve information from a variety of computer systems - uses TCP/IP as its networking protocol
Index	- a list of items (names, topics, etc.) found at the end of a printed work that tells the page number(s) on which information can be found on that subject - a portion of a database file that is used to speed up the sorting of that file
IP Address	- Internet Protocol Address - the address of a computer on a network (for example: 192.168.1.735)
ISBN	A unique 10 or 13 digit number , given by the publisher to identify a specific book , which uses a system recommended for international use
Journal	scholarly periodical
Keyword	word used as a reference point for finding information; a significant or descriptive word
Keyword Search	search which is not field specific
Legend	story about mythical or supernatural beings or events, or a story coming down from the past, especially one popularly regarded as historical although not verifiable
Legend	explanation of symbols used on a map
Librarian	professional trained in the management and organization of materials and in collection development
Library Assistant	library support person
Library Barcode	a printed label containing machine-readable data encoded in vertical lines, which are read into an attached computer by an optical scanner and used to identify books and other materials for circulation
Library Homepage	Internet page which organizes electronic access to the library's resources for the patrons: library links to pathfinders, online references and related web sites
Library of Congress	- the unofficial national library of the United States, located in Washington, D.C - acts as the research library for the Legislative Branch - administers the U.S. copyright system - http://www.loc.gov
Library of Congress Subject Headings	Standard list of terms published by the Library of Congress which are used as subject headings for the library (See Controlled Vocabulary)

Information Literacy for Life-Long Learning

Term	Definition
Limiters	parameters set to narrow a search
Link	Electronic connection between two pieces of information
Literary Award	Honor given to a book, author, or illustrator for outstanding work based on specific criteria
Literary criticism	Analysis of works of literature by professionals
Location Prefix	part of the assigned call number that designates the collection an item will be located in as well as the format
Luddite	- vernacular term for a person that avoids, or opposes, change – especially technological change - historically: one of a group of early 19th century English workmen – during the Industrial Revolution – that destroyed knitting machines, steam engines, and other labor-saving devices as a protest against modernity that would eliminate jobs and destroy their way of life (Name is thought to be derived from Ned Ludd from Leicestershire workman who destroyed a knitting frame)
Magazine	periodical on specific topics intended for the general public
Main Headings	major subjects listed in an index
MARC Record	MAchine Readable Cataloging -- the record for each library item
Malware	Any malicious software. Usually these are placed onto computer users' machines without her/his consent or knowledge, and are used to make the users' machines a "zombie" or to steal personal or corporate information. Types of malware include: spyware, viruses, trojans, key loggers, etc.
Media (plural of Medium)	(see medium)
Medium (singular of media)	- the physical material – or the method of conveyance -- on which an artistic expression (i.e., book, story, picture, song, etc.), performance, information or data file is conveyed - book, periodical, painting, printed photo, digital photo, CD, DVD, online digital source, vinyl record, papyrus, clay, stone
Middle (parts of a story)	Events that happen between the beginning and the end of a story
MLA	Modern Language Association
MLA Format	one format often required for papers and bibliographies (works cited, works consulted, page setup,...)
MLA Guide	online and print document with directions and examples of MLA format published by the Modern Language Association
Newspaper	type of periodical covering current events (see also periodical)
Nonfiction	prose writing that is factual or true
Non-print	sources that are not print
Notes	important information written down in the reader's words
Online Periodicals	periodicals accessed via the computer from the library homepage
Online Reference	reference source in web-based format that may exist as a print reference as well
Online Subscription	Electronic resource which is paid for
OPAC	Online Public Access Catalog - computer catalog of the books and materials owned by a library. Pittsburgh Public Schools uses Follett's Destiny® as its OPAC.
Overdue	library material that is not returned to the library by the due date
Overdue Notice	notification that library material is overdue

