

Parsippany-Troy Hills School District

SST550 – PHILOSOPHY AND LOGIC

A Course Outline for Social Studies

Developed: August 2015
Revised:
Approved:

Approved by the Board of Education
__June 7, 2016__

Table of Contents

STATEMENT OF PURPOSE.....	3
THE LIVING CURRICULUM.....	4
AFFIRMATIVE ACTION.....	4
METHODS.....	5
GENERAL GOALS	5
EVALUATION / ASSESSMENT	6
GRADING PROCEDURES.....	7
BENCHMARK ASSESSMENTS.....	8
COURSE PROFICIENCIES.....	9
BIBLIOGRAPHY	19
APPENDIX A SAMPLE AUTHENTIC ASSESSMENT	20
APPENDIX B NEW JERSEY STUDENT LEARNING STANDARDS.....	24
APPENDIX C NEW JERSEY STUDENT LEARNING STANDARDS TECHNOLOGY.....	26
<u> APPENDIX D STANDARDS.....</u>	<u>50</u>

STATEMENT OF PURPOSE

The revised curriculum aligns with the 2014 New Jersey Student Learning Standards for Social Studies, English Language Arts, Technology, and 21st Century Careers.

The aim of this course is to encourage students to develop a unified insight into the structure, the meaning and the purpose of human life in-so-far as that is possible. The student is being asked to examine their own life-style as it reflects their own life philosophy. The student is to pursue critical thinking skills and the use of logic. As well as examine basic questions about the nature of man and society, and the meaning of reality using reading that attempt to answer these questions. In this process, the student will examine readings and materials while engaging in dialogue with fellow students and teacher in an attempt to understand philosophical assumptions important to the issues and the student's own thinking process.

The student shall explore the contributions of some of the philosophers of the past and more recent times. This historical focus should assist the student in coming to a deeper understanding of their own philosophical heritage as well as others within the community that help make us a cultural mosaic. In order to attain this goal the student will be aided by readings, class discussion, readings assigned by the Language Arts department, as well as the students own personal heritage. Parsippany, being a unique diverse community, students will have much to gain from each aspect of this course.

This course is capable of a unique kind of openness, and allows for the probing of crucial issues which may not be possible in other academic courses. Philosophy can help students see the relationships between various aspects of knowledge within their courses of study. Students will understand and comprehend the interrelationship of events as well as the interrelationship of all courses of study. Philosophy will allow the student to better express and develop arguments based on understanding materials and their own particular interpretations. Finally, the students will be able to reflect and continue their understanding of tolerance and how they perceive those with different life philosophies. In today's world, students will be able to view cultural differences and an open and thoughtful process.

Modifications and Adaptions: For guidelines on how to modify and adapt curricula to best meet the needs of all students, instructional staff should refer to the following link – <http://njcdd.org/wp-content/uploads/2016/08/tools-teacherspart2.pdf>. Instructional staff of students with Individualized Education Plans (IEPs) must adhere to the recommended modifications outlined in each individual plan.

THE LIVING CURRICULUM

Curriculum guides are designed to be working documents. Teachers are encouraged to make notes in the margins. Written comments can serve as the basis for future revisions. In addition, the teachers and administrators are invited to discuss elements of the guides as implemented in the classroom and to work collaboratively to develop recommendations for curriculum reforms as needed.

AFFIRMATIVE ACTION

During the development of this course of study, particular attention was paid to material, which might discriminate on the basis of sex, race, religion, national origin, or creed. Every effort has been made to uphold both the letter and spirit of affirmative action mandates as applied to the content, the texts and the instruction inherent in this course.

METHODS

The study of Philosophy is the love of wisdom and wondering...with questions. In today's world it seems students have little time to simply wonder and question. The methods of this course is to allow students a forum to do just that...read...wonder question and discuss in a trusting forum. Of course "pedagogy" demands that we show what students have "learned". This will be accomplished with some written assessments of various philosophical thoughts and why students feel certain individuals fall within said category A.

It is critical for the teacher to know the importance of a student's comfort within a classroom...this will most certainly lead to valuable discussion of reading; relating these reading to their other course of study, i.e. Language Arts, History etc. Students hopefully will come away from this introduction with a more Socratic method to their own learning as well as a desire to continue learning on all levels and all subject matter, not to just pass a test, but rather for their love of learning and how they may be the citizens of the 21st century.

GENERAL GOALS

The students will:

1. explain faith as an element in life's activity.
2. analyze "The Cave" and symbolism included.
3. draw conclusions about mankind's responsibility to others.
4. explain the Socratic method of learning.
5. explain the components of fate/free will.
6. distinguish between debatable and non-debatable judgments.
7. construct a criteria for right/wrong and good/evil actions.
8. "understand" the purpose of mankind's existence.

EVALUATION / ASSESSMENT

Social Studies Grading Procedures Grades 9-12

Substantial assessments	Daily (short-term) assessments
70%	30%
<p>May include, but not limited to, the following:</p> <p style="text-align: center;">Tests, Exams Long-term projects Extended written assessments</p>	<p>May include, but not limited to, the following:</p> <p style="text-align: center;">Quizzes Homework Classwork</p>

These categories may include a variety of assessments suitable for all learners.

GRADING PROCEDURES

Final Grade – Semester Course	
Semester Course <ul style="list-style-type: none">• Each marking period shall count as 40% of the final grade – no midterm assessment will be administered.	The final assessment, which will take place at the end of marking period 2 for semester one courses, and at the end of marking period 4 for semester two courses, will count as 20% of the final grade.

BENCHMARK ASSESSMENTS

Separately, we assess students to gauge progress and inform instruction. Benchmark assessments for students in grades 9 through 12 are administered in the form of a midterm and final exam for full year courses. *Special Note: Only final exams are administered at the end of quarter courses and semester courses.

