

# New Jersey Core Curriculum Content Standards For Technological Literacy

## STANDARD 8.1

### COMPUTER AND INFORMATION LITERACY

*ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.*

**Descriptive Statement:** Using computer applications and technology tools, students will conduct research, solve problems, improve learning, achieve goals, and produce products and presentations in conjunction with standards in all content areas, including career education and consumer family, and life skills. They will also develop, locate, summarize, organize, synthesize, and evaluate information for lifelong learning.

## GRADE 5

### Technology Curriculum

**8.1.A** - Building upon knowledge and skills gained in preceding grades, by the end of Grade 5, students will:

#### Basic Computer Skills and Tools

INSTRUCTIONAL OBJECT	SUBJECT MATTER	STANDARDS	ACTIVITIES
Use appropriate technology vocabulary.	Familiarize students to everyday vocabulary	8.1.A.1 (I)	<ul style="list-style-type: none"> <li>• They will be introduced to the keyboard for the first week.</li> <li>• For the following weeks, students will type for 10 minutes to continue learning using Microtype.</li> <li>• As a stimulus, they are expected to completed 10 lessons.</li> <li>• Students, occasionally switch to other software packages that reinforces proper typing skills such as TyperShark and Mavis Beacon.</li> </ul>

Use common features of an operating system (e.g., creating and organizing files and folders).	Organize files	8.1.A.2 (I)	<ul style="list-style-type: none"> <li>• First students will create several projects.</li> <li>• Students are given vocabulary words for file management.</li> <li>• Then they are introduced to file management</li> <li>• Students organize files</li> <li>• Students are quizzed on vocab. And assessed by looking at their accounts.</li> </ul>
Demonstrate effective input of text and data, using touch keyboarding with proper technique.	Teach the basic survival skills of any software package, formatting and editing.	8.1.A.3 (I)	<ul style="list-style-type: none"> <li>• Introduce Paint</li> <li>• Introduce its toolbar by creating a cube</li> <li>• Students will become familiar with the mouse and the toolbar by creating a project.</li> <li>• By using Paint they will learn formatting, moving text and using the mouse.</li> </ul>

INSTRUCTIONAL OBJECT	SUBJECT MATTER	STANDARDS	ACTIVITIES
Input and access data and text efficiently and accurately through proficient use of other input devices, such as the mouse.	Show the difference between input and output devices	8.1.A.4 (I)	Please see 8.1.A3 <ul style="list-style-type: none"> <li>• As projects are assigned, students will use either the Smart-Board, the mouse or the keyboard.</li> </ul>
Create documents with advanced text-formatting and graphics using word processing.	Basics of editing and formatting text along with introduction to tables.	8.1.A.5 (I)	<ul style="list-style-type: none"> <li>• Students are introduced to Vocabulary words</li> <li>• Show students editing and formatting while working on a document.</li> <li>• Students practice formatting and editing while fixing a poem.</li> <li>• Students are tested on vocabulary words and graded on the poem.</li> </ul>
Create a file containing customized information by merging documents.		8.1.A.6	
Construct a simple spreadsheet, enter data, and interpret the information.		8.1.A.7	
Design and produce a basic multimedia project.	Create a presentation in chronological order.	8.1.A.8 (R)	<ul style="list-style-type: none"> <li>• Students are introduced to vocabulary words.</li> <li>• Review basic functions of PowerPoint</li> <li>• Students will create a PowerPoint presentation on a subject from Social Studies or Science.</li> <li>• Test students on vocabulary words and grade their PowerPoint project.</li> </ul>
Plan and create a simple database, define fields, input data, and produce a report using sort and query.		8.1.A.9	

Use network resources for storing and retrieving data.	Understand networking by saving and retrieving their projects.	<b>8.1.A.10 (I/R)</b>	<ul style="list-style-type: none"> <li>• Explain to students the dangers and benefits of the Internet.</li> <li>• Work with them as they import a picture into a document.</li> <li>• Show students also, how they can customize their backgrounds while using pictures from the Internet.</li> </ul>
Choose appropriate electronic graphic organizers to create, construct, or design a document.	Blend pictures with text	<b>8.1.A.11 (I/R)</b>	<ul style="list-style-type: none"> <li>• Introduce students to the basic functions and benefits of Inspiration.</li> <li>• In order to familiarize themselves with all its features, we create a project together.</li> <li>• Students create a diagram on hardware, software, input or output devices.</li> <li>• ** Our students are exposed to Kidspiration, so they adapt very quickly.</li> </ul>
Create, organize and manipulate shortcuts.		<b>8.1.A.12</b>	

**GRADE 5**  
**Application of Productivity Tools**

**8.1.B - Social Aspects**

<b>INSTRUCTIONAL OBJECT</b>	<b>SUBJECT MATTER</b>	<b>STANDARDS</b>	<b>ACTIVITIES</b>
Explain the purpose of an Acceptable Use Policy and the consequences of inappropriate use of technology.		<b>8.1.B.3</b>	<ul style="list-style-type: none"> <li>• Students read out-loud the AUP.</li> <li>• Then they are tested on it with true/false questions.</li> </ul>
Describe and practice safe Internet usage.	The impact of Cyber bullying	<b>8.1.B.4</b>	<ul style="list-style-type: none"> <li>• Cyber Bullying is discussed loosely and tapes are shown.</li> </ul>