Information Literacy for Life-Long Learning

Term	Definition
Page Elements	headings, subheadings, outlines, legends, print cues (bold, italics, underlines...), charts, tables, text boxes, picture captions, etc.
PB	location prefix for Paperback books
PDF (Portable Document Format)	file format that allows files to be viewed as images, maintaining the original look of the document
Periodical	published at regular intervals under the same title (see also newspaper, magazine, journal)
Photographs	pictures that have been taken with a camera
Place of Publication	city where a material is published
Plagiarism	an act of literary theft; using something created by another individual without acknowledgement
Plot (story elements)	<ul style="list-style-type: none"> - structure of a story - sequence in which the author arranges events - may have a protagonist who is opposed by an antagonist, creating what is called a conflict - often includes the rising action, the climax, the falling action and the resolution
Poetry	<ul style="list-style-type: none"> - Writing that aims to present ideas and evoke an emotional experience in the reader through the use of meter, imagery, connotative and concrete words, and a carefully constructed structure based on rhythmic patterns - Typically relies on words and expressions that have several layers of meaning - Oftentimes makes use of the effects of regular rhythm and may make a strong appeal to the senses through the use of imagery
POWER Library	free online subscriptions to digital resources (including specialized search engines and databases) available via public and school libraries that have been made available from the Commonwealth of Pennsylvania
Power Search	search in OPAC or other search engine utilizing Boolean logic
Preface	a preliminary statement at the beginning of a book , usually written by the author , stating the origin, scope , purpose, plan, and intended audience of the work and including any afterthoughts and acknowledgments of assistance.
Print Media	print media include such forms as newspapers, periodicals, magazines, books, newsletters, advertising, memos, business forms, etc.
Producer	person or agency responsible for play, motion picture, video
Publisher	person or company that produces printed or non-print materials
Publisher's Barcode	ISBN in barcode format
Q	<ul style="list-style-type: none"> - location prefix for an oversized book - quarto (printed on a quarter of a large sheet of printing paper)
R	location prefix for Reference
Record	computer entry for each title in the library which provides the user with the item's call number, author, and title
Recreational Need	selecting books for leisure reading
Reference Book	nonfiction book used for information and/or research
Reference Section	area in the library where reference materials are shelved
Reference, Specialized	reference book specializing in limited subject area
Remote Access	access from an off-site location
Renew	To extend the due date for a material

Information Literacy for Life-Long Learning

Term	Definition
Research	process of investigating a subject by using various resources
Reserve Collection	group of library materials placed into a temporary collection for a specific group of students, faculty or for an assignment
Reserve Shelf	storage shelf for reserve materials set aside for a class assignment
Resource List	- a way to create a list of books in the OPAC (Destiny®) - useful for location and bibliography
Responsibility	- the legal and moral accountability to do the right thing - trustworthiness
Rubric	an evaluation tool, with point values assigned which helps students cover the components of the assignment
Scanner	- device that converts text or pictures into an electronic format - device for reading barcodes and translating them into a form usable by the computer
School Librarian	professional teacher trained in the management and organization of information and materials and in collection development for the library
Search Engine	program on the Internet that locates web resources
Search Strategy	the selection of keywords, subject headings, broader and narrower terms, limiters, sources to search
Search Textbox	place where a subject, title, author, or keyword is typed to begin a search
Search, Advanced or Power	search using Boolean operators or limiters to narrow or focus the search
Search, Basic	searching by a single term
See Also	cross reference term directing searcher to additional locations
Sequence (part of a story)	series of events in a story that follow each other in a particular order
Setting (part of a story)	location and time where a story takes place
Shelf Labels	signs placed on each shelf of the library to help students locate materials
Shelf Marker	plastic marker used to indicate the place of a book temporarily removed from the shelf
Shelf Place Marker	plastic marker used to indicate the place of a book temporarily removed from the shelf
Sketch	rough drawing that shows only the main features of an object
Social Networks	online social networks create communities of people who share interests and activities, or who are interested in exploring (online) the interests and activities of others. Most social networking services are web based and provide a various ways for users to interact online, such as personal webpages (mySpace, Facebook, etc.), email, video, file sharing, blogging, discussion groups,...
Source, Primary	text and/or artifacts that tell or show a firsthand account of an event; original works used when researching
Source, Secondary	- text and/or artifacts used when researching that are derived from something original - materials that interpret, assign values to, interpret, conjecture upon and draw conclusions about the events reported in primary sources
Spine	backbone of the book which holds the pages together

