Comp. Sci. 5: Introduction to Computers

Math Department
Verona Public School District

Curriculum Overview

Verona Public Schools Mission Statement:

The mission of the Verona Public Schools, the center of an engaged and supportive community, is to empower students to achieve their potential as active learners and productive citizens through rigorous curricula and meaningful, enriching experiences.

Course Description:

Introduction to Computers familiarizes students with the basic functions of the computer which are vital to becoming computer literate in the 21st century. Students will employ the basic set of rules for proper technological etiquette and digital citizenship. Additional topics will include Web 2.0 apps, typing, digital photography, and image editing.

Prerequisite(s):
None

Standard 8: Technology Standards	
8.1: Educational Technology: *All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.*	**8.2: Technology Education, Engineering, Design, and Computational Thinking - Programming:** *All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.*

A. Technology Operations and Concepts
   B. Creativity and Innovation
X C. Communication and Collaboration
X D. Digital Citizenship
   E. Research and Information Fluency
X F. Critical thinking, problem solving, and decision making
	X A. The Nature of Technology: Creativity and Innovation
	X B. Technology and Society
	   C. Design
	X D. Abilities for a Technological World
	   E. Computational Thinking: Programming

Standard 9: 21st Century Life and Careers			
9.1 Career Ready Practices: *These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness.*	**9.2: Personal Financial Literacy:** *This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.*	**9.3: Career Awareness, Exploration & Preparation:** *This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.*	**9.3: Career and Technical Education:** *This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.*

1. Act as a responsible and contributing citizen and employee.
X 2. Apply appropriate academic and technical skills.
3. Attend to personal health and financial well-being.
X 4. Communicate clearly and effectively and with reason.
5. Consider the environmental, social, and economic impact of decisions.
6. Demonstrate creativity and innovation.
7. Employ valid and reliable research strategies.
X 8. Utilize critical thinking to make sense of problems and persevere in solving them.
9. Model integrity, ethical leadership, and effective management.
10. Plan education and career paths aligned to personal goals.
X 11. Use technology to enhance productivity.
12. Work productively in teams while using cultural global competence.
	A. Income and Careers
	B. Money Management
	C. Credit and Debt Management
	D. Planning, Saving, and Investing
	E. Becoming a Critical Consumer
	F. Civic Financial Responsibility
	G. Insuring and Protecting
		A. Career Awareness (K-4)
		X B. Career Exploration (5-8)
		   C. Career Preparation (9-12)
			A. Agriculture, Food & Natural Res.
			   B. Architecture & Construction
			   C. Arts, A/V Technology & Comm.
			   D. Business Management & Admin.
			   E. Education & Training
			   F. Finance
			   G. Government & Public Admin.
			   H. Health Science
			   I. Hospital & Tourism
			   J. Human Services
			   K. Information Technology
			   L. Law, Public, Safety, Corrections & Security
			   M. Manufacturing
			   N. Marketing
			X O. Science, Technology, Engineering & Math
			   P. Transportation, Distribution & Log.

Core Instructional Materials:	Differentiated Resources:
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Curriculum Scope & Sequence

Subject/Grade Level: Comp Sci 5 Middle School   **Course: Introduction to Computers**

Overarching Essential Question: How does ICT automate and transform basic tasks in the 21st century?

Unit	Duration	New Jersey Core Curriculum Content Standards	Transfer Goal(s)	Enduring Understandings	Essential Questions
1 – Basic Computer Functions	**4 days**	8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems.	Students will be able to independently use their learning to demonstrate computer literacy by properly using hardware to access and run apps and produce digital products.	U1. Basic functions of the computer never change. U2. Inputs are cross-platform. U3. Placement of fingers on the QWERTY keyboard is a basic component. U4. Search feature will pinpoint apps, programs, documents, etc. quickly.	Q1. 1. What is the function of a computer? Q2. What does it mean to be cross-platform? Q3. What is an input? Q4. What is a gradient and where have you seen one before?
2 – Digital etiquette/citizenship	3days	8.1.8.D.1 Model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics.	Students will be able to independently use their learning to demonstrate proper digital etiquette while interacting in the class edmoto.	U1. Digital etiquette is every changing and evolves as quickly as technology itself. U2. Digital etiquette applies to every digital device and not just a computer. U3. Understand and explain why it is important to practice safe internet and computer skills at school and at home. U4. Describe appropriate communication with a computer and internet as tools. U5. Understand how to protect yourself and your computer when online.	Q1. How should people act online? Why is it different from their offline behaviors? Q2. Define Digital Etiquette in your own words

Unit	Duration	New Jersey Core Curriculum Content Standards	Transfer Goal(s)	Enduring Understandings	Essential Questions
3 – Apps	2 days	8.1.8.A.5 Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems.	Students will be able to independently use their learning to browse for, and launch apps on the web or on the desktop.	U1. The file/folder hierarchy is the same regardless of the OS. U2. Google searches have certain inputs to narrow down choices and options. U3. File name and file format are often overlooked. U4. Browsing for a file to upload to the Web is identical to browsing for one to open on a desktop.	Q1. What do a desktop app and a Web app have in common? Different? Q2. How can a file be saved differently? Q3. What is a file extension and please provide an example of one?
4 - Typing	5 days	8.1.8.A.1 Create professional documents (e.g., newsletter, personalized learning plan, business letter or flyer) using advanced features of a word processing program.	Students will be able to independently use their learning to type rapidly and efficiently in a variety of settings.	U1. Typing is a universal skill. U2. Typing correctly and accurately will save time with day-to-day activities. U3. To develop proper communication and keyboarding skills when using technology. Computers are one of the ways in which people communicate globally.	Q1. . What are the specific and proper keyboard functions? Q2. Outside of school where is typing found? Q3. What careers require typing as a skill? Q4. How do keyboarding skills help us to become more efficient when using technology?
5 – Making and working with Digital Images	8 days	8.1.8.A.3 Create a multimedia presentation including sound and images.	Students will be able to independently use their learning to create an original image through photography and digital image manipulation.	U1. Image editing software refers to a computer program that allows you to create digital images and animations. U2. Digital images are used in graphic applications, advertising, and publishing on the Web. U3. Multiple programs are often used to create digital images. U4. Various tools can get the same job done. U5. Tools are never "one size fits all" U6. Digital editing requires attention to detail. U7. Working with layers is a process of stacking images, text, and other objects.	Q1. Can you list software programs that are used to make magazines, newspapers, advertisements, and other publications? Q2. What digital editing program do you prefer? (MS Paint or Paint.net) Q3. Why is it important to make a digital image as "real" as possible? Q4. How can images be edited, repaired, or enhanced? Q5. How would you explain what layers are to someone on the street?