**PARSIPPANY-TROY HILLS TOWNSHIP SCHOOLS
COURSE PROFICIENCIES**

Course: **SST500**

Title: **PHILOSOPHY AND LOGIC**

In accordance with district policy as mandated by the New Jersey Administrative Code and the New Jersey Student Learning Standards, the following are proficiencies required for the successful completion of the above named course.

The student will:

1. explain faith an element in life's activity.
2. analyze **The Cave** and symbolism involved with writing.
3. draw conclusions about mankind's responsibility to others in society.
4. "decide" if choice between good and evil actions can be determined.
5. explain the Socratic method.
6. explain and discuss the components of fate/free will.
7. distinguish between debatable and non-debatable value judgments.
8. discuss what is the purpose of mankind's existence?
9. disseminate between an argument and an assentation.
10. differentiate between subjective and objective opinion.
11. identify techniques used in advertising.
12. What is morality?

Essential Question(s): Faith based answers as well as scientific “facts” are excepted by individuals.

Enduring Understanding(s): Why do we as individuals accept both faith based answers as well as scientific “facts”?

<i>Philosophy and Logic</i>				
<i>PROFICIENCY / OBJECTIVE</i>	<i>Standards</i>	<i>SUGGESTED ACTIVITY</i>	<i>EVALUATION/ ASSESSMENT</i>	<i>TEACHER NOTES</i>
<i>The student will be able to:</i>		<i>Students will:</i>		
1. explain faith an element in life’s activity.	RH11-12.1 RH11-12.2 CRP2,4,6-8,11	<ul style="list-style-type: none"> • read Philosophy and the Art of Wondering (page 2) Just in Case Students will extrapolate on the passage and identify similar examples that are perceived in society. • write a similar passage drawing upon faith/science elements in truths. 	<p>Reading comprehension</p> <p>Students discuss their writings in class/teacher collects writing assignment</p>	
2. analyze The Cave and symbolism involved with writing.	RH11-12.1 RH11-12.2 RH11-12.3 RH11-12.4 RH11-12.8 8.1.12.E.1 8.2.12.D.1	<ul style="list-style-type: none"> • after reading the Parable of the Cave, discuss and answer questions designed to illustrate the thesis of the parable and the students personal appreciation of the principles Socrates presents. • construct a chart listing the symbols used in the Parable of the Cave, indicating the significance in contemporary society. 	<p>Students will answer questions designed to examine their understanding of Socrates thesis</p> <p>Mapping</p>	Students may use their iPad and multimedia resources, including the internet for research

<i>Philosophy and Logic</i>				
<i>PROFICIENCY / OBJECTIVE</i>	<i>Standards</i>	<i>SUGGESTED ACTIVITY</i>	<i>EVALUATION/ ASSESSMENT</i>	<i>TEACHER NOTES</i>
<i>The student will be able to:</i>		<i>Students will:</i>		
3. draw conclusions about mankind’s responsibility to others in society.	RH11-12.8 NJSLS.ELA RH11-12.1B RH11-12.1C	<ul style="list-style-type: none"> • create a list of 10 – 15 words that characterize him/herself. • explain why these characteristics are of a positive nature or a negative aspect. • decide if this characteristic should be transferred to next generation and explain. • share list and decide which characteristics are common and who is responsible for transmission to next generation. 	<p>Teacher will collect narratives and credit both written portion and class participation in this discussion</p> <p>Peer evaluation</p>	

Essential Question(s): Who decides what is wrong and what is right? Is there personal choice?

Enduring Understanding(s): Individuals have a responsibility to society.

<i>PHILOSOPHY AND LOGIC</i>				
<i>PROFICIENCY/OBJECTIVE</i>	<i>Standards</i>	<i>SUGGESTED ACTIVITY</i>	<i>EVALUATION/ASSESSMENT</i>	<i>TEACHER NOTES</i>
<i>The student will be able to:</i>		<i>Students will:</i>		
4. "decide" if choice between good and evil actions can be determined.	RH11-12.1 RH11-12.2 RH11-12.2 RH11-12.4 RH11-12.8 NJSLS.ELA RH11-12.1B RH11-2.1C 8.1.12.C.1	<ul style="list-style-type: none"> • read various vignettes of choices that can be made. • discuss the choices that can be made in each of their vignettes. • come to a conclusion (if possible) and write their responses and why they made their choice. • explain their choices to be classified as good or evil. 	Students will discuss their readings in class with other groups Teacher will collect their writings for credit	As students are aware of the Holocaust some readings will be of choices to be made by ordinary people with the ability to choose an outcome. Other choices will be more common to high school students; i.e. a fight in the hallway-what should one do and the ramifications of that choice Cheating to pass a class-what are ramifications of each choice

5. explain the Socratic method.	RH11-12.1 RH-1112.2 RH-1112.2 RH11-12.4 RH-1112.8 NJSLS.ELA RH11-12.1C	<ul style="list-style-type: none"> • read Crito, a short passage of Socrates. • discuss the passage and engage in a Q/A format. • write a paper explaining how the Socratic method works. 	<p>Reading comprehension class discussion</p> <p>Teacher collects written material; materials are exchanged in class and critiques by peers Teacher evaluates each written critique.</p>	
---------------------------------	--	---	--	--

PHILOSOPHY AND LOGIC

<i>PROFICIENCY/OBJECTIVE</i>	<i>Standards</i>	<i>SUGGESTED ACTIVITY</i>	<i>EVALUATION/ASSESSMENT</i>	<i>TEACHER NOTES</i>
<i>The student will be able to:</i>		<i>Students will:</i>		
6. explain and discuss the components of fate/Free will.	RH11-12.1 RH11-12.2 RH11-12.4	<ul style="list-style-type: none"> • peruse Abner Dean's drawing (p. 103 Textbook) and read section. Students will respond to question How much of me is me? On an intellectual basis as well as emotional basis. 	Teacher monitored student interaction/as well as written questioning evaluated.	

