Information Technology

St. Vincent and the Grenadines

May, 2014
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Grades 7-9 / Forms 1-3

Teachers' Guide with Syllabus

Acknowledgements

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Introduction

Teachers are encouraged to incorporate a wide range of activities in teaching and learning order for students to learn the essential skills such as critical thinking, problem solving, communication and collaboration that are necessary contribution to success in today's world

We suggest teachers use lots of pictures, videos, field trips and real examples of objects where possible to enhance the teaching/learning environment and process.

Teachers can also engage students in creating different types of projects presented electronically (like PowerPoint presentations) and in hardcopy (printed projects).

Teachers should blend a mixture of individual, small group, whole class; activities and assignments.

Teachers can help to develop responsible use of information acquired by students during their research by having students include simple lists of their sources of information. This helps students to understand the importance of valuing the thoughts and ideas of others.

The aims of Information and Communication Technology at lower secondary are to:

The aim of this guide is to facilitate students to acquire not only content but become ICT responsible and accountable learners. Students will also develop their skills in cooperation which is quite important for their future work environment.

- To develop an awareness of the nature and importance of IT in a rapidly changing world.

- It enables students to acquire the relevant knowledge and skills and a better understanding of IT.

- Create a standardised IT level across all secondary schools

- Students become competent and confident users of IT which they use for various purposes, such as to produce reports, perform mathematical calculations, modelling, and to work on computer based projects

- Promote active rather than passive learning

- Increase motivation through the use of multimedia(sound, video, graphics, animations and text

Students should be able to:

- Demonstrate an understanding of health and safety issues in the use of computers.

- Show confidence and competence in the handling of the computer and the use of computer applications.

- Access, select, interpret and evaluate information for suitability, correctness, and currency.

- Communicate with others, using computer mediated commutation.

- Produce multimedia-based reports.

- Perform mathematical calculations and modelling using the computer.

- Effectively present their work, using appropriate computer applications

Recommended Timetable Guidelines:

Each class should have at least he following required number of **WEEKLY** periods:

Forms:	Number of periods:
1	2 periods (1 lab)
2	2 periods (1 lab)
3	3 periods (2 lab, preferably a double)

Requirement:

- All students **MUST HAVE** a flash drive. This should be a booklist requirement from Form 1.

- All Schools **MUST** offer Information Technology from Form 1-5

Transition Period

As it is noted that our school system is getting better at educating all students, many young people still lack the skills and knowledge they need to be successful. This is not because society demands a higher level and different set of skills than schools were ever designed to teach. The challenge for educators is not to dismiss or keep up with students' latest technological know-how, but to create meaningful learning experiences in which students are taught how to apply their knowledge to solve real-world problems. In reaching out to students who are so intertwined with the latest technology, this Guide once properly delivered serves as a technology bridge for smooth transition crossing from the Lower School (Forms 1, II & III) to the Upper School (Form 4-5). It will help prepare the young people for a lifelong learning that requires the use of technological skills, knowledge and competencies.

A brief outline of some skills that students should develop through this teaching guide:

Learning and innovation skills increasingly are being recognized as those that separate students who are prepared for a more and more complex life and work environments in the 21st century, and those who are not. A focus on creativity, critical thinking, communication and collaboration is essential to prepare students for the future.

CREATIVITY AND INNOVATION

Think Creatively

- Use a wide range of idea creation techniques (such as brainstorming)

- Create new and worthwhile ideas (both incremental and radical concepts)

- Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize efforts

Work Creatively with Others

- Develop, implement and communicate new ideas to others effectively

- Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work

- Demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas

- View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

Implement Innovations

- Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur

CRITICAL THINKING AND PROBLEM SOLVING

Reason Effectively

- Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

Use Systems Thinking

- Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems

Make Judgments and Decisions

- Effectively analyze and evaluate evidence, arguments, claims and beliefs

- Analyze and evaluate major alternative points of view

- Synthesize and make connections between information and arguments

- Interpret information and draw conclusions based on the best analysis

- Reflect critically on learning experiences and processes

Solve Problems

- Solve different kinds of non-familiar problems in both conventional and innovative ways

