Pine Hill Public Schools Curriculum			
Content Area:	**Electives**		
Course Title/ Grade Level:	Technology I		
Unit 1:	Safety and Classroom Procedures	Duration:	2 weeks
Unit 2:	Tool Identification and Usage Procedures	Duration:	2 weeks
Unit 3:	Steps in Problem Solving, Brainstorming	Duration:	3 weeks
Unit 4:	Technological Systems	Duration:	4 weeks
Unit 5:	Green Technologies	Duration:	3 weeks
Unit 6:	Benchmark Problem Solving Challenge	Duration:	2 weeks
Unit 7:	Construction Technology	Duration:	3 weeks
Unit 8:	Construction Technology		3 weeks
Date Created or Revised:	June 2012		
BOE Approval Date:	8/28/12		

Pine Hill Public Schools Technology I Curriculum		
Unit Title: Safety and Classroom Procedures		**Unit #: 1**
Course or Grade Level: 9-12	**Length of Time: 2 weeks**	
Pacing	weekly	
Essential Questions	• What is safety in and out of the classroom? How does safety affect the classroom environment? • Classroom procedures for a productive learning environment.	
Content	• Safety procedures, classroom management • Classroom procedures including beginning and ending of daily work sessions	
Skills	• Design a safety poster or visual aid to stress the importance of safety in and out of classroom. • Explain proper class work procedures including gathering materials and tools, in class procedures, and clean up processes. • Prepare safe work environments in the classroom. • Clean up and store tools and materials at the end of each day.	
Assessments	• Safety project- essay, PowerPoint, poster, web-based project • Safety quiz • Observation	
Interventions / differentiated instruction	• TBD	
Inter-disciplinary Connections	• Computer animations and graphics • Web-based simulation programs	
Lesson resources / Activities	• Internet resources, classroom worksheets, safety worksheets, poster paper, computer	

2009 NJCCCS	
Standard: 9.4 Career/Tech Ed.	
Strand(s): B. Architect/Construction	
Content Statement(s): Career Cluster	**CPI # / CPI(s): 9.4.12.B.(2)10**
	Safety Practice Procedure

21st Century Themes							
	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy

21st Century Skills							
	Creativity and Innovation		Critical Thinking and Problem Solving		Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy		Life and Career Skills		

Pine Hill Public Schools Technology I Curriculum							
Unit Title: Tool Identification and Usage Procedures						**Unit #: 2**	
Course or Grade Level: 9-12				**Length of Time: 2 weeks**			
Pacing	weekly						
Essential Questions	• Explain various hand and power tools and their safe usage. • Explain proper class work procedures including gathering materials and tools, in class procedures, and clean up procedures.						
Content	• Tool usage, proper storage, hand versus machine tools • Proper care of tools and machinery including individual machine safety.						
Skills	• Explain various hand tools and machines and the procedures for each. • Storing and cleaning tools properly and safely. • Storing of projects and materials.						
Assessments	• Tool practice usage test • Observation of proper tool usage. • Observation						
Interventions / differentiated instruction	• TBD						
Inter-disciplinary Connections	• Mathematical calculations such as addition, fractional equivalents, distances, etc.						
Lesson resources / Activities	• Internet resources, classroom worksheets, safety worksheets, computer • Tool manuals						
2009 NJCCCS							
Standard: 9.4 Career/Tech Ed.							
Strand(s): M. Manufacturing							
Content Statement(s): Safety Health				**CPI # / CPI(s): 9.4.12.M.(6)7**			
				Safe Use of Equipment			
21st Century Themes							
	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
21st Century Skills							
	Creativity and Innovation		Critical Thinking and Problem Solving		Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy		Life and Career Skills		