7. distinguish between debatable and non-debatable value judgments.	RH11-12.1 RH11-12.2 RH11-12.4 RH11-12.8 RH11-12.9	<ul style="list-style-type: none"> • bring in a picture of “beauty” (from newspaper, magazine) and explain to the class what makes this beautiful. • Is there value in debating the personal tastes of people? • What subjects are debatable and non-debatable. 	Teacher-created rubric for debate Class discussion	
8. discuss what is the purpose of mankind’s existence?	RH11-12.1 RH11-12.2 RH11-2.4 RH11-12.8 RH11-12.9	<ul style="list-style-type: none"> • having completed the reading in the Art of Wondering 8-4 students will brainstorm the following. <ul style="list-style-type: none"> A. What is the meaning of Life or Why are we here? B. Are these meaningful questions (essay)? 	Oral participation Written assignment	

Essential Question(s): Who decides what is wrong and what is right?

Enduring Understanding(s): Why do we as individuals accept both faith based answers as well as scientific “facts”

<i>PHILOSOPHY AND LOGIC</i>				
<i>PROFICIENCY / OBJECTIVE</i>	<i>Standards</i>	<i>SUGGESTED ACTIVITY</i>	<i>EVALUATION/ ASSESSMENT</i>	<i>TEACHER NOTES</i>
<i>The student will be able to:</i>		<i>Students will:</i>		
9 disseminate between an argument and an assertion.	RH11-12.1 RH11-12.2 RH11-12.4 RH11-12.8 RH11-12.9 RH11-12.1 8.1.12.A.1 8.1.12 C.1	<ul style="list-style-type: none"> interview one another concerning every-day issues/contemporary issues. They will record statements(may use IPAD to film/record) statements will be examined to determine which are assertions and which may be arguments. listen to news accounts and identify statements as either assertions or argument. 	<p>Teacher-created rubric for interview</p> <p>Teacher will review with the students the factors that distinguish assertions from arguments</p>	

10. differentiate between subjective and objective opinion.	RH11-12.4 RH11-12.5 RH11-12.10 RH11-11.12.1	<ul style="list-style-type: none">• using history textbooks, students will identify statements which are factual from those that cannot be proven.• using newspapers, magazines, and speeches students will also identify statements which are factual from those that cannot be proven.	Teacher will lead students through their own work to identify those specific factors.	
---	--	---	---	--

<i>PHILOSOPHY AND LOGIC</i>				
<i>PROFICIENCY / OBJECTIVE</i>	<i>Standards</i>	<i>SUGGESTED ACTIVITY</i>	<i>EVALUATION/ ASSESSMENT</i>	<i>TEACHER NOTES</i>
<i>The student will be able to:</i>		<i>Students will:</i>		
11. identify techniques used in advertising.	RH11-12.1 RH11-12.2 RH11-12.4 RH11-12.8 RH11-12.9 RH11-12.1	<ul style="list-style-type: none"> examine media advertising and list the different techniques that are used to compel the public to purchase a specific product. 	Students will construct their own ad, using any technique to “sell” their product. Teacher and class will evaluate the ad and techniques.	Students may use their iPad and multimedia resources, including the internet for research

Essential Question(s): Who decides what is wrong and what is right?

Enduring Understanding(s): Is there personal choice?

<i>PHILOSOPHY AND LOGIC</i>				
<i>PROFICIENCY/OBJECTIVE</i>	<i>Standards</i>	<i>SUGGESTED ACTIVITY</i>	<i>EVALUATION/ ASSESSMENT</i>	<i>TEACHER NOTES</i>
<i>The student will be able to:</i>		<i>Students will:</i>		
12. What is Ethics? What is Morality? engage in a discussion focusing on "What is ethics? and What is Morality?"	RH11-12.1 RH11-12.2 RH11-2.4 RH11-2.8 RH11-12.9	• read passages from philosophy; a text with reading.	After reading students will discuss with peers and teacher readings as well as be able to answer questions concerned with the readings and how they see themselves	This section will deal with ethics morality, is it relative in todays society; egoism, hedonism utilitarianism Buddhism; moral quandaries i.e. abortion; euthanasia.

BIBLIOGRAPHY

SOURCES

TEXTBOOKS **PHILOSOPHY, AN INTRODUCTION TO THE ART OF WONDERING** – James L. Christian

Holt, Rinehart and Winston, 1981 New York

Sweet reason; A field guide to modern logic Tom Tymoczko and Jim Henle; Springer Verlag New York, Inc 2000

SUPPLEMENTAL TEXTBOOK MATERIALS ; **CONSTRUCTING A LIFE PHILOSOPHY-** Daniel Bender. Greenhaven Press Inc. St. Paul Minnesota 1989

PHILOSOPHY; A TEXT WITH READINGS; 9th edition Manuel Velasquez Thomson/Wadsworth 2005

RESOURCES **THE PARABLE OF THE CAVE** PATO (FROM **THE GREAT DIALOGUES OF PLATO**); TRANSLATED BY W.H.D. ROUSE 1956 NY

MANS SEARCH FOR MEANING; Victor Frankl

THE NATURE OF MAN ; THE PRINCE; Niccolo Machiavelli

“MAN IS EVIL AND WARLIKE” THOMAS HOBBS

“MAN IS RATIONAL”; JOHN LOCKE

“MAN IS A PRODUCT OF HIS ENVIROMENT” B.F. SKINNER

“DOORWAYS TO THINKING; SOCRATES 1995 ZEPHYR PRESS TUCSON AZ.

APPENDIX A SAMPLE AUTHENTIC ASSESSMENT

SAMPLE AUTHENTIC ASSESSMENT

It is not uncommon for successful people to be bored. Many academically successful students express boredom with school. What in your mind, is the nature of boredom? Can philosophy be a way to combat this boredom?

“Plato claims it is often easier to live with falsehood than the truth.” Do you believe this to be true in your own life, and if so please share an example.

“Who is the most ethical person you know? What makes that person the most ethical? If you were the subject of this question how many of those who know you well would answer that you are ethical; all; half, none, no idea. How important is it for you to be known as an ethical person? How would you rate yourself compared to others?