Information Literacy for Life-Long Learning

Term	Definition
Spine Label	label on the spine which tells where the book is located in the library; contains the call number
Spyware	malicious computer code that is downloaded by users via the Internet, eMail, instant messaging, or via other programs. This type of malevolent program now accounts for more than 75% of the malware circulating. Spyware usually does provide financial gain to its originators, whether via a marketing scheme or outright identity theft. Spyware has taken the place of the “traditional computer virus” in today’s online world.
Stacks	tall shelves in the library where most of the books are shelved
Status	part of the record in an OPAC that tells whether a material is on hand (see also: availability)
Story Collection	books which contain more than one story
Story Elements	includes characters, setting, the problem, events, and the solution
Subheading	secondary topic related to the original heading
Subject	topic of a book or other work
Subject Headings	standardized words or phrases assigned to books and articles and used to index these items by topic (see also: controlled vocabulary)
Summary	briefly tells what the book or article is about
Table of Contents	list of chapters, their titles and page numbers
Tables	figures, illustrations, etc
TCP/IP	- transmission control protocol / Internet protocol - the network protocols used by the Internet and Ethernet
Teacher-Librarian	professional teacher trained in the management and organization of information and materials and in collection development
Thesaurus	dictionary of synonyms
Thesis Statement	- basic argument advanced by a speaker or writer who then attempts to prove it - subject or major argument of a speech or composition
Title	name of the book or other work
Title Page	page at the beginning of a book that includes author, illustrator, title, and publisher
Union Catalog	the listing of holdings of library network (i.e., in more than one library)
URL (Uniform Resource Locator)	address of a website
Truncation	substituting an asterisk for a letter in an online search or shortening the word in order to find various endings
Validity	criterion used to evaluate quality of information; whether or not it has authority
Verso	- back of any page - often used to refer to the page of a book with all of the copyright information
Video	magnetic tape used for recording both picture and sound
Volumes	individual books in a set
Web Guides	list of websites pre-selected by experts in the field
Website	the web pages associated with a particular organization or function

Information Literacy for Life-Long Learning

Term	Definition
Wiki	An online site that allows the visitors to the site to directly edit it.
Wikipedia	An online encyclopedia that is a wiki. Readers and users have the ability to both access and edit the entries. Any user can set him/herself up as an authority to edit. This means that while many entries are excellent (because they have been edited by an authority on a subject), many others contain factual and/or interpretive errors, and many entries have a noticeable or subtle bias.
Works Cited / Bibliography	list of works used for research
Works Consulted	list of works looked at during the course of research, but not actually quoted in the paper
World Wide Web (WWW)	portion of the Internet consisting of interconnected, linked documents accessible via web browsers
Web-of-Learning	the inter-disciplinary learning community that optimally exists throughout a school

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Chapter 16 Appendix F – Accountable Talk¹ [Added July, 2009]**16.1 Nine Principles of Learning**

- Socializing intelligence
- Academic rigor in a thinking curriculum
- Accountable Talk
- Clear Expectations
- Self-management of Learning
- Learning as apprenticeship
- Organizing for effort
- Fair and credible evaluations
- Recognition of Accomplishment

16.2 Accountable Talk / Reminders for Facilitators

GOALS OF ACCOUNTABLE TALK:

- Accountability to Knowledge
- Accountability to Rigorous Thinking
- Accountability to the Learning Community

MOVES TO PROMOTE ACCOUNTABLE TALK:

Marking: Drawing attention to a significant comment made by a student.

- That's an important point.
- Did everyone hear what Nicky said?

Challenging: Giving students responsibility for figuring out ideas.

- What do you think about Jesse's question?
- Who might have an answer to Angel's question?

Modeling: Thinking aloud to make reasoning public.

- This is how I am thinking about that.
- This is something good readers do.

Recapping: Summarizing the ideas that students have developed collectively.

- What have we learned thus far?
- Some ideas you have suggested so far are...