Pine Hill Public Schools Technology I Curriculum							
Unit Title: Steps in Problem Solving, Brainstorming						**Unit #: 3**	
Course or Grade Level: 9-12				**Length of Time: 3 weeks**			
Pacing	weekly						
Essential Questions	• What are the steps in problem solving? • How can using problem solving skills and collaborative learning techniques help students move from individual students to a room full of thinkers and collaborative learners? • What are simple machines and how are they incorporated into everyday activities?						
Content	• Identifying problems, gather relevant data, generate solutions, select best solution, implement choice and monitor development of choice. • Review and discuss the six basic simple machines.						
Skills	• Brainstorming • Sketching ideas, explaining ideas to classmates • Collaborative learning						
Assessments	• Problem solving activities, TLA (Technology Learning Activity) • Sketching ideas before constructing projects • Observation						
Interventions / differentiated instruction	• TBD						
Inter-disciplinary Connections	• Mathematical calculations such as addition, fractional equivalents, distances, etc. • Art- sketching ideas • English- discussion and brainstorming, jotting down ideas and discuss best possible solutions						
Lesson resources / Activities	• TLA's on brainstorming and problem solving • Mousetrap and candle TLA • Simple Machine TLA						
2009 NJCCCS							
Standard: 9.4 Career/Tech Ed.							
Strand(s): O. STEM, B. Architect/Construction							
Content Statement(s): Problem Solving/Critical Thinking				**CPI # / CPI(s): 9.4.12.0.17, 9.4.12.0.48, 9.4.12.B.(3)3**			
Leadership/Teamwork, Technical Skills				Problem Solving/ Individual & Team, Teamwork Skills, Construction Skills			
21st Century Themes							
	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
21st Century Skills							
	Creativity and Innovation		Critical Thinking and Problem Solving		Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy		Life and Career Skills		

Pine Hill Public Schools Technology I Curriculum							
Unit Title: Technological Systems						**Unit #: 4**	
Course or Grade Level: 9-12				**Length of Time: 4 weeks**			
Pacing	weekly						
Essential Questions	• Define and discuss types of technological systems. • Define communication technology, information and ideas. • What is the difference between AC and DC current and how do they work?						
Content	• Inputs, Processes, Outputs, and Feedback in general terminology. • Basic Circuitry • Types of Communication Technologies						
Skills	• Basic soldering techniques. • Mr. Circuit- basic wiring techniques. • Using and discussing various types of communication technologies to promote, inform, entertain, educate, and persuade people.						
Assessments	• Mr. Circuit, Communication TLA (videos, poster, songs, writing directions) • Soldering electrical components • Observation						
Interventions / differentiated instruction	• TBD						
Inter-disciplinary Connections	• Sociology- how technology affects individuals and groups as communication technology rapidly advances? • Art- soldering self made projects						
Lesson resources / Activities	• TLA's on soldering • Mr. Circuit • Communication activities						
2009 NJCCCS							
Standard: 9.4 Career/Tech Ed.							
Strand(s): O. STEM, M. Manufacturing,							
Content Statement(s): Information Technology				**CPI # / CPI(s): 9.4.12.0.(1)8, 9.4.12.M.(6)7**			
Safety Health				Use Communication Technology, Safe Use of Equipment			
21st Century Themes							
	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
21st Century Skills							
	Creativity and Innovation		Critical Thinking and Problem Solving		Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy		Life and Career Skills		

Pine Hill Public Schools Technology I Curriculum		
Unit Title: Green Technologies		**Unit #: 5**
Course or Grade Level: 9-12	**Length of Time: 3 weeks**	
Pacing	weekly	
Essential Questions	• Define and discuss types of Green Technologies and their needs and impacts on society. • Discuss recycling, the importance of recycling, and the careers associated with recycling. o What are complex machines and where are they used in various technologies?	
Content	• Green Technologies (i.e. Solar, Wind, Recycling) • Career choices associated with the growing sector • Educational opportunities and colleges, where to get the training and education to be successful in the Green Technologies.	
Skills	• Researching green technologies. • Recycling examples using complex machinery. • Developing a product using marketing and graphics to promote product.	
Assessments	• Can Crusher TLA • Creating complex and simple machines to complete TLA • Observation	
Interventions / differentiated instruction	• TBD	
Inter-disciplinary Connections	• Science- recycling and its importance to the future of our society. • Art- creating logo and company name for can crusher project.	
Lesson resources / Activities	• TLA's recycling • Logo design • Communication activities	