Is there only one truth? Please explain.

	Fails Completely	Unsatisfactory	Needs Improvement	Competent	Exemplary
Thesis	No identifiable thesis or thesis shows lack of effort or comprehension of assignment.	Difficult to identify, inconsistently maintained, or provides little around which to structure paper.	Unclear, buried, poly articulated, lacking insight and originality.	Promising, but may be unclear or lacking insight or originality.	Easily identifiable, interesting, plausible, novel, sophisticated, insightful, clear.
Structure and Style	No evident structure or organization. No transitions between major points.	Unclear, unfocused, disorganized, lacking in unity, transitions abrupt or confusing, context unclear.	Generally unclear, unfocused, often waders or jumps around. Few or weak transitions. Does not provide sufficient information, explanation, and context for readers.	Generally clear and appropriate, though may wander occasionally. May have some unclear transitions or lack of coherence. Does not fully appreciate reader's need for information, explanation, and context.	Evident, understandable, appropriate for thesis. Essay is focused and unified. Words chosen effectively. Excellent transitions between points. Anticipates reader's need for information, explanation, and context.
Use of sources (when applicable)	No attempt made to incorporate information from primary and secondary sources.	Very little information from sources. Poor handling of sources.	Moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into paragraphs. Some possible problems with source citations.	Draws upon sources to support most points. Some evidence may not support thesis or may appear where inappropriate. Quotations integrated well into paragraphs. Sources cited correctly.	Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Sources cited correctly.
Logic and Argumentation	No effort made to construct a logical argument. Failure to support thesis.	Little attempt to offer support for key claims or to relate evidence to thesis. Reasons offered may be irrelevant. Little to no effort to address alternative views.	Arguments of poor quality. Weak, undeveloped reasons offered in support of key claims. Counterarguments mentioned without rebuttal.	Argument is clear and usually flows logically and makes sense. Some counter-arguments acknowledged, though perhaps not addressed fully.	Arguments are identifiable, reasonable, and sound. Clear reasons are offered in support of key claims. Author anticipates and successfully grapples with counter-arguments.

Mechanics.	Difficult to understand because of significant problems with sentence structure, grammar, punctuation, and spelling.	Several problems with sentence structure, grammar, punctuation, and spelling.	Some problems with sentence structure, grammar, punctuation, and spelling.	Sentence structure, grammar, punctuation, and spelling strong despite occasional lapses.	Correct sentence structure, grammar, punctuation, and spelling.
-------------------	--	---	--	--	---

Grading Rubric for Essay and Short answer Exam Questions, Quizzes, and Homework Assignments

Unsatisfactory	Competent	Exemplary
Fails to address the question or demonstrates an inadequate or partial grasp of the question.	Demonstrates an adequate understanding of the question.	Demonstrates an accurate and complete understanding of the question.
Answer lacks clarity, may be confused, omit significant facts or is otherwise incomplete.	Incorporates some information from lectures and assigned readings but not in an overly thorough manner.	Incorporates pertinent details from lectures and assigned readings, providing evidence for key claims when needed.
Does not incorporate pertinent information from lectures or assigned readings.	Incorporates some information from lectures and assigned readings but not in an overly thorough manner.	Incorporates pertinent details from lectures and assigned readings, providing evidence for key claims when needed.
Substantially digresses from the central issue.	Usually maintains focus but may occasionally digress from the central issue.	Maintains focus, avoids being sidetracked.
Significant problems with clarity, concision, and organization, making the information presented difficult to comprehend.	Presents information fairly clearly and concisely, may have minor organization problems.	Presents answer clearly and concisely, in an organized manner.
May merely restate the question and offer an irrelevant or undeveloped response.	Does more than merely restate the question and offer a brief response.	Does much more than merely restate the question and offer a brief response.
May contain enough distracting grammar, spelling, etc. errors to make it substantially incomprehensible.	Uses acceptable style and grammar (contains one or a few errors)	Uses elements of style and grammar well.

**APPENDIX B NEW JERSEY STUDENT LEARNING STANDARDS
FOR ENGLISH LANGUAGE ARTS AND
HISTORY/SOCIAL STUDIES GRADES 11-12**

Key Ideas and Details:

NJSLs.ELA-LITERACY.RH.11-12.1

Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole. NJSLs.ELA-LITERACY.RH.11-12.2

Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas. NJSLs.ELA-LITERACY.RH.11-12.3

Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

Craft and Structure: NJSLs.ELA-LITERACY.RH.1112.4

Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist No. 10*).

NJSLs.ELA-LITERACY.RH.11-12.5

Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole. NJSLs.ELA-LITERACY.RH.11-12.6

Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.

Integration of Knowledge and Ideas: NJSLs.ELA-LITERACY.RH.11-12.7

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

NJSLs.ELA-LITERACY.RH.11-12.8

Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.

NJLSL.ELA-LITERACY.RH.11-12.9

Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

Range of Reading and Level of Text Complexity: NJSLs.ELA-LITERACY.RH.1112.10

By the end of grade 12, read and comprehend history/social studies texts in the grades 11-CCR text complexity band independently and proficiently.

