

**WEST JEFFERSON HILLS SCHOOL DISTRICT
TECHNOLOGY CURRICULUM**

GRADE 2

<p style="text-align: center;">PA Academic Standards Student must be able to do</p>	<p style="text-align: center;">Objective Content or process student will be able to know and do</p>	<p style="text-align: center;">Instructional Methods</p>	<p style="text-align: center;">Materials/ Resources Textbooks, trade books, workbooks, software, hardware, etc.</p>	<p style="text-align: center;">*Assessment Procedures *Additional adaptations, modifications, accommodations, and enrichment/ acceleration will be provided per IEP</p>	<p style="text-align: center;">*Additional Learning Opportunities for students who do not meet basic standards *Additional adaptations, modifications, and accommodations will be provided per IEP</p>	<p style="text-align: center;">*Extended Learning Opportunities for students who can go beyond the basic standards. *Additional enrichment/acceleration will be provided per IEP</p>
<p>Technology Education 3.6.4. Grade 2</p>						
<p>A. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting.</p> <ul style="list-style-type: none"> • Identify agricultural and industrial production processes that involve plants and animals. • Identify waste management treatment processes. • Describe how knowledge of the human body influences or impacts ergonomic design. • Describe how biotechnology has impacted various aspects of daily life (e.g., health care, agriculture, waste treatment) 		<ul style="list-style-type: none"> • Lecture • Discussion • Cooperative Learning • Demonstration • Video Taping of student presentations • Simulation • Guided Practice • Role Playing • Experimental/ Inquiry Learning • Modeling • Flexible Grouping 	<ul style="list-style-type: none"> • Computer • Printer • CCC • Transparencies • Posters • Study Prints • United Streaming • Websites • Internet • Software • Black Line Masters 	<ul style="list-style-type: none"> • Tests/Quizzes • Oral Presentation • Daily homework • Experiments • Journals • Notebooks • Essays • Student projects • Small group instruction • Individual instruction 	<ul style="list-style-type: none"> • Re-teach • Structure • Study Guides • Extended times • Alternative assignments • Peer/tutor • Planned courses for exceptional students shall be modified as needed 	<ul style="list-style-type: none"> • Manage a complex technology system such as a local area network, video distribution at a school, or lighting for a production. • Access different research components • Analyze and synthesize data • Organize/summarize charts and graphs • Apply metacognitive skills • Solve problems • Participate in simulations • Use a systems model to study and evaluate technology

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<p>Technology Education 3.6.4. Grade 2</p>						
						<ul style="list-style-type: none"> • Describe trends and possible future developments in technology. • Create technological design briefs to document problem solving. • Set up and manage a homework hotline, discussion group, threaded discussion and/or email system for students and parents. • Analyze current changes in technologies and predict the effect those changes have on the workforce and society

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<p>B. Know that information technologies involve encoding, transmitting, receiving, storing, retrieving and decoding.</p> <ul style="list-style-type: none"> • Identify electronic communication methods that exist in the community (e.g., digital cameras, telephone, internet, television, fiber optics). • Identify graphic reproduction methods. • Describe appropriate image generating techniques (e.g., photography, video). • Demonstrate the ability to communicate an idea by applying basic sketching and drawing techniques. 						

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<p>C. Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design.</p> <ul style="list-style-type: none"> • Identify and group a variety of construction tasks. • Identify the major construction systems present in a specific local building. • Identify specific construction systems that depend on each other in order to complete a project. • Know skills used in construction. • Identify examples of manufactured goods present in the home and school. 						

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<ul style="list-style-type: none"> • Identify basic resources needed to produce a manufactured item. • Identify basic component operations in a specific manufacturing enterprise (e.g., cutting, shaping, attaching). • Identify waste and pollution resulting from a manufacturing enterprise. • Explain and demonstrate the concept of manufacturing (e.g., assemble as set of papers or ball point pens sequentially, mass produce an object). 						

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<p>Technology Education 3.6.4. Grade 2</p>						
<ul style="list-style-type: none"> •Identify transportation technologies of propelling, structuring, suspending, guiding, controlling and supporting. •Identify and experiment with simple machines used in transportation systems. •Explain how improved transportation systems have changed society. 						

