

**WEST JEFFERSON HILLS SCHOOL DISTRICT
TECHNOLOGY CURRICULUM**

GRADE 6

<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 3.6.7 GRADE 6</p>						
<p>A. Explain biotechnologies that relate to related technologies of propagating, growing, maintaining, adapting, treating, and converting.</p> <ul style="list-style-type: none"> • Identify the environmental, societal and economic impacts that waste has in the environment. • Identify and explain the impact that a specific medical advancement has on society. • Explain the factors that were taken into consideration when a specific object was designed. • Define and describe how fuels and energy can be generated through the process of biomass conversion. 						

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<p>B. Explain information technologies of encoding, transmitting, receiving, storing, retrieving, and decoding.</p> <ul style="list-style-type: none"> • Demonstrate the effectiveness of image generating technique to communicate a story (e.g., photography, video). • Analyze and evaluate the effectiveness of a graphic object designed and produced to communicate a thought or concept. • Apply basic technical drawing techniques o communicate an idea or solution to a problem. 						

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<p>C. Explain physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing research and design.</p> <ul style="list-style-type: none"> • Use knowledge of material effectiveness to solve specific construction problems (e.g., steel vs. wood bridges). • Differentiate among the different types of construction applications (e.g., microwave tower, power plants, and aircrafts). 						

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<ul style="list-style-type: none"> • Explain basic material processes that manufacturing objects undergo during production. (e.g., separating, forming, combining). • Evaluate a construction activity by specifying task analyses and necessary resources. • Explain the relationships among the basic resources needed in the production process for a specific manufactured object. • Explain the difference between design engineering and production engineering processes. 						

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<p>Technology Education 3.6.7 GRADE 6</p>						
<ul style="list-style-type: none"> • Analyze manufacturing steps that affect waste and pollutants. • Explain transportation technologies of propelling, structuring, suspending, guiding, controlling, and supporting. • Identify and explain the workings of several mechanical power systems. • Model and explain examples of vehicular propulsion, control, guidance, structure and suspension systems. • Explain the limitations of land, marine, air and space transportation. 						

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<p>Technology Devices 3.7.7 GRADE 6</p>						
<p>A. Describe the safe and appropriate use of tools, materials and techniques to answer questions and solve problems.</p> <ul style="list-style-type: none"> • Identify uses of tools, machines, materials, information, people, money, energy, and time that meet specific design criteria. • Describe safe procedures for using tools and materials. • Assess materials for appropriateness of use. 						

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<p>Technology Devices 3.7.7 GRADE 6</p>						
<p>B. Use appropriate instruments and apparatus to study materials.</p> <ul style="list-style-type: none"> •Select appropriate instruments to measure the size, weight, shape and temperature of living and non-living objects. •Apply knowledge of different measurement systems to measure and record objects' properties. 						

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<p>Technology Devices 3.7.7 GRADE 6</p>						
<p>C. Explain and demonstrate basic computer operations and concepts.</p> <ul style="list-style-type: none"> • Know specialized computer applications used in the community. • Describe the function of advanced input and output devices (e.g., scanners, video images, plotters, projectors) and demonstrate their use. • Demonstrate age appropriate keyboarding skills and techniques. 	<ul style="list-style-type: none"> - Students will identify basic computer types: PC, Laptop, Tower, Hand-held, Server, Supercomputer - Students will identify types of software: Application software, Operating System software - Students will identify types of hardware: Input devices, Output devices, Storage devices Magnetic storage devices, Optical storage devices, Solid-State storage devices - Students will identify types of storage media: 	<ul style="list-style-type: none"> - Teacher Demonstration - Student Demonstration - Modeling Behavior - One-on-one teaching - Lecture/ discussion - Cooperative Learning - Guided Practice 	<ul style="list-style-type: none"> - A complete computer lab environment with a Windows XP operating system (or better). - Microsoft Office XP installed on all machines. - Type to Learn (updated version) installed on all machines. - Type for Fun (updated version) installed on all machines. - Type to Learn Assessment (updated version) installed on all machines. - Internet Explorer installed on all machines - Color & B/W printer in the room. 	<ul style="list-style-type: none"> - The teacher will observe students - The students will complete keyboarding lessons on a keyboarding program. This program will assess the students' speed and accuracy on a continuing basis. - The teacher will observe the students demonstrating proper posture and technique - The students will take a keyboarding exam which assesses their speed and accuracy 	<ul style="list-style-type: none"> - Peers re-teach - Individual instruction - Alternative assignments - Extended time - Structured folder with class notes and written class instruction 	<ul style="list-style-type: none"> - Peer tutoring and reciprocal teaching - Real-life applications

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	<p style="text-align: center;">Magnetic Tape, Floppy Disk, Hard Disk, Zip Disk, Magstripe Optical CD-ROM, DVD-ROM, CD-R, CD-RW, DVD-R, DVD-RW, MiniDisk Solid State Memory cards (camera, video game) - Develop efficient keyboard technique (goal of 35gwpm with 90% accuracy) Keep eyes on copy, not on fingers Correct Posture at Keyboard (back against chair, feet flat, arms relaxed, fingers on home row, eyes forward, a hand's length distance from keyboard)</p>		<p>- Smartboard and projector for teacher demonstration - Pocket folders with clasps for keeping papers, notes, and assignments. (one per student)</p>			