APPENDIX C NEW JERSEY STUDENT LEARNING STANDARDS TECHNOLOGY

Content Area		Technology	
Standard		8.1 educational Technology: ALL students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i>	
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
P	Understand and use technology systems.	8.1.P.A.1	Use an input device to select an item and navigate the screen.
		8.1.P.A.2	Navigate the basic functions of a browser.
	Select and use applications effectively and productively.	8.1.P.A.3	Use digital devices to create stories with pictures, numbers, letters and words.
		8.1.P.A.4	Use basic technology terms in the proper context in conversation with peers and teachers (e.g., camera, tablet, Internet, mouse, keyboard, and printer).
		8.1.P.A.5	Demonstrate the ability to access and use resources on a computing device.
K-2	Understand and use technology systems.	8.1.2.A.1	Identify the basic features of a digital device and explain its purpose.
		8.1.2.A.2	Create a document using a word processing application.
	Select and use applications effectively and productively.	8.1.2.A.3	Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each.
		8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

		8.1.2.A.5	Enter information into a spreadsheet and sort the information.
		8.1.2.A.6	Identify the structure and components of a database.
		8.1.2.A.7	Enter the information into a database or spreadsheet and filter the information.
3-5	Understand and use technology systems. Select and use applications effectively and productively.	8.1.5.A.1 8.1.5.A.2 8.1.5.A.3 8.1.5.A.4 8.1.5.A.5 8.1.5.A.6	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Format a document using a word processing application to enhance text and include graphics, symbols, and/or pictures. Use a graphic organizer to organize information about problem or issue. Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. Create and use a data base to answer basic questions. Export data from a data base into a spreadsheet; analyze and produce a report that explains the analysis of the data.
6-8	Understand and use technology systems. Select and use applications effectively and productively.	8.1.8.A.1 8.1.8.A.2 8.1.8.A.3 8.1.8.A.4 8.1.8.A.5	Demonstrate knowledge of a real world problem using digital tools. Create a document (e.g. newsletter, reports, personalized learning plan, business letters or flyers) using one or more digital applications to be critiqued by professionals for usability. Use and/or develop a simulation that provides an environment to solve a real world problem or theory. Graph and calculate data within a spreadsheet and present a summary of the results. Create a database query, sort and create a report and describe the process, and explain the report results.

9-12	Understand and use technology systems.	8.1.12.A.1	Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
	Select and use applications effectively and productively.	8.1.12.A.2	Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related for review.
		8.1.12.A.3	Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
		8.1.12.A.4	Construct a spreadsheet workbook with multiple worksheets, rename tabs to reflect the data on the worksheet, and use mathematical or logical functions, charts and data from all worksheets to convey the results.
		8.1.12.A.5	Create a report from a relational database consisting of at least two tables and describe the process, and explain the report results.
Content Area		Technology	
Standard		8.1 educational Technology: ALL students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		B. Creativity and Innovation: <i>Students demonstrate a creative thinking, construct knowledge and develop innovative products and process using technology.</i>	
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
P	Apply existing knowledge to generate new ideas, products, or processes.	8.1.P.B.1	Create a story about a picture taken by the student on a digital camera or mobile device.

K-2	Create original works as a means of personal or group expression.	8.1.2.B.1	Illustrate and communicate original ideas and stories using multiple digital tools and resources.
3-5		8.1.5.B.1	Collaborative to produce a digital story about a significant local event or issue based on first-person interviews.
6-8		8.1.8.B.1	Synthesize and publish information about a local or global issue or event (ex. telecollaborative project, blog, school web).
9-12		8.1.12.B.2	Apply previous content knowledge by creating and piloting a digital learning game or tutorial.
Content Area		Technology	
Standard		8.1 Educational Technology: ALL students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		C. Communication and Collaboration: <i>Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.</i>	
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
P	Interact, collaborate, and publish with peers, experts, or others by employing a variety of digital environments and media. Communicate information and ideas to multiple audiences using a variety of media and formats.	8.1.P.C.1	Collaborate with peers by participating in interactive digital games or activities.
K-2		8.1.2.C.1	Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media.
3-5		8.1.5.C.1	Engage in online discussions with learners of other cultures to investigate a worldwide issue from multiple perspectives and sources, evaluate findings and present possible solutions, using digital tools and online resources for all steps.

6-8	Develop cultural understanding and global awareness by engaging with learners of other cultures.	8.1.8.C.1	Collaborate to develop and publish work that provides perspectives on a global problem for discussions with learners from other countries.
9-12	Contribute to project teams to produce original works or solve problems.	8.1.12.C.1	Develop an innovative solution to a real world problem or issue in collaboration with peers and experts,, and present ideas for feedback through social media or in an online community.

Content Area		Technology	
Standard		8.1 Educational Technology: ALL students will use digital tools to access, manage, evaluate, and synthesize information to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		D. Digital Citizenship: <i>Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.</i>	
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
K-2	Advocate and practice safe, legal, and responsible use of information and technology.	8.1.2.D.1	Develop an understanding of ownership of print and non-print information.
3-5	Advocate and practice safe, legal and responsible use of information and technology.	8.1.5.D.1	Understand the need for and use of copyrights.
	Demonstrate personal responsibility for lifelong learning.	8.1.5.D.2	Analyze the resource citations in online materials for proper use.
		8.1.5.D.3	Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.

	Exhibit leadership for digital citizenship.	8.1.5.D.4	Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.
6-8	Advocate and practice safe, legal, and responsible use of information and technology.	8.1.8.D.1	Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
	Demonstrate personal responsibility for lifelong learning.	8.1.8.D.2	Demonstrate the application of appropriate citations to digital content.
		8.1.8.D.3	Demonstrate an understanding of fair use and Creative Commons to intellectual property.
	Exhibit leadership for digital citizenship.	8.1.8.D.4	Assess the credibility and accuracy of digital content.
		8.1.8.D.5	Understand appropriate uses for social media and the negative consequences of misuse.
9-12	Advocate and practice safe, legal, and responsible use of information and technology.	8.1.12.D.1	Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.
	Demonstrate personal responsibility for lifelong learning.	8.1.12.D.2	Evaluate consequences of unauthorized electronic access (e.g., hacking) and disclosure, and on dissemination of personal information.
		8.1.12.D.3	Compare and contrast policies on filtering and censorship both locally and globally.
	Exhibit leadership for digital citizenship.	8.1.12.D.4	Research and understand the positive and negative impact of one's digital footprint.
		8.1.12.D.5	Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address personal, social, lifelong learning, and career needs.
Content Area	Technology		

Standard		8.1 Educational Technology: ALL students will use digital tools to access, manage, evaluate, and synthesize information to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		E. Research and Information Fluency: <i>Students apply digital tools to gather, evaluate and use information.</i>	
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
P	Plan strategies to guide inquiry.	8.1.P.E.1	Use the Internet to explore and investigate questions with a teacher’s support.
K-2	Plan strategies to guide inquiry. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.	8.1.2.E.1	Use digital tools and online resources to explore a problem or issue.
	Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.		