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<p>Technology Devices 3.7.4. Grade 2</p>						
<p>A. Explore the use of basic tools, simple materials and techniques to safely solve problems.</p> <ul style="list-style-type: none"> • 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. <p>B. Select appropriate instruments to study materials.</p> <ul style="list-style-type: none"> • Develop simple skills to measure, record, cut and fasten. • Explain appropriate instrument selection for specific tasks. 	<p>Students will:</p> <ul style="list-style-type: none"> • Recognize electronic information sources • Students will identify potential sources of information about a topic (e.g., video or cassette tapes, web pages, CD-Rom) • Locate information in a resource selected by the teacher (e.g., web page, CD-Rom) • Students will use technology resources for problem solving, self directed learning and extended leaning activities. 	<ul style="list-style-type: none"> • Lecture • Discussion • Cooperative Learning • Demonstration • Video Taping of student presentations • Simulation • Guided Practice • Role Playing • Experimental/ Inquiry Learning • Modeling • Flexible Grouping 	<ul style="list-style-type: none"> • Computer • Printer • CCC • Transparencies • Posters • Study Prints • United Streaming • Websites • Internet • Software • Black Line Masters 	<ul style="list-style-type: none"> • Tests/Quizzes • Oral Presentation • Daily homework • Experiments • Journals • Notebooks • Essays • Student projects • Small group instruction • Individual instruction 	<ul style="list-style-type: none"> • Re-teach • Structure • Study Guides • Extended times • Alternative assignments • Peer/tutor • Planned courses for exceptional students shall be modified as needed 	<ul style="list-style-type: none"> • Manage a complex technology system such as a local area network, video distribution at a school, or lighting for a production. • Access different research components • Analyze and synthesize data • Organize/summarize charts and graphs • Apply metacognitive skills • Solve problems • Participate in simulations • Use a systems model to study and evaluate technology

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<p>Technology Education 3.6.4. Grade 2</p>						
	<ul style="list-style-type: none"> • Based on a class-defined problem, uses technology to: <ul style="list-style-type: none"> -Collect data -interpret data -express a solution to the problem. 					<ul style="list-style-type: none"> • Describe trends and possible future developments in technology. • Create technological design briefs to document problem solving. • Set up and manage a homework hotline, discussion group, threaded discussion and/or email system for students and parents. • Analyze current changes in technologies and predict the effect those changes have on the workforce and society

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<p>Technology Devices 3.7.4. Grade 2</p>						
<p>C. Identify basic computer operations and concepts.</p> <ul style="list-style-type: none"> • Identify the major parts necessary for a computer to input and output data. • Explain and demonstrate the basic use of input and output devices (e.g., keyboard, monitor, printer, mouse). • Explain and demonstrate the use of external and internal storage devices (e.g., disk drive, CD drive). 	<ul style="list-style-type: none"> • Based on a problem selected by the student, use technology to: <ul style="list-style-type: none"> -collect data -interpret data -express solution to the problem. • Students will communicate about internet technology operations using developmentally appropriate and accurate terminology. • Students will apply basic vocabulary related to the internal operations of the technology (i.e., disks, drives, RAM, ROM, CD Rom port, CD and DVD). 	<ul style="list-style-type: none"> • Lecture • Discussion • Cooperative Learning • Demonstration • Video Taping of student presentations • Simulation • Guided Practice • Role Playing • Experimental/ Inquiry Learning • Modeling • Flexible Grouping 	<ul style="list-style-type: none"> • Computer • Printer • CCC • Transparencies • Posters • Study Prints • United Streaming • Websites • Internet • Software • Black Line Masters 	<ul style="list-style-type: none"> • Tests/Quizzes • Oral Presentation • Daily homework • Experiments • Journals • Notebooks • Essays • Student projects • Small group instruction • Individual instruction 	<ul style="list-style-type: none"> • Re-teach • Structure • Study Guides • Extended times • Alternative assignments • Peer/tutor • Planned courses for exceptional students shall be modified as needed 	<ul style="list-style-type: none"> • Manage a complex technology system such as a local area network, video distribution at a school, or lighting for a production. • Access different research components • Analyze and synthesize data • Organize/summarize charts and graphs • Apply metacognitive skills • Solve problems • Participate in simulations • Use a systems model to study and evaluate technology

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	<ul style="list-style-type: none"> • Students will demonstrate functional operation of technology components. • Students will demonstrate correct ergonomic use of technology, (e.g., correct posture, position of hands and feet, proper height of keyboard.) • Students will explain the basics of how a hard drive works. • Students will understand the size of a hard drive in relation to a floppy disk. • Students can identify the active and non-active options in a menu. • Students can save a file using the mouse. 					<ul style="list-style-type: none"> • Describe trends and possible future developments in technology. • Create technological design briefs to document problem solving. • Set up and manage a homework hotline, discussion group, threaded discussion and/or email system for students and parents. • Analyze current changes in technologies and predict the effect those changes have on the workforce and society

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	<ul style="list-style-type: none"> • Students can locate a submenu using the mouse. • Students can use shift, caps lock, tab and arrow keys. • Students will use multimedia resources (e.g., interactive books, educational software, elementary multi media, encyclopedias). • Students can use informed keyboarding skills to type words, phrases, sentences, and paragraphs. • Students will access information sources (e.g., CD Rom, encyclopedias, pre-bookmarked internet sites.) 					