- Identify and ask significant questions that clarify various points of view and lead to better solutions

COMMUNICATION AND COLLABORATION

Communicate Clearly

- Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts

- Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions

- Use communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)

- Utilize multiple media and technologies, and know how to judge their effectiveness as priorities as well as assess their impact

- Communicate effectively in diverse environments (including multi-lingual)

Collaborate with Others

- Demonstrate ability to work effectively and respectfully with diverse teams

- Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

- Assume shared responsibility for collaborative work, and value the individual contributions made by each team member

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

People in the 21st century live in a technology and media-suffused environment, marked by various characteristics, including:

1) Access to an abundance of information,

2) Rapid changes in technology tools, and

3) The ability to collaborate and make individual contributions on an unprecedented scale.

To be effective in the 21st century, citizens and workers must be able to exhibit a range of functional and critical thinking skills related to information, media and technology.

INFORMATION LITERACY

Access and Evaluate Information

- Access information efficiently (time) and effectively (sources)

- Evaluate information critically and competently

Use and Manage Information

- Use information accurately and creatively for the issue or problem at hand

- Manage the flow of information from a wide variety of sources

- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

MEDIA LITERACY

Analyze Media

- Understand both how and why media messages are constructed, and for what purposes.

- Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors

- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media

Create Media Products

- Understand and utilize the most appropriate media creation tools, characteristics and conventions

- Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments

ICT (Information, Communications and Technology) LITERACY

Apply Technology Effectively

- Use technology as a tool to research, organize, evaluate and communicate information

- Use digital technologies (computers, PDAs, media players, GPS, etc.),

- communication/networking tools and social networks appropriately to access,manage, integrate, evaluate and create information to successfully function in a knowledge economy

- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

Life and career skills

Today's life and work environments require far more than thinking skills and content knowledge. The ability to navigate the complex life and work environments in the globally competitive information age requires students to pay rigorous attention to developing adequate life and career skills.

FLEXIBILITY AND ADAPTABILITY

Adapt to Change

- Adapt to varied roles, jobs responsibilities, schedules and contexts

- Work effectively in a climate of ambiguity and changing priorities

Be Flexible

- Incorporate feedback effectively

- Deal positively with praise, setbacks and criticism

- Understand, negotiate and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments

INITIATIVE AND SELF-DIRECTION

Manage Goals and Time

- Set goals with tangible and intangible success criteria

- Balance tactical (short-term) and strategic (long-term) goals

- Utilize time and manage workload efficiently

Work Independently

- Monitor, define, prioritize and complete tasks without direct oversight

Be Self-directed Learners

- Go beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise

- Demonstrate initiative to advance skill levels towards a professional level

- Demonstrate commitment to learning as a lifelong process

- Reflect critically on past experiences in order to inform future progress

SOCIAL AND CROSS-CULTURAL SKILLS

Interact Effectively with Others

• Know when it is appropriate to listen and when to speak

• Conduct themselves in a respectable, professional manner

Work Effectively in Diverse Teams

• Respect cultural differences and work effectively with people from a range of social and cultural backgrounds

• Respond open-mindedly to different ideas and values

• Leverage social and cultural differences to create new ideas and increase both innovation and quality of work

PRODUCTIVITY AND ACCOUNTABILITY

Manage Projects

• Set and meet goals, even in the face of obstacles and competing pressures

• Prioritize, plan and manage work to achieve the intended result

Produce Results

• Demonstrate additional attributes associated with producing high qualityproducts including the abilities to:

- Work positively and ethically

- Manage time and projects effectively

- Multi-task

- Participate actively, as well as be reliable and punctual

- Present oneself professionally and with proper etiquette

- Collaborate and cooperate effectively with teams

- Respect and appreciate team diversity

- Be accountable for results

LEADERSHIP AND RESPONSIBILITY

Guide and Lead Others

- Use interpersonal and problem-solving skills to influence and guide others toward a goal

- Leverage strengths of others to accomplish a common goal

- Inspire others to reach their very best via example and selflessness

- Demonstrate integrity and ethical behavior in using influence and power

Be Responsible to Others

- Act responsibly with the interests of the larger community in mind"

P21 Framework Definitions

Publication date: 12/09

Evaluation and Rubrics

Evaluation of students -Here are some questions to think about.

