

Pine Hill Public Schools Curriculum

Content Area:		Gifted & Talented	
Course Title/ Grade Level:		3-5	
Unit 1:	Technology Through the Ages	Duration:	full year
Unit 2:	People and Civilizations in the World	Duration:	full year
Unit 3:	Imagining the Future	Duration:	full year
Unit 4:	Problem Solving & Higher Level Thinking	Duration:	full year
BOE Approved Revision:		June 20, 2016	
BOE Initial Adoption Date:		August 28, 2012	

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Unit Title Technology Through the Ages & People and Civilizations in the World		Units #: 1 & 2
Course or Grade Level: 3-5		Length of Time: full year
Pacing	1-2 sessions per week	
Essential Questions	<ul style="list-style-type: none"> How do we define technology? How has technology changed over time? How do new inventions and innovations change daily life? 	
Content	<ul style="list-style-type: none"> Ancient Civilizations Technology in modern times Technology Progressions 	
Skills	<ul style="list-style-type: none"> Research Notetaking Presentation 	
Assessments	<ul style="list-style-type: none"> Teacher Observation Final Product(s) 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> NA 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> Social Studies/History Science Technology ELA 	
Lesson resources / Activities	<ul style="list-style-type: none"> Social Studies textbook & curriculum Historical Fiction texts Nonfiction texts (biographies of inventors) 	

2014 NJCCCS

Standard: 6.1 U.S. History: America in the World: All students will acquire the knowledge and skills to think analytically about how past and present interactions of people, cultures, and the environment shape the American heritage. Such knowledge and skills enable students to make informed decisions that reflect fundamental rights and core democratic values as productive citizens in local, national, and global communities.

Strand(s): C. Economics, Innovation, and Technology

<p>Content Statement(s): Creativity and innovation have led to improvements in lifestyle, access to information, and the creation of new products.</p>	<p>CPI # / CPI(s): 6.1.4.C.16 Explain how creativity and innovation resulted in scientific achievement and inventions in many cultures during different historical periods.</p> <p>6.1.4.C.17 Determine the role of science and technology in the transition from an agricultural society to an industrial society, and then to the information age.</p> <p>6.1.4.C.18 Explain how the development of communications systems has led to increased collaboration and the spread of ideas throughout the United States and the world.</p>
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Strand(s): C. Economics, Innovation, and Technology							
European exploration expanded global economic and cultural exchange into the Western Hemisphere.				6.1.8.C.1.a Evaluate the impact of science, religion, and technology innovations on European exploration.			
Standard (s): 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(s): A. The Nature of Technology: Creativity and Innovation <i>Technology systems impact every aspect of the world in which we live.</i> B. Technology and Society: <i>Knowledge and understanding of human, cultural and society values are fundamental when designing technology systems and products in the global society.</i>							
Content Statement(s): The relationships among technologies and the connections between technology and other fields of study.				CPI # / CPI(s): 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.			
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 relationships among technologies and the connections between technology and other fields of study.				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.			
The cultural, social, economic and political effects of technology.				8.2.2.B.1 Identify how technology impacts or improves life.			
The influence of technology on history.				8.2.2.B.4 Identify how the ways people live and work has changed because of technology.			
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.			
The influence of technology on history.				8.2.5.B.6 Compare and discuss how technologies have influenced history in the past century.			
21st Century Themes							
x	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy	x	Civic Literacy		Health Literacy
21st Century Skills							
x	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication and Collaboration	x	Information Literacy
x	Media Literacy	x	ICT Literacy	x	Life and Career Skills		

Pine Hill Public Schools Curriculum	
Unit Title: Imagining the Future and Problem Solving/Higher Level Thinking	Unit #: 3 & 4
Course or Grade Level: Grades 3-5	Length of Time: full year
Pacing	1-2 sessions/week
Essential Questions	<ul style="list-style-type: none"> How will technology change in the future? What impact will new technologies have on the world? How are new inventions created?
Content	<ul style="list-style-type: none"> Logic Puzzles STEM Challenges
Skills	<ul style="list-style-type: none"> Research Coding Scientific Method Problem Solving
Assessments	<ul style="list-style-type: none"> Observation Projects
Interventions / differentiated instruction	<ul style="list-style-type: none"> NA
Inter-disciplinary Connections	<ul style="list-style-type: none"> ELA Math Science Technology Art/Visual Presentation
Lesson resources / Activities	<ul style="list-style-type: none"> Science curriculum/textbooks Digital STEM activities nasa.gov SciFi/Fantasy texts Teachers Pay Teachers
2014 NJCCCS	
Standard: 3-5-ETS1 Engineering Design	
Strand(s): 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	
Content Statement(s): Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-5-ETS1-3)	CPI # / CPI(s): ETS1.A: Defining and Delimiting Engineering Problems Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account. (3-5- ETS1-1) ETS1.B: Developing Possible Solutions Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (3-5-ETS1-2) At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. (3-5-ETS1-2) Tests are often designed to identify failure

	points or difficulties, which suggest the elements of the design that need to be improved. (3-5-ETS1-3) ETS1.C: Optimizing the Design Solution Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints. (3-5-ETS1-3)						
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(s): A. The Nature of Technology: Creativity and Innovation <i>Technology systems impact every aspect of the world in which we live.</i> C. Design: <i>The design process is a systematic approach to solving problems.</i> D. Abilities for a Technological World: <i>The designed world is the product of a design process that provides the means to convert resources into products and systems.</i> E. Computational Thinking: Programming: <i>Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.</i>							
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.				
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.				
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.				
Computational thinking and computer programming as tools used in design and engineering.			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, procedure, and data).				
21st Century Themes							
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21st Century Skills							
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	Media Literacy	x	ICT Literacy	x	Life and Career Skills		