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<p>Technology Devices 3.7.4. Grade 2</p>						
<p>D. Use basic computer software.</p> <ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Students will communicate electronically under teacher supervisors (e.g., video, audio, and email). • Students will use developmentally appropriate technology resources to access information and communicate electronically. • Students will operate keyboard and other common input and output devices (including adaptive devices for special needs when necessary.) 	<ul style="list-style-type: none"> • Lecture • Discussion • Cooperative Learning • Demonstration • Video Taping of student presentations • Simulation • Guided Practice • Role Playing • Experimental/ Inquiry Learning • Modeling • Flexible Grouping 	<ul style="list-style-type: none"> • Computer • Printer • CCC • Transparencies • Posters • Study Prints • United Streaming • Websites • Internet • Software • Black Line Masters 	<ul style="list-style-type: none"> • Tests/Quizzes • Oral Presentation • Daily homework • Experiments • Journals • Notebooks • Essays • Student projects • Small group instruction • Individual instruction 	<ul style="list-style-type: none"> • Re-teach • Structure • Study Guides • Extended times • Alternative assignments • Peer/tutor • Planned courses for exceptional students shall be modified as needed 	<ul style="list-style-type: none"> • Manage a complex technology system such as a local area network, video distribution at a school, or lighting for a production. • Access different research components • Analyze and synthesize data • Organize/summarize charts and graphs • Apply metacognitive skills • Solve problems • Participate in simulations • Use a systems model to study and evaluate technology

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	<ul style="list-style-type: none"> • Use device in response to software (e.g., point and click, arrow, enter/ return keys. • Use keyboard effectively (e.g., knows locations and functions of keys, begins touch typing strategies) <p>Students will:</p> <ul style="list-style-type: none"> • Practice responsible use of software. • Use equipment appropriately (e.g., use for assignments and school work versus personal use) • Describe and practice legal and ethical behaviors when using technology (e.g., do not copy, alter, delete or move another person’s work) • Demonstrate and practice safe and correct security procedures (e.g., protect password) 					<ul style="list-style-type: none"> • Describe trends and possible future developments in technology. • Create technological design briefs to document problem solving. • Set up and manage a homework hotline, discussion group, threaded discussion and/or email system for students and parents. • Analyze current changes in technologies and predict the effect those changes have on the workforce and society

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<p>Technology Devices 3.7.4. Grade 2</p>						
<p>E. Identify basic computer communications systems.</p> <ul style="list-style-type: none"> • Apply a web browser • Apply basic electronic mail functions. • Use on-line searches to answer age appropriate questions. 	<ul style="list-style-type: none"> • Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. • Describe three to five uses of technology in daily life. • Discuss the positive and negative impact of technology such as television and computers on daily life. • Use prescribed technology writing or drawing tools for communicating and illustrating. • Use word processing and editing tools to create a document. 	<ul style="list-style-type: none"> • Lecture • Discussion • Cooperative Learning • Demonstration • Video Taping of student presentations • Simulation • Guided Practice • Role Playing • Experimental/ Inquiry Learning • Modeling • Flexible Grouping 	<ul style="list-style-type: none"> • Computer • Printer • CCC • Transparencies • Posters • Study Prints • United Streaming • Websites • Internet • Software • Black Line Masters 	<ul style="list-style-type: none"> • Tests/Quizzes • Oral Presentation • Daily homework • Experiments • Journals • Notebooks • Essays • Student projects • Small group instruction • Individual instruction 	<ul style="list-style-type: none"> • Re-teach • Structure • Study Guides • Extended times • Alternative assignments • Peer/tutor • Planned courses for exceptional students shall be modified as needed 	<ul style="list-style-type: none"> • Manage a complex technology system such as a local area network, video distribution at a school, or lighting for a production. • Access different research components • Analyze and synthesize data • Organize/summarize charts and graphs • Apply metacognitive skills • Solve problems • Participate in simulations • Use a systems model to study and evaluate technology