3-5	<p>Plan strategies to guide inquiry.</p> <p>Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.</p> <p>Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.</p>	8.1.5.E.1	Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.
6-8	<p>Plan strategies to guide inquiry.</p> <p>Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.</p> <p>Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.</p> <p>Process data and report results.</p>	8.1.8.E.1	Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.
9-12	<p>Plan strategies to guide inquiry.</p> <p>Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.</p>	8.1.12.E.1	Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.
		8.1.12.E.2	Research and evaluate the impact on society of the unethical use of digital tools and present your research to peers.

	Evaluate and select information sources and digital tools based on the appropriateness for specific tasks. Process data and report results.		
Content Area	Technology		
Standard	8.1 Educational Technology: ALL students will use digital tools to access, manage, evaluate, and synthesize information to solve problems individually and collaborate and to create and communicate knowledge.		
Strand	F. Research and Information Fluency: <i>Students apply digital tools to gather, evaluate and use information.</i>		
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
K-2	Identify and define authentic problems and significant questions for investigation. Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed decisions. Use multiple processes and diverse perspectives to explore alternative solutions.	8.1.2.F.1	Use geographic mapping tools to plan and solve problems.

3-5	<p>Identify and define authentic problems and significant questions for investigation.</p> <p>Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed decisions.</p>	8.1.5.F.1	Apply digital tools to collect, organize, and analyze data that supports a scientific finding.
	Use multiple processes and diverse perspectives to explore alternative solutions.		
6-8	<p>Identify and define authentic problems and significant questions for investigation.</p> <p>Plan and manage activities to develop a solution or complete a project.</p> <p>Collect and analyze data to identify solutions and/or make informed decisions.</p> <p>Use multiple processes and diverse perspectives to explore alternative solutions.</p>	8.1.8.F.1	Explore a local issue, by using digital tools to collect and analyze data to identify a solution and make an informed decision.

<p>9-12</p>	<p>Identify and define authentic problems and significant questions for investigation.</p> <p>Plan and manage activities to develop a solution or complete a project.</p> <p>Collect and analyze data to identify solutions and/or make informed decisions.</p> <p>Use multiple processes and diverse perspectives to explore alternative solutions.</p>	<p>8.1.12.F.1</p>	<p>Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and/or social needs.</p>
--------------------	--	-------------------	---

<p>Content Area</p>	<p>Technology</p>
----------------------------	--------------------------

<p>Standard</p>	<p>8.2 educational Technology: ALL students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</p>
------------------------	--

<p>Strand</p>	<p>A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i></p>
----------------------	--

<p>Grade Level Bands</p>	<p>Content Statement Students will:</p>	<p>Indicator</p>	<p>Indicator</p>
<p>K-2</p>	<p>The characteristics and scope of technology.</p>	<p>8.2.2.A.1</p>	<p>Define products produced as a result of technology or of nature.</p>
		<p>8.2.2.A.2</p>	<p>Describe how designed products and systems are useful at school, home and work.</p>

	The core concepts of technology.	8.2.2.A.3	Identify a system and the components that work together to accomplish its purpose.
		8.2.2.A.4	Choose a product to make and plan the tools and materials needed.
	The relationships among technologies and the connections between technology and other fields of study.	8.2.2.A.5	Collaborate to design a solution to a problem affecting the community.
3-5	The characteristics and scope of technology.	8.2.5.A.1	Compare and contrast how products made in nature differ from products that are human made in how they are produced and used.
		8.2.5.A.2	Investigate and present factors that influence the development and function of a product and a system.
	The core concepts of technology.	8.2.5.A.3	Investigate and present factors that influence the development and function of products and systems, e.g., resources, criteria and constraints.
	The relationships among technologies and the connections between technology and other fields of study.	8.2.5.A.4	Compare and contrast how technologies have changed over time due to human needs and economic, political and/or cultural influences.
		8.2.5.A.5	Identify how improvement in the understanding of materials science impacts technologies.
6-8	The characteristics and scope of technology.	8.2.8.A.1	Research a product that was designed for a specific demand and identify how the product has changed to meet new demands (i.e. telephone for communication – smart phone for mobility needs.)
	The core concepts of technology.	8.2.8.A.2	Examine a system, consider how each part relates to other parts, and discuss a part to redesign to improve the system.
		8.2.8.A.3	Investigate a malfunction in any part of a system and identify its impacts.

	The relationships among technologies and the connections between technology and other fields of study.	8.2.8.A.4	Redesign an existing product that impacts the environment to lessen its impact(s) on the environment.
		8.2.8.A.5	Describe how resources such as material, energy, information, time, tools, people and capital contribute to a technological product or system.
9-12	The characteristics and scope of technology.	8.2.12.A.1	Propose an innovation to meet future demands supported by an analysis of the potential full costs, benefits, trade-offs and risks, relate to the use of the innovation.
	The core concepts of technology.	8.2.12.A.2	Analyze a current technology and the resources used, to identify the trade-offs in terms of availability, cost, desirability and waste.
	The relationships among technologies and the connections between technology and other fields of study.	8.1.12.A.3	Research and present information on an existing technological product that has been repurposed for a different function.

Content Area		Technology	
Standard		8.2 Technology Education, Engineering, Design, and Computational Thinking – Programming: ALL students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	
Strand		B. Technology Operations and Concepts: <i>Knowledge and understanding of human, cultural and society values are fundamental when designing technology systems and products in the global society.</i>	
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
K-2	The cultural, social, economic and political effects of technology.	8.2.2.B.1	Identify how technology impacts or improves life.

