

# National Technology Standards

## Alliance Charter Academy

*Academic Excellence Through Partnerships &  
Personalized Learning”*

# Technology Foundation Standards For All Students

The technology foundation standards for students are divided into six broad categories. Standards within each category are to be introduced, reinforced, and mastered by students. These categories provide a framework for linking performance indicators within the Profiles for Technology Literate Students to the standards. Teachers can use these standards and profiles as guidelines for planning technology-based activities in which students achieve success in learning, communication and life skills.

## Technology Foundation Standards for Students

1. Basic operations and concepts
  - Students demonstrate a sound understanding of the nature and operation of technology systems
  - Students are proficient in the use of technology
2. Social, ethical, and human issues
  - Students understand the ethical, cultural and societal issues related to technology
  - Students practice responsible use of technology systems, information, and software
  - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity
3. Technology productivity tools
  - Students use technology tools to enhance learning, increase productivity, and promote creativity
  - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works
4. Technology communications tools
  - Students use telecommunications to collaborate, publish and interact with peers, experts and other audiences
  - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences
5. Technology research tools
  - Students use technology to locate, evaluate and collect information from a variety of sources
  - Students use technology tools to process data and report results
  - Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks

6. Technology problem-solving and decision-making tools
  - Students use technology resources for solving problems and making informed decisions
  - Students employ technology in the development of strategies for solving problems in the real world

# Profiles for Technology Literate Students Pre-K-2

Performance Indicators for  
Technology-Literate Students

Grades Pre K-2

All students should have opportunities to demonstrate the following performances

**Prior to completion of Grade 2, students will:**

1. Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audiotapes and other technologies. (1)
2. Use a variety of media and technology resources for directed and independent learning activities. (1,3)
3. Communicate about technology using developmentally appropriate and accurate terminology. (1)
4. Use developmentally appropriate multimedia resources (e.g., interactive books, educational software, elementary multimedia encyclopedias) to support learning. (1)
5. Work cooperatively and collaboratively with peers, family members and others when using technology in the classroom. (2)
6. Demonstrate positive social and ethical behaviors when using technology. (2)
7. Practice responsible use of technology systems and software. (2)
8. Create developmentally appropriate multimedia products with support from teachers, family members or student partners. (3)
9. Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, drawing tools) for problem solving, communication and illustration of thoughts, ideas and stories. (3, 4, 5, 6)
10. Gather information and communicate with others using telecommunications, with support from teachers, family members or student partners. (4)

Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked. The categories are:

1. Basic operations and concepts
2. Social, ethical and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problems-solving and decision-making tools

# Profiles for Technology Literate Students Grades 3-5

## Performance Indicators For Technology-Literate Students Grades 3-5

All students should have opportunities to demonstrate the following performances:

1. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively. (1)
2. Discuss common uses of technology in daily life and the advantages and disadvantages of those uses provide. (1,2)
3. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use. (2)
4. Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum. (3)
5. Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom. (3,4)
6. Use telecommunications efficiently to access remote information, communicate with others in support of direct and independent learning and pursue personal interests. (4)
7. Use telecommunications and on line resources (e.g., e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom. (4,5)
8. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities. (5,6)
9. Determine which technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. (5,6)
10. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. (6)

Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked. The categories are:

1. Basic operations and concepts
2. Social, ethical and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools

# Profiles for Technology Literate Students Grades 6-8

## Performance Indicators for Technology-Literate Students

### Grades 6-8

All students should have opportunities to demonstrate the following performances.

1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. (1)
2. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. (2)
3. Exhibit legal and ethical behaviors when using information and technology and discuss consequences of misuse. (2)
4. Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research. (3,5)
5. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration and learning throughout the curriculum. (3,6)
6. Design, develop, publish and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. (4,5,6)
7. Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues and information and to develop solutions or products for audiences inside and outside the classroom. (4,5)
8. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. (5, 6)
9. Demonstrate an understanding of concepts underlying hardware, software and connectivity and of practical applications to learning and problems solving. (1,6)
10. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. (2,5,6)

Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked. The categories are:

1. Basic operations and concepts
2. Social, ethical and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools

# Profiles for Technology Literate Students Grades 9-12

## Performance Indicators for Technology-Literate Students

### Grades 9-12

All students should have opportunities to demonstrate the following performances.

Prior to completion of Grade 12, students will:

1. Identify capabilities and limitations of contemporary and emerging technology resources and assess the potential of these systems and services to address personal, lifelong learning, and work place needs. (2)
2. Make informed choices among technology systems, resources and services. (1,2)
3. Analyze advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole. (2)
4. Demonstrate and advocate for legal and ethical behaviors among peers, family and community regarding the use of technology and information. (2)
5. Use technology tools and resources for managing and communicating personal/professional information (e.g., finances, schedules, addresses, purchases, correspondence). (3,4)
6. Evaluate technology-based options, including distance and distributed education, for life-long learning. (5)
7. Routinely and efficiently use online information resources to meet needs for collaboration, research, publications, communications, and productivity. (4,5, 6)
8. Select and apply technology tools for research, information analysis, problem-solving and decision-making in content learning. (4,5)
9. Investigate and apply expert systems, intelligent agents, and simulations in real-world situations. (3,5,6)
10. Collaborate with peers, experts, and others to contribute to a content-related knowledge base by using technology to compile, synthesize, produce and disseminate information, models and other creative works. (4,5,6)

Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked. The categories are:

7. Basic operations and concepts
8. Social, ethical and human issues
9. Technology productivity tools
10. Technology communications tools
11. Technology research tools
12. Technology problem-solving and decision-making tools