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	<ul style="list-style-type: none"> • Use prescribed technology tools for data collection and basic analysis. • Use prescribed technology tools for publishing and presenting information. • Use a pre-designed template or stationary to publish a document (e.g., newsletter, slide show, greeting card, certificate.) • Create a multimedia product with support from teachers, family or student partners (e.g., slide show, video.) • Use technology tools for individual and collaborative communication activities to share products with audience inside and outside the classroom. 					<ul style="list-style-type: none"> • Describe trends and possible future developments in technology. • Create technological design briefs to document problem solving. • Set up and manage a homework hotline, discussion group, threaded discussion and/or email system for students and parents. • Analyze current changes in technologies and predict the effect those changes have on the workforce and society

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	<ul style="list-style-type: none"> • Plan, design, and present an academic product to classroom or community. (e.g., slide show, progressive production, digital images). • Use a paint, draw, and graphics program. • Use pencil, eraser, paintbrush, sprayer, paint bucket in a paint program. • Use the line tool and slope tool in a paint program. • Save and retrieve word processing files. • Format the text of a document by changing font size and style. • Log on and off, access and open programs on a network. 					

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	<ul style="list-style-type: none"> • Print documents to a network printer. • Retrieve and save information (e.g. text documents, digital photos, music, videos) 					

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<p>Science, Technology and Science Endeavors 3.8.4 Grade 2</p>						
<p>A. Know that people select, create, and use science and technology and that they are limited by social and physical restraints.</p> <ul style="list-style-type: none"> • Identify and describe positive and negative impacts that influence or result from new tools and techniques. • Identify how physical technology (e.g., construction, manufacturing, transportation, informational technology and biotechnology are used to meet human needs. • Describe how scientific discoveries and technological advancements are related. 	<p>Students will:</p> <ul style="list-style-type: none"> • Work cooperatively and collaboratively when using technology in the classroom. • Demonstrate respect for other students while using technology (e.g., take turns, share resources). • Practice reasonable use of technological devices. • Operate equipment to ensure equipment is unharmed. • Recognize that damaging school equipment is destroying public property. 	<ul style="list-style-type: none"> • Lecture • Discussion • Cooperative Learning • Demonstration • Video Taping of student presentations • Simulation • Guided Practice • Role Playing • Experimental/ Inquiry Learning • Modeling • Flexible Grouping 	<ul style="list-style-type: none"> • Computer • Printer • CCC • Transparencies • Posters • Study Prints • United Streaming • Websites • Internet • Software • Black Line Masters 	<ul style="list-style-type: none"> • Tests/Quizzes • Oral Presentation • Daily homework • Experiments • Journals • Notebooks • Essays • Student projects • Small group instruction • Individual instruction 	<ul style="list-style-type: none"> • Re-teach • Structure • Study Guides • Extended times • Alternative assignments • Peer/tutor • Planned courses for exceptional students shall be modified as needed 	<ul style="list-style-type: none"> • Manage a complex technology system such as a local area network, video distribution at a school, or lighting for a production. • Access different research components • Analyze and synthesize data • Organize/summarize charts and graphs • Apply metacognitive skills • Solve problems • Participate in simulations • Use a systems model to study and evaluate technology

**WEST JEFFERSON HILLS SCHOOL DISTRICT
TECHNOLOGY CURRICULUM**

GRADE 2

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<ul style="list-style-type: none"> •Identify interrelationships among technology, people, and their world. •Apply the technological design process to solve a simple problem. 	<ul style="list-style-type: none"> •Recognize that changing someone’s work without permission is unacceptable. •Describe and practice respect for other students while using technology (e.g., do not duplicate software or documents without authorization, report behaviors that threaten the ability of others to legitimately use resources, allow peers to work uninterrupted, do not erase or damage files, documents, or projects. 					<ul style="list-style-type: none"> • Describe trends and possible future developments in technology. • Create technological design briefs to document problem solving. • Set up and manage a homework hotline, discussion group, threaded discussion and/or email system for students and parents. • Analyze current changes in technologies and predict the effect those changes have on the workforce and society

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<p>Science, Technology and Science Endeavors 3.8.4 Grade 2</p>						
<p>B. Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.</p> <ul style="list-style-type: none"> •Identify and distinguish between human needs and improving the quality of life. •Identify and distinguish between natural and human-made resources. •Describe a technological invention and the resources that were used to develop it. 						

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<p>Science, Technology and Science Endeavors 3.8.4 Grade 2</p>						
<p>C. Know the pros and cons of possible solutions to scientific and technological problems in society.</p> <ul style="list-style-type: none"> • Compare the positive and negative expected and unexpected impacts of technological change. • Identify and discuss examples of technological change in the community that have both positive and negative impacts. 						