	The effects of technology on the environment.	8.2.2.B.2	Demonstrate how reusing a product affects the local and global environment.
	The role of society in the development and use of technology.	8.2.2.B.3	Identify products or systems that are designed to meet human needs.
	The influence of technology on history.	8.2.2.B.4	Identify how the ways people live and work has changed because of technology.
3-5	The cultural, social, economic and political effects of technology.	8.2.5.B.1	Examine ethical considerations in the development and productions of a product through its life cycle.
	The effects of technology on the environment.	8.2.5.B.2	Examine systems used for recycling and recommend simplification of the systems and share with product developers.
		8.2.5.B.3	Investigate ways that various technologies are being developed and used to reduce improper use of resources.
	The role of society in the development and use of technology.	8.2.5.B.4	Research technologies that have changed due to society's changing needs and wants.
		8.2.5.B.5	Explain the purpose of intellectual property law.
	The influence of technology on history.	8.2.5.B.6	Compare and discuss how technologies have influenced history in the past century.

6-8	The cultural, social, economic and political effects of technology.	8.2.8.B.1	Evaluate the history and impact of sustainability on the development of a designed product or system over time and present results to peers.
		8.2.8.B.2	Identify the desired and undesired consequences from the use of a product or system.
	The effects of technology on the environment.	8.2.8.B.3	Research and analyze the ethical issues of a product or system on the environment and report findings for review by peers and/or experts.

		8.2.8.B.4	Research examples of how humans can devise technologies to reduce the negative consequences of other technologies and present your findings.
	The role of society in the development and use of technology.	8.2.8.B.5	Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries and societies.
		8.2.8.B.6	Compare and contrast the different types of intellectual property including copyrights, patents and trademarks.
	The influence of technology on history.	8.2.8.B.7	Analyze the historical impact of waste and demonstrate how a product is upcycled, reused or remanufactured into a new product.
9-12	The cultural, social, economic and political effects of technology.	8.2.12.B.1	Research and analyze the impact of the design constraints (specifications and limits) for a product or technology driven by a cultural, social, economic or political needs and publish for review.
	The effects of technology on the environment.	8.2.12.B.2	Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation and maintenance of a chosen product.
	The role of society in the development and use of technology.	8.2.12.B.3	Analyze ethical and unethical practices around intellectual property rights as influenced by human wants and/or needs.
	The influence of technology on history.	8.2.12.B.4	Investigate a technology used in a given period of history, e.g., stone age, industrial revolution or information age, and
			identify their impact and how they may have changed to meet human needs and wants.

		B.2.12.B.5	Research the historical tensions between environmental and economic considerations as driven by human needs and wants in the development of a technological product, and present the competing viewpoints to peers for review.
Content Area	Technology		
Standard	8.2 Technology Education, Engineering, Design, and Computational Thinking – Programming: ALL students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.		
Strand	C. Design: <i>The design process is a systematic approach to solving problems.</i>		
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
K-2	The attributes of design.	8.2.2.C.1	Brainstorm ideas on how to solve a problem or build a product.
		8.2.2.C.2	Create a drawing of a product or device that communicates its function to peers and discuss.
		8.2.2.C.3	Explain why we need to make new products.
	The application of engineering design.	8.2.2.C.4	Identify designed products and brainstorm how to improve one used in the classroom.
		8.2.2.C.5	Describe how the parts of a common toy or tool interact and work as part of a system.
	The role of troubleshooting, research and development, invention and innovation and experimentation in problem solving.	8.2.2.C.6	Investigate a product that has stopped working and brainstorm ideas to correct the problem.
3-5	The attributes of design.	8.2.5.C.1	Collaborate with peers to illustrate components of a designed system.

		8.2.5.C.2	Explain how specifications and limitations can be used to direct a product's development.
		8.2.5.C.3	Research how design modifications have led to new products.
	The application of engineering design.	8.2.5.C.4	Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.
		8.2.5.C.5	Explain the functions of a system and subsystems.
	The role of troubleshooting, research and development, invention and innovation and experimentation in problem solving.	8.2.5.C.6	Examine a malfunctioning tool and identify the process to troubleshoot and present options to repair the tool.
		8.2.5.C.7	Work with peers to redesign an existing product for a different purpose.
6-8	The attributes of design.	8.2.8.C.1	Explain how different teams/groups can contribute to the overall design of a product.
		8.2.8.C.2	Explain the need for optimization in a design process.
		8.2.8.C.3	Evaluate the function, value, and aesthetics of a technological product or system, from the perspective of the user and the producer.
	The application of engineering design.	8.2.8.C.4	Identify the steps in the design process that would be used to solve a designated problem.
		8.2.8.C.5	Explain the interdependence of a subsystem that operates as part of a system.
	The role of troubleshooting, research and development, invention and innovation and experimentation in problem solving.	8.2.8.C.6	Collaborate to examine a malfunctioning system and identify the step-by-step process used to troubleshoot, evaluate and test options to repair the product, presenting the better solution.

		8.2.8.C.7	Collaborate with peers and experts in the field to research and develop a product using the design process, data analysis and trends, and maintain a design log with annotated sketches to record the developmental cycle.
		8.2.8.C.8	Develop a proposal for a chosen solution that include models (physical, graphical or mathematical) to communicate the solution to peers.
9-12	The attributes of design.	8.2.12.C.1	Explain how open source technologies follow the design process.
		8.2.12.C.2	Analyze a product and how it has changed or might change over time to meet human needs and wants.
	The application of engineering design.	8.2.12.C.3	Analyze a product or system for factors such as safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, and human factors engineering (ergonomics).
		8.2.12.C.4	Explain and identify interdependent systems and their functions.
		8.2.12.C.5	Create scaled engineering drawings of products both manually and digitally with materials and measurements labeled.
	The role of troubleshooting, research and development, invention and innovations and experimentation in problem solving.	8.2.12.C.6	Research an existing product, reverse engineer and redesign it to improve form and function.
		8.2.12.C.7	Use a design process to devise a technological product or system that addresses a global problem, provide research, identify trade-offs and constraints, and document the process through drawings that include data and materials.

