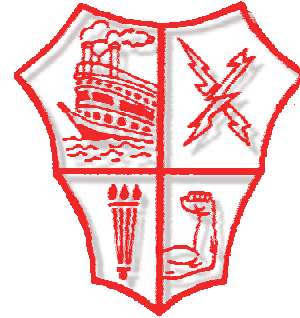


# OHIO ACADEMIC CONTENT STANDARDS TECHNOLOGY STANDARDS

Adopted from the Ohio Department of Education

## Grade 5



*New Richmond Exempted Village School District*

### Grade 5

Academic Correlation

#### Standard 1 ~ Nature of Technology

**Benchmark A: Compare and discuss the characteristics of technology in our community.**

1. Create a human-made product from natural materials (e.g., process natural materials into new products).
2. Use tools, materials and processes to produce products and carry out tasks efficiently and effectively.
3. Explain how creative thinking and economic and cultural influences shape technological development.
4. Demonstrate the use of technology in daily life, noting the advantages and disadvantages those uses provide.

**Benchmark B: Identify, describe and discuss the core concepts of technology.**

1. Select and use tools to design, make, modify and assess technology.
2. Test the properties of materials.
3. Demonstrate how tools and machines extend human capabilities.
4. Recognize that requirements are the limits to designing or making a product or system.

5-Sci-SI-1

**Benchmark C: Compare and discuss the relationships among technologies, and the connections between technology and other fields of study.**

1. Cite examples of relationships that exist between technology and other fields of study.

#### Standard 2 ~ Technology and Society Interaction

**Benchmark A: Define responsible citizenship relative to technology.**

1. Identify and show cooperative and collaborative strategies to work with others when using technology systems.

2. Analyze common uses of technology in daily life and the advantages and disadvantages those uses provide (e.g., how technology helps us communicate).	5-Sci-SI-1
3. Distinguish basic issues related to responsible use of technology and information, and relate personal consequences of inappropriate use.	
<b>Benchmark B: Investigate and explain the interrelationships between technology and the environment.</b>	
1. Investigate alternative methods for the protection of the environment.	
2. Describe how technology affects the environment in positive and/or negative ways.	5-Sci-SI-1
<b>Benchmark C: Explain and demonstrate the influence of technology throughout history.</b>	
1. Discuss and create alternative solutions to the ways that people have made tools to provide food, to make clothing, etc.	
2. Explain how technology and invention have changed economic and social development.	
<b>Benchmark D: Practice responsible use of technology, understand school district guidelines for technology use, and explore technology ownership.</b>	
1. Discuss patent, copyright, trade name/trademark protection and the rights of the owner of the work (e.g., inventor, manufacturer, software developer/company, Web site creator, author of information).	5-LA-R-5
2. Discuss basic issues related to responsible use of technology and describe personal consequences of inappropriate use (e.g., plagiarism, intellectual property, and the conditions of the district AUP).	
3. Use technology to collaborate with others and credit all participants for their contribution to the work.	
<b>Benchmark E: Identify development patterns and examine the influence of technology on the world.</b>	
1. Compare, contrast and classify collected information in order to identify patterns of technology development.	
2. Investigate and assess the influence of a specific technology on the environment.	
3. Examine the trade-offs of using a product or system and decide when it could be used.	
<b>Standard 3 ~ Technology for Productivity Applications</b>	
<b>Benchmark A: Understand computer and multimedia technology concepts and communicate using the correct terminology.</b>	
1. Define and use new technology terminology based on the computer and multimedia technology resources being used.	
<b>Benchmark B: Use appropriate tools and technology resources to complete tasks and solve problems.</b>	
1. Describe how networks are used to access, share, and store information (e.g., software, printers, folders, files).	
2. Select the appropriate device to store needed information and independently save and access stored information from portable devices (e.g., how large is the saved information? do others need to use the information? what device will best store this information?).	
3. Collect information for projects using still and video digital cameras, scanners and electronic resources.	

4. Create a presentation using multimedia software that incorporates, graphics, video and sound to present the findings of a group research project.	5-LA-R-6
5. Investigate technology tools used for researching problems and acquiring information and data.	5-LA-R-2
6. Use appropriate hand/finger positions to key all letters (e.g., demonstrate ability to appropriately keyboard and assess accuracy).	
<b>Benchmark C: Use productivity tools to produce creative works and prepare publications.</b>	
1. Select and use appropriate software applications to complete content-specific tasks (e.g., use desktop publishing software to create a newsletter, use drawing programs to create artwork).	
2. Investigate technology resources for individual and collaborative writing, communication and publication of creative works (e.g., video editing, desktop publishing).	5-LA-WP-17
3. Use technology resources for presenting information (e.g., distance learning and interactive boards).	
<b>Standard 4 ~ Technology and Communication Applications</b>	
<b>Benchmark A: Identify the concepts and operations of communication systems.</b>	
1. Implement basic design components (contrast, size, arrangement) in print or electronic media productions.	
2. Determine ways in which people collaborate in real-time with individual and groups located in different school districts, communities, states and countries.	
3. Describe and participate in different types of online learning environments (e.g., online classes, distance learning, video conferencing and productions).	
<b>Benchmark B: Develop, publish and present information in print and digital formats.</b>	
1. Produce a slide show from storyboard, using text, graphics and sound with appropriate transitions and effects.	
2. Collaborate in a class video project (e.g., act as camera person, actor or director in a video project as a part of a unit of study).	
3. Use simple authoring tool to create class Web page.	
4. Evaluate and modify a presentation or document for different audiences (e.g., one person or a group of people).	
5. Use advanced software features to publish information in printed form (e.g., card, calendar, banner, one-page report, flyer, newsletter).	
<b>Benchmark C: Use telecommunications to participate in group online collaborative interactive projects and activities.</b>	
1. Demonstrate how to use e-mail to communicate with another student in a remote location.	
2. Communicate in a monitored, online discussion (e.g., discuss books being read, share local history).	
3. Gather and share information in online learning activities (e.g., examine historical journals and share observations).	
<b>Standard 5 ~ Technology and Information Literacy</b>	
<b>Benchmark A: Describe types of information: facts, opinions, primary/secondary sources; and formats of information: number, text, sound, visual, multimedia. Use information for a purpose.</b>	