1. How will you assess what students have learned in each area?

2. How will you know when students have the information they need to move on to the next topic?

3. How will you assess the integration of knowledge gained from each topic in the different areas?

In evaluating students, the assignments and activities you provide the students with can be used to demonstrate the students' mastery of the content.

One method to do this is by using a rubric as the evaluation tool. A rubric is an appropriate method to use to assess students and if learning outcomes involve synthesizing information, learning of new techniques or methods, analyzing problems, writing papers, or giving oral presentations.

What to look for when developing a rubric:

1. Identify a set of criteria for each assignment.

2. Prepare a checklist, a set of questions, or some other method of determining how well each criterion has been met.

3. Develop a scale that indicates excellent, good, satisfactory, and poor performance based on your rubric.

In many cases, more than one rubric is needed for evaluation. A rubric can be used for content, evaluating presentation and writing. Group work will also require a separate rubric.

How to develop a rubric

(Source: Jill L. Lane Schreyer Institute for Teaching Excellence, Penn State, 301 Rider Building University Park, PA 16802 www.schreyerinstitute.psu.edu revised 7-17-2007)

The steps that follow are provided as a guide for you to use to develop rubrics.

Step One:

Revisit the Assignment Learning Outcomes

- What should students know or be able to do base on the outcomes?

Determine the Areas You Want to Assess

- What are the key areas that you want to 'grade' as part of the assignment?

Step Two: *Establish Standards for Each Performance Area*

- What do the different levels of performance look like within each category of assessment?

• To get started, think of the highest and lowest levels of performance in each category.

• Once the highs and lows are completed, add the middle-range(s).

- Try to avoid relying on comparative language when distinguishing among performance levels.

• For example, do not define the highest level of performance as *thorough and accurate* and the middle level of performance as *less thorough and less accurate*.

• Find qualities and descriptors that are unique to each performance standard.

Step Three: *Develop a Scoring Scale*

- How many score levels do you want to use?

• Score levels should be based on the performance standards that you set up in step two and your grading philosophy for the assignment.

• Clearly define the difference between the score levels.

- The scoring scale should be consistent across all key components when using an analytic rubric.

• For example, a score of 4 for one area should be comparable to a score of 4 in another area. If this is not the case then, you should use a weighted rubric.

Step Four: *Adjust the Rubric as Needed*

• After each use of the rubric, evaluate whether it needs adjustment in the key components, standards for performance, or the scoring scale.

• Your students can be involved in all stages of the rubric development process to promote further involvement in assessment.

FORM 1 (Grade 7)

TERM I

1. Introduction to the IT lab environment, rules and safety

2. Define the term computer and explain the uses

3. Define the term *Information Technology*

4. Discuss key points in the evolution of the computer industry

5. List the types and categories of Computers and distinguish between them

6. List the advantages and disadvantages of the computer

7. Demonstrate the four (4) basic operations of the computer: Input, Process, Storage, Output (With the use of diagram)

8. Explain the types of booting – Distinguish between cold booting and warm booting

9. Identify the characteristics of the Central Processing Unit (CPU)

   a. Speed

   b. Functions of the control unit and the ALU (Arithmetic Logic Unit)

   c. Types and function of main memory (RAM and ROM)

   d. Distinguish between RAM and ROM (Characteristics and functions)

   e. Distinguish between hardware and software, data and information

10. List and explain the different functions of the mouse (Use desktop)

11. Distinguish between input and output devices

12. Define peripheral devices

13. List examples and uses of peripheral devices (keyboard, mouse, touchscreen, pen tablet, joystick, scanner, digital camera, microphone, monitor ,projector, TV screen, printer, plotter and speakers)