2009 NJCCCS	
Standard: 9.4 Career/Tech Ed.	
Strand(s): O. STEM, M. Manufacturing,, O. STEM, O. STEM	
Content Statement(s): Information Technology	**CPI # / CPI(s): 9.4.12.0.(1)8, 9.4.12.M.(6)7, 9.4.12.0.6, 9.4.12.0.30**
Safety Health, Communication Skills, Information Technology	Use Communication Technology, Safe Use of Equipment, Organize Information, Use Computer Applications

21st Century Themes							
	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy

21st Century Skills							
	Creativity and Innovation		Critical Thinking and Problem Solving		Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy		Life and Career Skills		

Pine Hill Public Schools Technology I Curriculum							
Unit Title: Benchmark Problem Solving Challenge						**Unit #: 6**	
Course or Grade Level: 9-12				**Length of Time: 2 weeks**			
Pacing	weekly						
Essential Questions	• How can a student use his or her knowledge learned to complete Tech Challenge? • Which simple and complex machines will satisfy the criteria and constraints of challenge? • What types of issues will the student have to overcome working with others on challenge?						
Content	• Simple machines and complex machines • Collaborative learning principles • Basic construction techniques						
Skills	• Basic tool usage • Critical thinking and problem solving skills • Collaborative learning and brainstorming skills						
Assessments	• Tech challenge TLA • Observation						
Interventions / differentiated instruction	• TBD						
Inter-disciplinary Connections	• Engineering- use basic engineering principles to complete Tech Challenges.						
Lesson resources / Activities	• Tech Challenge • Cereal box • Research activities						
2009 NJCCCS							
Standard: 9.4 Career/Tech Ed.							
Strand(s): O. STEM, M. Manufacturing,							
Content Statement(s): Information Technology				**CPI # / CPI(s): 9.4.12.0.(1)8, 9.4.12.M.(6)7**			
Safety Health				Use Communication Technology, Safe Use of Equipment			
21st Century Themes							
	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
21st Century Skills							
	Creativity and Innovation		Critical Thinking and Problem Solving		Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy		Life and Career Skills		

Pine Hill Public Schools Technology I Curriculum		
Unit Title: Construction Technology		**Unit #: 7**
Course or Grade Level: 9-12	**Length of Time: 3 weeks**	
Pacing	weekly	
Essential Questions	• How did the Ancient Greeks/Romans use contemporary war technology to siege a castle? • Discuss various types of siege engines, who designed them, and their effectiveness towards enemies. • What are the strengths and weaknesses of each siege technology?	
Content	• Greek and Roman war technology- Trebuchet, Onager, and Catapults • Rate the effectiveness of each as they pertain to different warring situations. • Statistical calculations	
Skills	• Construction skills • Research various types of siege engines • Calculating mean, median, and mode for accuracy tests	
Assessments	• Catapult TLA • Observation	
Interventions / differentiated instruction	• TBD	
Inter-disciplinary Connections	• History- researching various siege machines • Math- calculating statistics to determine best distance to shoot catapult	
Lesson resources / Activities	• Catapult TLA • Distance and Accuracy scores • Communication activities	

2009 NJCCCS	
Standard: 9.4 Career/Tech Ed.	
Strand(s): B. Architect/Construction, B. Architect/Construction**,** O. STEM, M. Manufacturing	
Content Statement(s): Career Cluster**,** Technical Skills	**CPI # / CPI(s): 9.4.12.B.(1)3, 9.4.12.B.(2)16, 9.4.12.0.2, 9.4.12.M.(6)7,**
Academic Foundation, Academic Foundation	Structural Building, Building Systems, Math Knowledge, Safe Use of Equipment

21st Century Themes

	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy

21st Century Skills

	Creativity and Innovation		Critical Thinking and Problem Solving		Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy		Life and Career Skills		