1. Develop a systematic plan for organizing information using a basic organizing concept (e.g., subject, chronology, date).	
2. Choose a variety of formats for presenting information (e.g., pictures, texts, slides).	
3. Understand that there are conditions where information cannot be used (e.g., copyright restrictions on the use of cartoon characters, copying a classmate's project).	
4. Distinguish between relevant and irrelevant information in an information source (e.g., information matches question to be answered, facts apply to the topic).	
5. Apply primary and secondary sources to investigate a person, place, thing or event, and identify each source as primary or secondary.	5-LA-R-2
<b>Benchmark B: Use technology to find information, applying a research process to decide what information is needed, find sources, use information and check work.</b>	
1. Identify questions related to an assigned topic or personal information need.	
2. Determine the best sources to use for the assigned topic or personal information need.	5-LA-R-2
3. Select and access information resources: online library catalog, Web site electronic formats (e.g., CD-ROM, DVD, audio files).	5-LA-R-2
4. Record and use selected information to create a product for the assigned topic or personal information need.	5-LA-R-6
5. Cite sources used: author, title of resource, publisher or source of information, and copyright date.	5-LA-R-5
6. Describe how information about a topic was gathered (e.g., discuss the information process).	
<b>Benchmark C: Use the Internet to find, use and evaluate information.</b>	
1. Explain the elements and meaning of a Web site URL: name of the site, domain and extensions for specific pages.	
2. Type a teacher or librarian-selected URL into the address line of a Web browser to access a search engine and a Web directory.	
3. Perform a search in an age-appropriate search engine or a Web directory by typing in one or more search terms.	
4. Read list of results from the search and select potential relevant Web sites.	
5. Examine the information retrieved from the Web site for the author's expertise, the accuracy of the information presented and the bias.	
6. Identify information on the Web site: URL extensions, author, title, date produced, special features (images, puzzles, activities), products, services, resources, etc.	
<b>Benchmark D: Identify, access and use electronic resources from both free and fee-based Internet sources.</b>	
1. Use a username and password to access an information source (e.g., an online library catalog, a fee-based Web site requiring user information to access the site, district network requiring student login).	
2. Examine coverage of information in magazine databases, online biography sources and subject guide sources.	

3. Distinguish different types of online information databases (free or fee-based) and select the best resource based on curricular need.	
<b>Standard 6 ~ Design</b>	
<b>Benchmark A: Describe and apply a design process to solve a problem.</b>	
1. Analyze the requirements for a design including such factors as the desired elements and features of a product or system and the limits that are placed on the design (e.g., if the class were to prepare and deliver food to the homeless or a nursing home what are the desired features and what limits what can be done).	
2. Arrive at a solution to a technological problem and fabricate a prototype model for the solution.	
3. Make sketches with a list of parts required for a solution to a technological problem.	
4. Use data to test and evaluate the prototype solution.	
5. Improve the designed prototype solution where tests indicate need.	
6. Identify American inventors and designers who contributed to the development of each of the technology systems.	
<b>Benchmark B: Describe how engineers and designers define a problem, creatively solve it and evaluate the solution.</b>	
1. Demonstrate steps used in the engineering design process including, defining the problem, generating ideas, selecting a solution, testing the solution(s), making the item, evaluating the solution, and presenting the results (e.g., engineer a design to solve a storage problem at the school).	
2. Build models which can be used to communicate and test design ideas and processes (e.g., tornado shelters).	
<b>Benchmark C: Understand the role of troubleshooting in problem-solving.</b>	
1. Show that invention and innovation are creative ways to turn ideas into real things (e.g., provide examples of multiple solutions to the same problem—many models of cars, varieties of apples, chess set figures).	
2. Describe how the acceptance of a product can vary because of the size of the market for the product (e.g., why is the commercialization of some products successful and others not?).	
<b>Standard 7 ~ Designed World</b>	
<b>Benchmark A: Develop an understanding of how physical technologies enhance our lives.</b>	
1. List tools, machines, products and systems that use energy in order to do work.	
2. Describe how personnel in energy and power technologies are trained (e.g., technician training, engineering school).	
3. Describe how the value of goods and services vary by their location.	
4. Describe how personnel in transportation technology are trained (e.g., apprenticeship, flight school, maritime school).	

5. Describe examples of how manufacturing enterprises exist because of a consumption of goods (e.g., clothing wears out, seasons change and styles change so more must be manufactured).	
6. Describe the guidelines (e.g., zoning and building codes; that impact the construction of houses in your community).	
<b>Benchmark B: Recognize appropriate modes of technical communication across technological systems.</b>	
1. Use communication technology to transfer messages among people and/or machines locally and over distances through the use of technology.	
2. Describe how personnel in information and communication technologies are trained.	
<b>Benchmark C: Develop an understanding of how bio-related technologies improve our lives.</b>	
1. Describe tools and devices that have been designed to help provide clues about health and provide a safe environment.	
2. Describe how medical personnel are trained.	
3. List processes used in agriculture that require different procedures, products or systems.	
4. Describe how personnel in agricultural and related biotechnologies are trained.	