¹ Based upon the *Principles of Learning*, University of Pittsburgh
Added 5/2009

Information Literacy for Life-Long LearningPressing for reasoning:

- Why do you think that?
- How did you arrive at that idea?

Expanding reasoning:

- That's interesting; say more.
- Take your time; we really want to understand your idea.

Pressing for accuracy:

- Where in the text can we find that?
- How can we check on that?

Building on prior knowledge:

- What did we learn about that yesterday?
- How does this connect?

Keeping channels open:

- Did everyone hear that?
- What did he just say?

Keeping everyone together:

- Who can repeat that in your own words?
- Is that what you were trying to say?
-

Linking contributions:

- Who wants to add on?
- Who agrees or disagrees?
 - Why?
 - How?

Verifying and clarifying:

- So, are you saying...?
- Let's make sure we understood what you said....

Information Literacy for Life-Long Learning**16.3 Accountable TalkSM / Reminders for Participants**

GOALS OF ACCOUNTABLE TALK:

- Accountability to Knowledge
- Accountability to Rigorous Thinking
- Accountability to the Learning Community

MOVES TO ENGAGE IN ACCOUNTABLE TALK

- I would like to build on what Maria said.
- I have two things to add.
- Let me see if I understood what you meant.
- I would like to disagree with Kenneth.
- I have a different idea about that.
- Here in the text it says...
- Could someone help me understand that?
- The author's central point seemed to be...
- Another way to think about that is...
- I got this idea from the article we read last week.
- I want to add on ...
- I want to push back a little bit about that.
- Where did you see that idea in the chapter?
- I'm having trouble understanding that point.
- I would like to take this discussion in a slightly different direction.
- I combined ideas from both articles , and I'd like to suggest...
- Let's look at the data to check that out.

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Information Literacy for Life-Long Learning**Chapter 17 Appendix G - Pittsburgh Public Schools' Definition of Differentiated Instruction** [Added July, 2009]

Within the effort-based learning theory embraced by the district, differentiated instruction is the deliberate effort by the teachers with administrative and district support to provide academically rigorous instruction that is responsive to the differing needs of all students

Differentiated Instruction is a multi-faceted approach to teaching that uses:

- summative and formative data to inform instruction
- a variety of classrooms settings whole group, small group, independent to provide opportunities for all students to learn thus cultivating independent life long learners
- scaffolds to assist students in taking ownership of their learning
- questioning and activities that provide multiple entry points for students
- strategies to modify the content, process and/or student product
- a culturally responsive approach to addressing students needs, background, and prior experiences

This multi-faceted approach provides learning opportunities for all students to reach and or exceed (with application of) core habits and practices and enduring understanding within each content area as supported with the district's curricula.

The PPS definition of differentiated instruction was informed by the research of Carol Dweck, a professor at Columbia University. She purports that:

The teacher creates a mastery-oriented approach to learning in students by:

- Conducting on-going formative assessments to inform instruction
- Providing students with feedback that enable students to identify what they did wrong and what could do now to improve
- Providing feedback to students that mistakes carry a message about effort-not ability
- Teaching students that their intellectual skills can be cultivated
- Praising effort not ability

Process to derive the district's differentiated instruction definition:

- A Differentiated Instruction Retreat was held in November to create a common understanding of and framework for Differentiated Instruction in PPS.
- Content areas represented at the retreat
- ELA — Middle-Secondary
- Math- Middle-Secondary
- Social Studies
- Science
- Elementary Reading and Math

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Chapter 18 Appendix H: Pittsburgh Public Schools Grading Memorandum

[Added July, 2009]

**Pittsburgh Public
Schools**

Memo

To: All K-12 PPS Teachers and District Administrators
From: Grading Committee
Date: 5/18/2009
Re: Grading Procedures: 50% Minimum

In response to the memo dated 9/16/08 regarding district grading procedures, district administration and PFT leadership established a grading committee to deliberate the 50% minimum grading procedure and present a resolution. The committee included 20 members consisting of K-12 teachers, high school principals, central office administration and PFT leadership.

After several committee meetings and much professional deliberation, the committee as resolved to amend the grading procedures regarding the 50% minimum.