Content Area		Technology	
Standard		8.2 Technology Education, Engineering, Design, and Computational Thinking – Programming: ALL students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	
Strand		D. Abilities: <i>Collaborate and apply a design process to solve a simple problem from everyday experiences.</i>	
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
K-2	Apply the design process.	8.2.2.D.1	Collaborate and apply a design process to solve a simple problem from everyday experiences.
	Use and maintain technological products and systems.	8.2.2.D.2	Discover how a product works by taking it apart, sketching how parts fit, and putting it back together.
		8.2.2.D.3	Identify the strengths and weaknesses in a product or system.
		8.2.2.D.4	Identify the resources needed to create technological products or systems.
	Assess the impact of products and systems.	8.2.2.D.5	Identify how using a tool (such as a bucket or wagon) aids in reducing work.
3-5	Apply the design process.	8.2.5.D.1	Identify and collect information about a problem that can be solved by technology, generate ideas to solve the problem, and identify constraints and trade-offs to be considered.
		8.2.5.D.2	Evaluate and test alternative solutions to a problem using the constraints and trade-offs identified in the design process to evaluate potential solutions.
	Use and maintain technological products and systems.	8.2.5.D.3	Follow step-by-step directions to assemble a product or solve a problem.

		8.2.5.D.4	Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.
		8.2.5.D.5	Describe how resources such as material, energy, information, time, tools people and capital are used in products or systems.
	Assess the impact of products and systems.	8.2.5.D.6	Explain the positive and negative effect of products and systems on humans, other species and the environment, and when the product or system should be used.
		8.2.5.D.7	Explain the impact that resources such as energy and materials used in a process to produce products or system have on the environment.
6-8	Apply the design process.	8.2.8.D.1	Design and create a product that addresses a real world problem using a design process under specific constraints.
		8.2.8.D.2	Identify the design constraints and trade-offs involved in designing a prototype (e.g., how the prototype might fail and how it might be improved) by completing a design problem and reporting results in a multimedia presentation, design portfolio or engineering notebook.
		8.2.8.D.3	Build a prototype that meets a STEM-based design challenge using science, engineering, and math principles that validate a solution.
	Use and maintain technological products and systems.	8.2.8.D.4	Research and publish the steps for using and maintaining a product or system and incorporate diagrams or images throughout to enhance user comprehension.
	Assess the impact of products and systems.	8.2.8.D.5	Explain the impact of resource selection and the production process in the development of a common or technological product or system.

		8.2.8.D.6	Identify and explain how the resources and processes used in the production of a current technological product can be modified to have a more positive impact on the environment.
9-12	Apply the design process.	8.2.12.D.1	Design and create a prototype to solve a real world problem using a design process, identify constraints addressed during the creation of the prototype, identify trade-offs made, and present the solution for peer review.

		8.2.12.D.2	Write a feasibility study of a product to include: economic, market, technical, financial, and management factors, and provide recommendations for implementation.
	Use and maintain technological products and systems.	8.2.12.D.3	Determine and use the appropriate resources [e.g., CNC (Computer Numerical Control) equipment, 3D printers, CAD software] in the design, development and creation of a technological product or system.
	Assess the impact of products and systems.	8.2.12.D.4	Assess the impacts of emerging technologies on developing countries.
		8.2.12.D.5	Explain how material processing impacts the quality of engineered and fabricated products.
		8.2.12.D.6	Synthesize data, analyze trends and draw conclusions regarding the effect of a technology on the individual, society, or the environment and publish conclusions.

Content Area	Technology
Standard	8.2 Technology Education, Engineering, Design, and Computational Thinking – Programming: ALL students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Strand		E. Computational Thinking: <i>Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.</i>	
Grade Level Bands	Content Statement Students will:	Indicator	Indicator
K-2	Computational thinking and computer programming as tools used in design and engineering.	8.2.2.E.1	List and demonstrate the steps to an everyday task.
		8.2.2.E.2	Demonstrate an understanding of how a computer takes input through a series of written commands and then interprets and displays information as output.
		8.2.2.E.3	Create algorithms (a set of instructions) using a pre-defined set of commands (e.g., to move a student or a character through a maze).
		8.2.2.E.4	Debug an algorithm (i.e., correct an error).
		8.2.2.E.5	Use appropriate terms in conversation (e.g., basic vocabulary words: input, output, the operating system, debug and algorithm).
3-5	Computational thinking and computer programming as tools used in design and engineering.	8.2.5.E.1	Identify how computer programming impacts our everyday lives.
		8.2.5.E.2	Demonstrate an understanding of how a computer takes input of data, processes and stores the data through a series of commands, and outputs information.
		8.2.5.E.3	Using a simple, visual programming language, create a program using loops, events and procedures to generate specific output.
		8.2.5.E.4	Use appropriate terms in conversation (e.g., algorithm, program, debug, loop, events, procedures, memory, storage, processing, software, coding, procedures, and data).

9-12	Computational thinking and computer programming as tools used in design and engineering.	8.2.12.E.1	Demonstrate an understanding of the problem-solving capacity of computers in our world.
		8.2.12.E.2	Analyze the relationships between internal and external computer components.
		8.2.12.E.3	Use a programming language to solve problems or accomplish a task (e.g., robotic functions, website designs, applications, and games).
		8.2.12.E.4	Use appropriate terms in conversation (e.g., troubleshooting, peripherals, diagnostic software, GUI, abstraction, variables, data types and conditional statements).

APPENDIX D STANDARDS

HYPERLINKS TO STANDARDS

To access the standards for a specific content area, please click on the hyperlink.

Standard	Content Area	State Board Adoption Date	Required District Implementation of Revised Curricula
3	English Language Arts	May 4, 2016	September 2017
6	Social Studies	July 9, 2014	September 2015
8	Technology	October 1, 2014	September 2015
9	21st Century Life and Careers	October 1, 2014	September 2015