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<p>Technology Devices 3.7.7 GRADE 6</p>						
<p>D. Apply computer software to solve specific problems.</p> <ul style="list-style-type: none"> •Identify software designed to meet specific needs (e.g., Computer Aided Drafting, design software, tutorial, financial, presentation software). •Identify and solve basic software problems relevant to specific software applications. •Identify basic multimedia applications •Demonstrate a basic knowledge of desktop publishing applications. 	<ul style="list-style-type: none"> - Identify and use editing features of a word processing program <ul style="list-style-type: none"> Fonts, styles Headers, Footnotes Print & Print Preview Save & Open files - Use the internet and search engines effectively to find relevant, unbiased and current information on a subject. 	<ul style="list-style-type: none"> - Teacher Demonstration - Student Demonstration - Modeling Behavior - One-on-one teaching - Lecture/ discussion - Cooperative Learning - Guided Practice 	<ul style="list-style-type: none"> - A complete computer lab environment with a Windows XP operating system (or better). - Microsoft Office XP installed on all machines. - Color & B/W printer in the room. - Smartboard and projector for teacher demonstration - Pocket folders with clasps for keeping papers, notes and assignments. (one per student) 	<ul style="list-style-type: none"> - Teacher Observation - Student Vocabulary Quiz 	<ul style="list-style-type: none"> - Peers re-teach - Individual instruction - Alternative assignments - Extended time - Structured folder with class notes and written class instruction 	<ul style="list-style-type: none"> - Peer tutoring and reciprocal teaching - Real-life applications

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<ul style="list-style-type: none"> • Apply intermediate skills in utilizing word processing, database and spreadsheet software. • Apply basic graphic manipulation techniques. 						

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<p>Technology Devices 3.7.7 GRADE 6</p>						
<p>E. Explain basic computer communications systems.</p> <ul style="list-style-type: none"> • Describe the organization and functions of the basic parts that make up the World Wide Web. • Apply advanced electronic mail functions. • Apply basic on-line research techniques to solve a specific problem. 	<ul style="list-style-type: none"> - Students will identify types of connectivity and other web-related terms: Modem, ISP, Dial-Up, Cable, T1, T3, Server, Web Browser Internet, Cyberspace, WWW, Home Page, URL, Hyperlink/ Hypertext Search Engines, Web Directories - Students will be able to use Search Engines to located desired information from the web - Students will be able to distinguish good research from bad research on the internet - Students will be able 	<ul style="list-style-type: none"> - Teacher Demonstration - Student Demonstration - Modeling Behavior - One-on-one teaching - Lecture/ discussion - Cooperative Learning - Guided Practice 	<ul style="list-style-type: none"> - A complete computer lab environment with a Windows XP operating system (or better). - Microsoft Office XP installed on all machines. - Internet Explorer installed on all machines - Color & B/W printer in the room. - Smartboard and projector for teacher demonstration - Pocket folders with clasps for keeping papers, notes and assignments. (one per student) 	<ul style="list-style-type: none"> - Teacher Observation - Student Vocabulary Quiz - Internet Scavenger Hunt 	<ul style="list-style-type: none"> - Peers re-teach - Individual instruction - Alternative assignments - Extended time - Structured folder with class notes and written class instruction 	<ul style="list-style-type: none"> - Peer tutoring and reciprocal teaching - Real-life applications

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	<p>to recognize website & file extensions to aid in research online</p>					

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<p>Science Technology and Human Endeavors 3.8.7 GRADE 6</p>						
<p>A. Explain how sciences and technologies are limited in their effects and influences on society.</p> <ul style="list-style-type: none"> •Identify and describe the unavoidable constraints of technological design. •Identify changes in society as a result of a technological development. •Identify and explain improvements in transportation, health, sanitation, and communications as a result of advancements in science and technology and how they effect our lives. 	<ul style="list-style-type: none"> - Explain and demonstrate understanding of classroom rules regarding responsible use of computers. - Explain and demonstrate ethical and legal behavior in copying files, applications and media from the internet 	<ul style="list-style-type: none"> - Teacher Demonstration - Student Demonstration - Modeling Behavior - One-on-one teaching - Lecture/ discussion - Cooperative Learning - Guided Practice 	<ul style="list-style-type: none"> - A complete computer lab environment with a Windows XP operating system (or better). - Internet Explorer installed on all machines - Color & B/W printer in the room. - Smartboard and projector for teacher demonstration - Pocket folders with clasps for keeping papers, notes and assignments. (one per student) 	<ul style="list-style-type: none"> - Teacher Observation 	<ul style="list-style-type: none"> - Peers re-teach - Individual instruction - Alternative assignments - Extended time - Structured folder with class notes and written class instruction 	<ul style="list-style-type: none"> - Peer tutoring and reciprocal teaching - Real-life applications

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Science Technology and Human Endeavors 3.8.7 GRADE 6						
B. Explain how human ingenuity and technological resources satisfy specific human needs and improve the quality of life. <ul style="list-style-type: none"> • Identify interrelationships between systems and resources. • Identify and describe the resources necessary to solve a selected problem in a community and improve the quality of life. • Identify and explain specific examples of how agricultural science has met human needs and has improved the quality of life. 						

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<p>Science Technology and Human Endeavors 3.8.7 GRADE 6</p>						
<p>C. Identify the pros and cons of applying technological and scientific solutions to address problems and the effect upon society.</p> <ul style="list-style-type: none"> • Describe the positive and negative expected and unexpected effects of specific technological developments. • Describe ways technology extends and enhances human abilities. 						