Prior to stating the committee's final recommendations, it is important that the rationale for the original change in district grading procedures be reviewed. The core principles that led to implementation of the 50% minimum remain although the procedure has been modified. The rationale for the 50% minimum grading scale is as follows:

- **Equity across Schools:** The Failing Percentage (59%-50%) creates equity across all schools. Many teachers were already using the 50% as the lowest recorded "E".
- **Increased Student Engagement:** Students with failing percentages below 50% often feel helpless and disenfranchised as a result of not being able to recover from low percentages in subsequent nine weeks. Students in this situation may develop or may have increased behavioral and/or attendance issues leading to retention and/or dropping out.
- **Unequal Weight:** The 59 percentage point band from 0%-59% creates a skewing situation with failing grades carrying more weight than passing grades. The proportion of scale committed to E's is disproportionately weighted when combining grades given that As, Bs, Cs, and Ds are based on 10-point intervals; whereas the E is based on a 60-point interval. This is mathematically invalid and irrational when averaging grades. When the zero is applied to a 100-point scale, the interval is not 10 points but 60 points.
- **Use of zero:** (1) skews final averaged grades downward because of the disproportionate range given to E grades on individual tasks (2) is seldom an accurate reflection of what a student has learned or is able to do (3) no current research supports the use of zeros or low grades as effective punishments. Zeros and the low grades they yield more often than not cause students to withdraw from learning. The use of the zero implies that the work not turned in deserves a penalty that is many times more

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severe than the assessed work. It is equivalent to a negative 6 on a 4- point scale. When the interval is 10 points between grades and D is 60 then the mathematically accurate value of E should be 50 points. Recording a 50% as the lowest failing grade is mathematically accurate when using the 100-point scale given the interval is consistent at 10-points between 90s, 80s, 70s, 60s, and 50s.

- Creates a more representative final grade: Recording 50% as the lowest “E” even if actual percentage earned is less is not grade inflation. The 50% is still failing. In addition, a high school student would have to earn 100% on the semester final in order to pass the semester if s/he had a recorded 50% for both the 1st and 2nd nine weeks.
- Promise Ready: Academically struggling students (who are at greatest risk of retention and/or dropping out) need to feel a sense of grade recovery so that they are motivated to begin to engage in courses and have potential academic success when efforts are applied.

Recent Procedures and Their Deficiencies:

Standard 100-Point Scale	50% Minimum Procedure
<i>Tasks and report period grades are based on: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, E = 0-59%</i>	<i>Tasks and report period grades are based on the 100% scale, but every score that is 50% or below is converted to 50%.</i>
Proportion of scale committed to E's is disproportionately weighted when combining grades.	A 50% (earned) score and a 0% score on any task are treated as equal.
A few zeros in a student's spreadsheet are difficult to overcome.	Refusal to do work is given the same value as an effort that earned up to 50%.
Students may quit when the hope of a decent grade appears to be out of reach.	Students who would have made an effort are opting to do nothing to receive 50%.

An unintended and unacceptable outcome of the 50% minimum grading procedure is student refusal to do work and opt to get a 50% for no effort in completing the assignment. As this was never the intent of the procedures, committee members worked to address student refusal as it applies to the 50% minimum grading procedure.

To that end, the committee has set forth the following revision to the 50% minimum as a short-term solution effective 2nd semester 2009:

Any student who refuses to complete work or opts to not complete work should receive a zero. Any student putting forth a legitimate effort but actual earned percentage is less than 50% should have the assignment or graded task recorded as a 50%. The actual grade earned should be communicated to the student and parent. The actual grade earned can be included in the note section of Integrate.

*As a result of the above revision, **High School** semester final grades will be calculated using the 4-point option.*

Teachers should no longer use the 100-point or percentage procedures for calculating final grades.

The 50% minimum revision is a short-term solution as the ability to record zeros will create the mathematically skewed conditions that occur when zeros are recorded; however, refusal to do work is an unacceptable student response as the district works to prepare all students to be **Promise Ready**.