14. Name the types of Input devices (Pointing devices, reading devices)

15. State the types of output devices (Display Units, Printers, Plotters, Audio output, Microfilm)

16. ~~CRT vs LCD~~

17. Describe the different types of display devices (VDT, CRT, VDU, LED, LCD)

18. Factors affecting monitor clarity (Pixel, size, resolution)

19. Identify the functions of the keyboard/ Introduction to Beginners keyboarding (Mavis Beacon, any other typing software, typing text)

20. Demonstrate skills using the correct typing guidelines (home row keys) with not more than ten (10) errors, example: Type short document within a specified time)

21. ~~Explain the role of a Secretary~~

NB: Research, Projects, and Portfolios to reinforce concepts covered

TERM II

1. Define Software

2. Name two categories of software: System software and application software

   a. Introduction to Operating Systems with special emphasis on Windows OS

   b. Identify the types of application software

3. ~~Explain~~ Describe the Windows Environment (User Interface/desktop)

4. Introduction to Windows menu system

5. Demonstrate mastery skills in: Open, close, minimize and maximize program windows

6. Create folders in specific locations, save document (using save and save as) and open files

7. Complete file actions (copy, paste, delete, move, rename)

8. Define a Word Processor and states its advantages

9. Identify basic features available on most Word Processors

10. Create a standard document with no more than 2 paragraphs containing 5 lines each.

11. Manipulate formatting features for a Word Processor (Margins, Spacing etc)

12. Demonstrate skills how to use print preview and printing steps using the printing option features

13. Demonstrate Intermediate keyboarding skills using typing software – (Mavis Beacon, any other typing software, typing text)

14. ~~Explain the role of a data entry clerk~~

NB: Research, Projects, and Portfolios to reinforce concepts covered
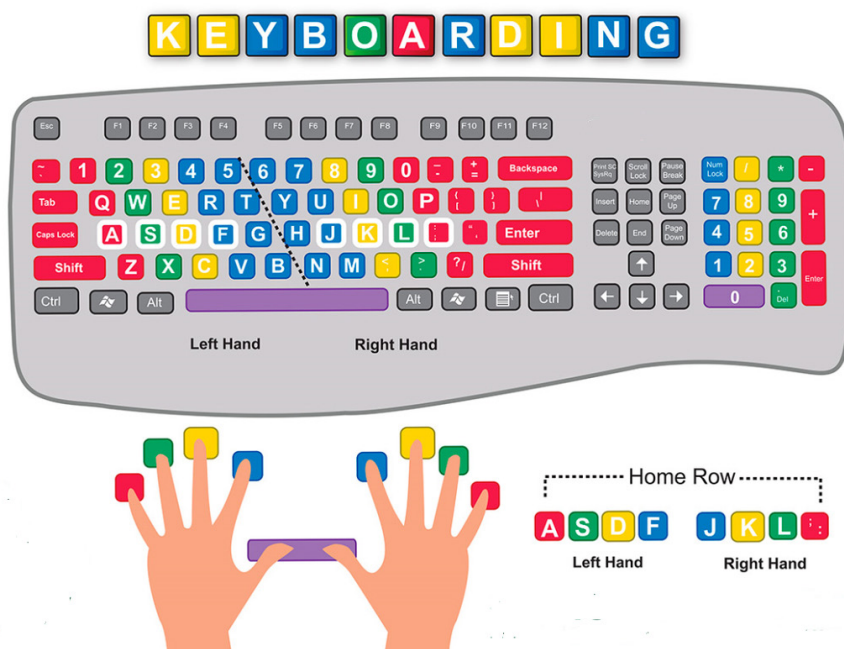
TERM III

1. ~~Define peripheral devices~~

2. ~~List examples and uses of peripheral devices (keyboard, mouse, touchscreen, pen tablet, joystick, scanner, digital camera, microphone, monitor ,projector, TV screen, printer, plotter and speakers)~~

