

Technology Q1 Assessment Study Guide – Grades 5-8

(Test week of 10/31/11)

History of Computers

COMPUTER

- Once referred to as a person who "computed" often using a tool like the abacus (+, -, X, /) or the slide rule (X, /, and other mathematical functions)
- A machine that stores and processes information and can be programmed to carry out instructions.

LOOM

- 1801; Joseph-Marie Jacquard
- 1st programmable machine used for weaving cloth
- String with punch cards that let colored threads through to form different patterns.

PUNCH CARDS - A stiff piece of paper that contains digital information. It was used for the Loom and Analytical Engine.

CONDITIONAL STATEMENTS - A feature of a programming language that lets computers select from a set of actions to perform.

ANALYTICAL ENGINE

- 1837; Charles Babbage
- Realized that punch cards can store numbers and data
- Babbage considered as a major Computer Science pioneer

Z3

- 1941; Konrad Zuse
- 1st programmable computer that wasn't affiliated with weaving or calculations

ENIAC: Electronic Numeral Integrator and Calculator

- 1845; Sponsored by the Ballistic Research Laboratory
- Performed 5,000 operations/second
- Used to help build the hydrogen bomb

MARK I

- 1944; Harvard University & IBM
- Giant calculator that could perform math equations

HAND-HELD CALCULATORS

- 1970; Made in Japan
- Built smaller and more powerful than large computers

APPLE II

- 1977; Designed by Steve Wozniak of Apple Computer
- First home computer

How's Your Memory?

RAM: Random Access Memory - The memory used for storing data and running application programs. Anything held in RAM is lost after the computer is shut off.

ROM: Read Only Memory - Also known as firmware, ROM is memory that is programmed and installed in a computer that is read but not changed. When the power is lost, any data on ROM remains.

CPU: Central Processing Unit - The area that controls the operations of the computer. It is often referred to the "brains" of the computer because it does most of the processing.

HD: Hard Drive - Storage that contains rotating platters and permanently stores data like the operating system, programs, files and folders.

Cache - A temporary storage area for data that is frequently accessed and is used by the computer to move data between the RAM and CPU.

BIOS: Basic Input/Output System - Instructions stored on a Read Only Memory chip that handles input and output functions. BIOS is the memory that boots or starts the computer and communicates with the operating system and hardware of the computer.

Virtual Memory - The use of assigned space on the hard drive that works together with the RAM to have the capability to load more programs than the RAM can support.

Flash Memory - A portable storage device that can read and write data similar to a hard drive but with no moving parts. Sometimes referred to as a memory stick or memory card.

Getting Started

Application – A computer **program** designed to perform an activity or task.

File – A collection of data or piece of information that is stored digitally in a computer or storage device.

Ex: Jobs_essay.doc

Extension – Found at the end of a filename, an extension is one or more letters followed by a period that indicate the type of information that is stored in the file or the application program that was used to create the document.

Ex: Jobs_essay.doc

Internet – Millions of computers that are connected globally to form a network where information can travel from one computer to another.

World Wide Web (www.) – A way that information is shared with other computers. The Web uses HTML (**H**yper**T**ext **M**arkup **L**anguage).

Uniform Resource Locator (URL) – The address for documents and files on the World Wide Web.

Ex: <http://www.ololschoolnj.org/index.html>

↑	↑	↑
Protocol – A type of formatting used to transmit data.	Domain name – The name of the website.	Web page name – The name of the page being viewed.

Internet Protocol Address (IP Address) – A unique identifier or name for a computer or printer that is part of a computer network using an Internet protocol to talk to each other.

Ex: 216.27.61.140

There are 4.3 billion possible combinations of IP addresses!

Web Browsers – An application that is used to locate and display pages of Internet sites.

Examples: Internet Explorer (IE), Firefox, Netscape, etc.

Search Engine – A program that searches the World Wide Web for specified keywords and returns web pages, pictures, videos, etc. found.

Examples of website names: www.google.com, Ask.com, Yahoo.com