The grading committee reached consensus that grading procedures are needed that address the 100-point concerns and the 50% procedures. The committee agreed to work with select schools to pilot a 5-

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point grading procedure as an alternative to a 4- point grading scale and 100 point grading scale. The 5-point system is as follows: A=5.00-4.00 points, B= 3.99-3.00, C= 2.99- 2.00, D=1.99-1.00, E= .99-0. The proposed 5-point scale grading procedure addresses the deficiencies noted in the 100% scale and the 50% minimum procedures. The 5-point scale creates 5 equally weighted mathematical equivalents for grades *after* each task is scored. When report period grades are computed each grade is weighted equally. Zeros and other very low scores do not disproportionately depress the overall grade as a report period progresses; however, *zeros and other low scores are entered*. Students have no incentive to avoid work. The 5-point grading procedures **WOULD NOT** impact GPA/QPA calculations.

Why the 5-point scale is better than the standard 100% scale and the 50% minimum procedure:

- Students will receive a zero for any work that is not completed. Students cannot opt for a 50% score by doing nothing.
- All five letter grades have the same range on grading scale when averaging grades into a final grade.
- Rigor is preserved because students must earn at least 60% on any individual task, including tests, to receive a passing grade.
- A few missed assignments do not overwhelm the grading system. Students can recover from poor or missing grades with effort and good work.

More information will follow regarding the five-point grading system as pilot schools are identified.**References are included below:**

- Guskey, T. R. (2000). Grading policies that work against standards .and how to fix them. *NASSP Bulletin*, 84(620), 20–29. Guskey, T. R. (2004). 0 Alternatives. *Principal Leadership*, 5(2), 49-53.
- Reeves, D. B. (2004). The case against zero. *Phi Delta Kappan*, 86(4), 324–325.
- Reeves, D. B. (2008). Leading to Change/Effective Grading Practices. *Educational Leadership*, 65(5), 85–87.
- Wormeli, R. (2006). *Fair Isn't Always Equal Assessing & Grading in the Differentiated Classroom*. Portland, Maine: Stenhouse Publishers.

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Chapter 19 Appendix I: Pittsburgh Promise [Added July, 2009]

The Pittsburgh Promise is a community commitment to help students and families of the Pittsburgh Public Schools plan, prepare, and pay for education beyond high school. Funds from The Promise will be used as “last dollar” scholarships. This means that Federal and State monies for tuition are used first.

The Pittsburgh Promise serves to inspire and motivate Pittsburgh Public Schools students to “Dream Big” and “Work Hard” in order to improve the prospects for their future.

The Pittsburgh Promise holds the Pittsburgh Public Schools accountable for helping students and families to plan and prepare for education beyond high school. Through its *Excellence for All* reform agenda, the School District is focused on improving academic performance through initiatives including more rigorous curriculum, increased tutoring and mentoring, SAT test preparation and enhanced counseling services.

For more information, please visit the Pittsburgh Public Schools website at:

www.pittsburghpromise.com

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Pittsburgh Public Schools Library Services K-12 Scope and Sequence
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Chapter 20 Pittsburgh Public Schools PreK-12 Time Distribution [Added July, 2009]

