Subject: Information Technology/Computer Science Grade: 9-10 Unit #: 1 Title: What is IT?

11/1/2016 2:19 PM

UNIT OVERVIEW: This is an introductory unit for the Information Technology. Scholars will explore the Digital Revolution and its continued impact on the economy, society and themselves; as well as understanding that "IT" is the one of the fastest growing career field in the US.

STAGE ONE: Identify Desired Results

Established Goals/Standards

Mission/Vision Alignment

Tenacious:
- Accesses resources needed to get the job done

Thinking Purposefully
- Listens to and seeks out varying perspectives as part if decision making

Advocacy
- Speaks confidently and is willing to respectfully voice opinions

CDOS Standards (Career Development and Occupational Studies):
1, 2, 3a, and 3b

CCTC Standards (Common Career Technical Core)
Information Technology Career Cluster®
(IT) 1, 4, 5, 6, 9

CCR- ELA
*Text Types and Purposes**
2, 3
Production and Distribution of Writing
4, 5, 6

Long-Term Transfer Goal

At the end of this unit, Scholars will use what they have learned to independently…

T1 Listen and seek out various perspectives to understand that the rapid evolution of information and technology has become a driving force of social, political and economic change

T2 Analyze and access new IT technologies in order to be productive, flexible and adaptive when it comes to the use of technology and to advocate for themselves and their privacy as a citizen in a digital economy..

Meaning

Enduring Understandings
Scholars will understand that…

U1 Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data.

U2 Information or "data" underwent a revolution or change in the last century changing from analog to digital; which led to the evolution of new forms of data.

U3 Information Technology has allowed unprecedented access to all types of information over a variety of platforms.

U4 Information and the technologies used with it have become a driving force of change in all aspects of society.

Essential Questions
Scholars will consider such questions as…

- (Hook) What do we know and why do we need to know it?
- How **did** humans collect and share information?
- How **do** humans collect and share information?
- What technologies drove this change in the way we get information?
- What changes occurred in the way we access, use and send information because of this technology?
- What is the impact of Information Technology on you and your world?

	Research to Build and Present Knowledge **7, 8**	**U5** The importance of being critical consumers of information and the technologies used with it.	
		Acquisition	
		What knowledge will Scholars learn as part of this unit? *Scholars will know:* **K1** Information technology came about because of the Digital Revolution, also known as the Third Industrial Revolution. **K2** The advent of the electronic computer in the late 1950's started the change of information from analog to digital. **K3** Information must be converted into a digital format in order for technologies to be able to work with the information. **K4** That information is known in the modern world as data – hence the term "Data-Driven World". **K5** Information or data takes four forms: text, audio, video, pictures. **K6** Information Technologies are any technologies used to send, receive or store digital information. **K7** Information Technologies have changed Communication to include a much greater emphasis on connectivity, interactivity & multimedia. **K8** The Digital Revolution led to a new career field called IT and this field has several pathways, and the	*What skills will Scholars learn as part of this unit?* • Develop a working IT vocabulary. • Describe trends in emerging, evolving, and future computer technologies and their influence on mobile technology, computing tablets, cloud computing. • Initiate and participate effectively in a range of collaborative discussions (one on-one, in groups, and teacher-led) building on others' ideas and expressing their own clearly and persuasively. • Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source. • Present information, findings, and supporting evidence clearly, concisely, and logically

		exponential growth of IT means it is the fasted growing field.	

STAGE TWO: Determine Acceptable Evidence	
	Assessment Evidence
Criteria for to assess understanding: *(This is used to build the scoring tool.)* - Explanation - Mechanics - Interpretation - Application - Perspective - Self-Knowledge - Workload	Performance Task focused on Transfer: **Digital Storytelling: The Digital Revolution –"** **"** Known as the **Third Industrial Revolution**, it is the change from analog, mechanical, and electronic technology to digital technology which began anywhere from the late 1950s to the late 1970s with the computers, digital record keeping and networking to share information; that continues to grow exponentially even today. This term also used to describe the sweeping changes brought about by digital computing and communication technology during (and after) the latter half of the 20th century. However, this is a revolution few students have heard about in or outside the classroom. The project will use the tools of Windows-Movie Maker and PowerPoint. • **Goal** - combining the art of telling stories with a variety of multimedia, including graphics, audio, and video to synthesize the impact of Information Technology on the world. • **Role** – a new media designer who is responsible for leading a new Digital Storytelling initiative. You have been asked to create a digital story for the new Digital Revolution website as part of a project between the Center for Digital Story Telling and the History Channel Classroom- • **Audience** – will be presented to their classmates, and/or a panel of educators (SS, ELA), IT Professionals • **Situation** – Student will be responsible for researching and gathering background information, images, and movie clips on the Digital Revolution. After the research is complete, they must interpret these facts to write a voice over script explaining the piece of the Digital Revolution they are exploring. • **Product** - The Products will be a two-minute movie designed as a historical perspective of the topic. They will present their movie to their classmates (co-workers) and/or educators (clients) with the expectation that they will receive feedback and will then need to make any necessary changes to the final product.
	Other Assessment Evidence: - Research Packet: Gathering of Evidence for Digital Story - Shift Happens – Graded Discussion - Amazing Site Search Race- "Don't Be a Dinosaur – How to Keep up with Tech Trends in less than 5 minutes" - Binary Basics/ Annals of Analogs - Graphical Organizer – Forms of Data - Vocabulary Quiz(es)

Subject: Information Technology/Computer Science Grade: 9-10 Unit #: 1 Title: What is IT?

11/1/2016 2:19 PM

Subject: Information Technology/Computer Science Grade: 9-10 Unit #: 1 Title: What is IT?

11/1/2016 2:19 PM

T, M, A	STAGE THREE: Plan Learning Experiences	
	Learning Events:	**Evidence of learning:** *(formative assessments)*
M	1. Begin with an entry question (hook) - What do we know and why do we need to know it? To hook students into considering the vast amount of information available to them.	- Research Packet: Gathering of Evidence for Digital Story - Shift Happens – Graded Discussion - Amazing Site Search Race-"Don't be a Dinosaur" - Binary Basics/ Annals of Analogs - Graphical Organizer – Forms of Data (Pinterest Page) - Tech Trends - Vocabulary Quiz(es) - Daily check-ins & check-outs
M	2. Introduce the goals for enduring understanding and the unit performance task (Digital Storytelling – Digital Revolution).	
A	3. Key vocabulary terms will be introduced as needed for the various activities and performance tasks.	
A/M	4. Present concepts on: Digital, Analog, Information, Data, Technology, Information Technologies, Digital Revolution, and the creation of the 16th Career Cluster of Information Technology	
A	5. Discuss and model the concepts of binary and analog as the "source code" for how information is structured in order for it to be transferred using technologies.	
M	6. Students practice recognizing the two types of "source codes" for information and to then identifying what technology is needed to send and receive that same information	
M/T	7. Working in pairs, students will create a graphical organizer that can be used on Pinterest to model the four forms of digital information.	
A	**8.** Show and discuss the video "Shift Happens" – discuss the EQ: What changes occurred in the way we access, use and send information because of this technology?	
A	9. Give a quiz on the four forms of digital information, and various vocabulary terms for the unit.	
M/T	10. Students race each other to come up with a "Don't Be a Dinosaur" action plan using the Internet as a source for keeping up with new trends in IT.	
A/M	11. Students work independently to research their assigned Digital Revolution topic, gathering a minimum of four forms of information that can be used in their final assessment.	
M/T	12. Each student designs and produces a Digital Story on the topic "Digital Revolution", they then present their story and make editorial changes based on feedback.	