3. List and categorize the different types of Printers (Impact and Non-Impact with appropriate examples)

4. Differentiate between inkjet, ~~line printer,~~ 3D , dot-matric, thermal and laser printers

5. Explain the Plotter

Presentation Software

a. Demonstrate the uses of presentation software (PowerPoint,Prezie etc)

b. Start a presentation using the four options

c. Create a basic PowerPoint

  i. Navigate through the different views

  ii. Explain and use a place holder

  iii. Correctly add a new slide

  iv. Change the slide layout

d. Work with the design template

e. Move slides to change their sequence

f. Add sound, video clips, photos and graphics to a presentation

g. Correctly add notes/comments to slides

h. Produce an effective presentation

i. Use the Slide Master feature

j. Add a transition

k. Animate the presentation

l. Add sound to animations by

  i. Add sound files to presentations

  ii. Attach sound files to objects

  iii. Add music from CDs and other sources

m. Demonstrate how to use the print preview and explain printing steps

n. Describe how presentation software is used by:

   (i) Designer (ii) Publisher (iii) Reporter

NB: Research, Projects, and Portfolios to reinforce concepts covered

FORM 2 (Grade 8)

TERM I

1. Identify and Describe the system unit (CPU, memory, motherboard, power supply, hard drive)

2. Specifications of a computer system (type, speed, cost, screen size, portability, storage capacity, drives and screen resolution)

3. Define input devices and media/characteristics and uses

4. Define output devices and media/ characteristics and uses

5. Define terms relate to computer storage:

   a. Bit

   b. Byte

   c. Word

   d. Character

   e. Kilobyte

   f. Megabyte

   g. Gigabyte(needed to be able to describe speed and memory of computer above)

   h. Terabyte

6. Define the terms:

   (a) Primary and secondary storage

   (b) Distinguish between primary and secondary storage devices

7. Explain the types, function and uses of Primary Storage devices and media (ram, rom)

8. History of Secondary Storage Devices and Media

9. State the characteristics of secondary storage media (portability, capacity, cost and speed)

10. Identify the types of Secondary Storage Devices and Media

11. Explain the function and uses of Secondary Storage devices and media such as:

    a. CD, CD-R, CD-RW, CD-ROM and DVD

    b. USB Flash Memory drives, USB flash memory cards

12. Discuss the role of a computer technician

NB: Research, Projects, and Portfolios to reinforce concepts covered

TERM II

1. Effectively use proofing functions in preparing a document:

   • Use of search and find function, redo and undo, spelling and grammar checks, copy, cut and paste functions.

   • Correctly insert headers, footers, endnotes and footnotes

2. Commonly used shortcut keys to use in documents

3. Change page setup, margins and paper size

4. Change font style, font color and font size

5. View documents in different formats

6. Insert and display comments within a document

7. Insert and format page breaks, text boxes, auto shapes and auto text

8. Create a new document

9. Insert tables in a document

10. Explain and use correctly the different alignment of document (left, right, centre, justify)

11. Create and locate bookmarks

12. Insert tables into a word document

13. Inserting symbols, equations and special characters

14. Create newspapers columns/ Newsletters

15. ~~Explain the duties of an Editor~~

NB: Research, Projects, and Portfolios to reinforce concepts covered

TERM III

1. Introduction to Excel

2. Define a spread sheet, cell, cell address, active cell, cell references, labels, values, cell range, title locking, an argument

3. Enter and format data

4. Add formulae to a worksheet,

5. Write formulae /functions

6. Perform basic functions – average, sum, min, max, date

7. Create tables and charts

8. Use AutoFill and AutoComplete

9. Manage and sort data

10. Insert, delete and rename worksheets

11. Demonstrate skills to format numbers in a spread sheet, align data(wrap text, shrink to fit, merge cells)

12. Create and insert charts into a spreadsheet, modify

13. Quickly exchange information between worksheets and workbooks

14. Print a spreadsheet using gridlines, draft quality, normal quality and best quality

15. Correctly import files into a spreadsheet,

16. ~~Explain the role and responsibilities of a payroll officer/clerk~~

NB: Research, Projects, and Portfolios to reinforce concepts covered

FORM 3 (Grade 9)

TERM I

1. Distinguish between human and machine readable data

2. ~~Define, Identify and describe Operating Systems and their functions~~

3. Define Utility software

4. List and define Translators(part of system software)

5. Define file, file name, file extension, folder, drive, path user backup, write protect

6. Identify and describe the types of User Interface

   a. Command driven/Command Line interface

   b. Menu driven interface

   c. Graphical user interface (GUI)