**GRADE 5**  
**Application of Productivity Tools**

**8.1.B – Problem Solving and Decision Making**

Problem Solving and Decision Making

<b>INSTRUCTIONAL OBJECT</b>	<b>SUBJECT MATTER</b>	<b>STANDARDS</b>	<b>ACTIVITIES</b>
Use computer applications to modify information independently and/or collaboratively to solve problems.		8.1.B.8 (I/R)	<ul style="list-style-type: none"> <li>• As students work on projects, when someone has a problem we use the SmartBoard so that everyone can learn from it.</li> <li>• Students must identify the problem.</li> <li>• * A student can come-up and solve the issue.</li> </ul>

<p>Identify basic hardware problems and demonstrate the ability to solve common problems.</p>		<p><b>8.1.B.9</b> (I/R)</p>	<ul style="list-style-type: none"> <li>• Introduce students to vocabulary words</li> <li>• They create a diagram showing hardware, software, input, output or output devices</li> <li>• Students are tested on vocabulary words.</li> </ul>
<p>Determine when technology tools are appropriate to solve a problem and make a decision.</p>		<p><b>8.1.B.10</b></p>	

# New Jersey Core Curriculum Content Standards For Technological Literacy

## STANDARD 8.2

### TECHNOLOGY EDUCATION

*ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.*

#### **Descriptive Statement:**

The following indicators are based on the Standards for Technological Literacy (STL, 2000) and support the National Academy of Engineering's (2002) call for students to gain technological literacy. Students will be expected to understand the various facets of technology and the design process. They will analyze and evaluate design options and then apply the design process to solve problems. A systems perspective is employed to emphasize the interconnectedness of all knowledge and the impact of technology and technological change. Students will be expected to use technology as it applies to physical systems, biological systems, and information and communication systems. The intent at the elementary and middle school levels is that all students develop technological literacy and are prepared for the option of further study in the field of technology education. At the elementary level, the foundation for technology education is found in the science standards, particularly standards 5.2 and 5.4

## GRADE 5 Technology Curriculum

**8.2.A** – Building upon knowledge and skills gained in the preceding grades  
By the end of 5<sup>th</sup> grade students will:

### Problem Solving and Decision Making

INSTRUCTIONAL OBJECT	SUBJECT MATTER	STANDARDS	ACTIVITIES
Describe the nature of technology and the consequences of technological activity.	Technology makes it fun and easy to learn from.	8.2.A.1	<ul style="list-style-type: none"> <li>students review mathematical concepts by using Study Island.</li> </ul>
Describe how components of a technological product, system, or environment interact.	Understanding Networking	8.2.A.2 (I)	<ul style="list-style-type: none"> <li>As assignments are given, students have to save it in the Network.</li> <li>This makes it easy for me to grade and for students to access from other computers.</li> </ul>
Describe how one technological innovation can be applied to solve another human problem that enhances human life or extends human capability.		8.2.A.3	
Describe how technological activity has an affect on economic development, political actions, and cultural change.		8.2.A.4	
Explain the cultural and societal effects resulting from the dramatic increases of knowledge and information available today.		8.2.A.5	

## GRADE 5 Technology Curriculum

**8.2.B** – Building upon knowledge and skills gained in the preceding grades  
By the end of 5<sup>th</sup> grade students will:

### Design Process and Impact Assessment

INSTRUCTIONAL OBJECT	SUBJECT MATTER	STANDARDS	ACTIVITIES
Demonstrate and explain how the design process is not linear	Understand that computers multi-task.	8.2.B.1 (I)	<ul style="list-style-type: none"> <li>• Introduce students to the taskbar</li> <li>• Students will see that several projects can be opened at the same time</li> <li>• * As they print one document, they can go to another.</li> </ul>
Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.		8.2.B.2	
Identify a technological problem and use the design process to create an appropriate solution.		8.2.B.3	
Describe how variations in resources can affect solutions to a technological problem.		8.2.B.4	
Select and safely use appropriate tools and materials in analyzing, designing, modeling or making a technological product, system or environment.	Recognize what is the proper tool for the job on hand.	8.2.B.5 (I)	<ul style="list-style-type: none"> <li>• Introduce what package the student will learn.</li> <li>• Share with the class all its benefits.</li> <li>• Compare this new application against old.</li> </ul>

**GRADE 5**  
**Technology Curriculum**

**8.2.C** – Building upon knowledge and skills gained in the preceding grades  
By the end of 5<sup>th</sup> grade students will:

**System in the Designed World**

<b>INSTRUCTIONAL OBJECT</b>	<b>SUBJECT MATTER</b>	<b>STANDARDS</b>	<b>ACTIVITIES</b>
Explain technological advances in medical, agricultural, energy and power, information and communication, transportation, manufacturing and construction technologies		<b>8.2.C.1</b>	
Explain reasons why human-designed systems, products, and environments need to be monitored, maintained, and improved to ensure safety, quality, cost efficiency, and sustainability.		<b>8.2.C.2</b>	
Explain the functions and interdependence of subsystems such as waste disposal, water purification, electrical, structural, safety, climate control, and communication.		<b>8.2.C.3</b>	