**Number of Periods Per Week
Instructional Timelines 2009-2010**

		Pre-K	K	1	2	3	4	5	6	7	8	9	10	11	12	
Academic Subjects	Reading/ LanguageArts/ Writing	All contents are integrated into Pre-K instruction	15-20 Periods (120-180 minutes) Consecutive block	15-20 Periods (120-180 minutes) Consecutive block	15-20 Periods (120-180 minutes) Consecutive block	15-20 Periods (120-180 min.utes) Consecutive block	15 Periods (120 minutes) Consecutive block	15 Periods (120 minutes) Consecutive block	10 Periods (90 minute block) Consecutive block	10 Periods (90 minute block) Consecutive block	10 Periods (90 minute block) Consecutive block	5-10 periods Eng 1 or Eng 1 w/ lab 10 periods Read 180 (90 minute block)	5 periods Eng 2	5 periods Eng 3	5 periods Eng 4	
	ALA Schools ONLY: Writing		5	5	5	5	5	5	5	5	5	5				
	Math		8-10 Consec Block (90 minutes 4x per week plus 45 mins)	8-10 Consec block (90 mins 4x per week plus 45 mins)	8-10 Consec Block (90 mins 4x per week plus 45 mins)	8-10 Consec Block (90 mins 4x per week plus 45 mins)	8-10 Consec Block (90 mins 4x per week plus 45 mins)	8-10 Consec Block (90 mins 4x per week plus 45 mins)	8-10 Consec Block (90 mins 4x per week plus 45 mins)	8-10 periods (90 minute consecutive block)	8-10 periods (90 minute consecutive block)	8-10 periods (90 minute consecutive block)	5-10 periods AB 1st Sem Alg BC 2 nd Sem Core))	5	5	5
	Social Studies		1-2	2	2	2	2	2	2	5	5	5	5 Civics	5 World	5 US History	5 SS elective
	Science		2-3	2-3	2-3	3-5	3-5	3-5	3-5	5	5	5	5 Bio or Integrated	5-7 Chem	5-7 Physics	5-7
INTERVENTION-ENRICHMENT Time			30 minutes built into reading and math requirements above							90-120 min	90-120 min	90-120 min	150 mins	150 mins	150 mins	
Related Arts	Library		1 or 1 every other week	1	1	1	1	1	Open	Open	Open	Open	Open	Open	Open	Open
	Art		1	1	1	1	1	1	1	1	1	1				
	Music		1	1	1	1	1	1	1	1	1	1				
	Phys. Ed./Health		2	2	2	2	2-3	2-3	2-3	3-5	3-5	3-5	5 or (2/3)	5 or (2/3)	5 or (2/3)	5 or (2/3)
	World Languages			0-3	0-3	0-3	0-3	0-3	0-3	0-5	0-5	0-5	5	5	5	5
	Career & Technical Education									CTE standards integrated into the social studies curriculum 8 th grade career portfolio			15	15	15	
ESL Beginning			15 per week (3 periods per day)													
ESL Intermediate			10 per week (2 periods per day)													
ESL Advanced			5 per week (1 per day)													

Pittsburgh Public Schools Library Services K-12 Scope and Sequence
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Library Feedback and Learning Tools

Teacher-librarian observed _____ Grade Level _____ Date _____

Observer: _____ Time: _____

Chapter 21 Appendix K – Library Services: Teaching and Learning Feedback [Added July, 2009]

21.1 Physicality and Use of the Library [all grade levels]

<ul style="list-style-type: none"> • Efficient use of space • Library appears neat and organized. • Sufficient computers for students to search OPAC or conduct online searches • Books in collection appear to be in good shape and relatively new 	
---	--

Students' Active Use of Knowledge	Evidence/Observations	Teacher-librarian's Implementation
<ol style="list-style-type: none"> 1. Students know their way around the library facility and know where to find what they need. 2. Students understand the use of the OPAC, and understand how to check-out and return materials. 3. Students know where to find appropriate reference materials. 	<p>I observed:</p>	<ol style="list-style-type: none"> 1. Teacher-librarian has made the library a welcoming facility and has made the resources available in an efficient and easy-to-use manner. 2. Teacher-librarian encourages independent use of library resources 3. Teacher-librarian uses the OPAC (online-public-access catalog) for checking books in and out. 4. Up-to-date machine-generated circulation reports are available to administrators upon request.

Library Feedback and Learning Tools

Teacher-librarian observed _____ Grade Level _____ Date _____

Observer: _____ Time: _____

21.2 Elementary/Middle School: Read Aloud &/or Discussion (Accountable Talk)

<ul style="list-style-type: none"> • What percentage of the students responded to, or were actively engaged with, the story or discussion? • What percentage of students spoke during the discussion? 		
Students' Active Participation	Evidence/Observations	Teacher-librarian's Implementation
<ol style="list-style-type: none"> 1. Did students want to participate in the read-aloud activity? Were the students cooperative? 2. If older students, did the students read their own copies? Did a student do the reading aloud? 3. Were the students actively engaged in the story? 4. Did the students want to question, or comment on, the story? 5. Did the story elicit any personal responses from the students? Any comparisons with other stories? 	<p>I observed:</p>	<ol style="list-style-type: none"> 1. In what ways did the teacher-librarian introduce the story to the students? Was the intro. age and topic appropriate? 2. If necessary, how did the teacher-librarian elicit the cooperation of the students? 3. Was the story appropriate to the students and their level of maturity? 4. How did the teacher-librarian encourage student engagement with the story? 5. In what ways did the teacher-librarian facilitate a discussion with and among students? 6. In what ways did the teacher-librarian assist students in reconstructing, responding to, or extending the meaning of the story? 7. In what ways did the teacher-librarian assist students in citing evidence from the story while responding? 8. If necessary, was there an appropriate follow-up to the story?

Library Feedback and Learning Tools

Teacher-librarian observed _____ Grade Level _____ Date _____

Observer: _____ Time: _____

21.3 Library Skills Lesson [all grade levels]

<ul style="list-style-type: none"> • What percentage of the students responded to, or were actively engaged in the lesson? • Individual / Small Group / Entire Class Instruction (or combination thereof) 	
---	--

Students' Active Use of Knowledge	Evidence/Observations	Teacher's Implementation
<ol style="list-style-type: none"> 1. Do students understand the skill(s) being taught? 2. Do students seem to understand the broader context in which the skill(s) can be used? Can they generalize its use? What is the evidence of this? 3. Do students understand the scaffolding skills leading up to the skill(s) being taught? 4. Students followed/did examples and went on to do implement the skills on their own (or in small groups). 	<p>I observed:</p>	<ol style="list-style-type: none"> 1. Skills taught in lesson are taught in the context of supplementing other subjects in the curriculum. 2. Teacher-librarian has communicated the context in which this skill (these skills) may be utilized outside of this specific class. 3. Teacher-librarian explained the skill, its implementation well enough for students to grasp it and utilize it. Easily followed examples were given. 4. Where appropriate, class discussion was pursued.

Library Feedback and Learning Tools

Teacher-librarian observed _____ Grade Level _____ Date _____

Observer: _____ Time: _____

21.4 Circulation (choosing books) [all grade levels]

<ul style="list-style-type: none"> • What percentage of the students are taking out books? 	
---	--

Students' Active Use of Knowledge	Evidence/Observations	Teacher's Implementation
<ol style="list-style-type: none"> 1. Do students know (generally) where to look for different types of books? 2. Do students ask each other for recommendations or for help in finding books? 3. Do students demonstrate appropriate behaviors while choosing books? 4. Students demonstrate and understanding of library procedures for checking out books? 	<p>I observed:</p>	<ol style="list-style-type: none"> 1. Teacher-librarian is available to help students with their selections, and does help them. 2. Teacher-librarian uses automated checkout procedures (i.e., scans book-barcodes with scanner). 3. A wide selection of age appropriate books is available for the students. 4. Library Usage/Circulation report available upon request.

Library Feedback and Learning Tools

Teacher-librarian observed _____ Grade Level _____ Date _____

Observer: _____ Time: _____

21.5 In-Library Research [all grade levels]

<ul style="list-style-type: none"> • In what context is research being done? Is research done in collaboration with an academic subject? • Research work is individual or small group? 	
--	--

Students' Active Use of Knowledge	Evidence/Observations	Teacher's Implementation
<ol style="list-style-type: none"> 1. Are students using online resources (including OPAC, AccessPA, other resources...) and print resources? 2. Do students know where library resources can be found? 3. Do students ask each other for recommendations or for help in finding appropriate resources? 4. Do students demonstrate appropriate behaviors while doing their research? 5. If appropriate, are students taking (age appropriate) notes on their findings. 	<p>I observed:</p>	<ol style="list-style-type: none"> 1. Teacher-librarian is actively helping student find resources and/or interpret resources. 2. Teacher-librarian is actively cooperating with academic-subject teacher (who is/is not present) 3. Teacher-librarian is relating well to students doing research.