7. List the file management systems - MS Windows Explorer

8. Explain how is data stored (Binary Conversions and addition)

   a. Compare binary numbers and decimal system

   b. Convert binary numbers to decimal

   c. Convert decimal to binary numbers

   d. Perform binary addition

   e. Subtract in binary

9. Differentiate between American Standard Code for Information Interchange (ASCII) and Extended Binary Code Decimal Interchange Code (EDCDI)

10. Introduction to webpage design (Wix, Weebly, Wordpress,Googles Sites)

NB: Research, Projects, and Portfolios to reinforce concepts covered

TERM II

1. Define and demonstrate skills using intermediate features of MS Word (Formatting and Editing Features)/Mail Merge

2. Define Data Communication and methods of data communication

3. Use terms correctly/appropriately associated with data communications

   a. Wired communication channels and wireless communication channels

   b. Bandwidth

   c. Define the computer network (network sizes-LAN, MAN and WAN)

   d. Outline the advantages and disadvantages of networking computers

   e. Explain peer-to-peer and domain with emphasis on security

   f. Explain wireless technology network-Wi-Fi and Bluetooth

4. Describe terms Internet, Intranet and Extranet, modem

5. Explain concepts associated with the Internet

   a. TCP/IP

   b. WWW

   c. HTTP

   d. URL

   e. HTML

   f. VoIP

   g. Search Engine

   h. Spider

   i. Hotspot

   j. Virus

6. Describe the services available on the internet

   a. Instant messaging

   b. E-mail (advantages/disadvantages and features of email)

   c. Social Networking (Cyber bullying and Cyber Etiquette)

7. Describe measures to secure data and maintain data integrity

8. Distinguish between a computer virus, Trojan horse and a worm

9. Explain the ~~Future~~ Cloud computing (Google drive)

10. Outline ways by which information can be misused

NB: Research, Projects, and Portfolios to reinforce concepts covered

TERM III

1. Describe appropriate hardware and software to meet the particular needs of a given application

2. Describe current and emerging technology trends

3. Introduction to problem solving for programming

4. Define Programing Concepts such as:

   a. Pascal compiler

   b. Pseudo code

   c. Algorithm

   d. Integers

   e. Character

   f. Variables

   g. Program

   h. Flowchart

   i. Input

   j. Processing

   k. Output

   l. Strings

   m. Errors

   n. Array

5. Describe the roles of various personnel in computer-related professions

NB: Research, Projects, and Portfolios to reinforce concepts covered

21st CENTURY SUPPORTS SYSTEM

The elements described below are the critical systems necessary to ensure student mastery of 21st century skills. 21st century standards, assessments, curriculum, instruction, professional development and learning environments must be aligned to produce a support system that produces 21st century outcomes for today's students.

21st Century Standards

- Focus on 21st century skills, content knowledge and expertise

- Build understanding across and among core subjects as well as 21st century interdisciplinary themes

- Emphasize deep understanding rather than shallow knowledge

- Engage students with the real world data, tools and experts they will encounter in college, on the job, and in life; students learn best when actively engaged in solving meaningful problems

- Allow for multiple measures of mastery

Assessment of 21st Century Skills

- Supports a balance of assessments, including high-quality standardized testing along with effective formative and summative classroom assessments

- Emphasizes useful feedback on student performance that is embedded into everyday learning

- Requires a balance of technology-enhanced, formative and summative assessments that measure student mastery of 21st century skills

- Enables development of portfolios of student work that demonstrate mastery of 21st century skills to educators and prospective employers

- Enables a balanced portfolio of measures to assess the educational system's effectiveness in reaching high levels of student competency in 21st century skills

21st Century Curriculum and Instruction

- Teaches 21st century skills discretely in the context of core subjects and 21st century interdisciplinary themes

- Focuses on providing opportunities for applying 21st century skills across content areas and for a competency-based approach to learning

- Enables innovative learning methods that integrate the use of supportive technologies, inquiry- and problem-based approaches and higher order thinking skills

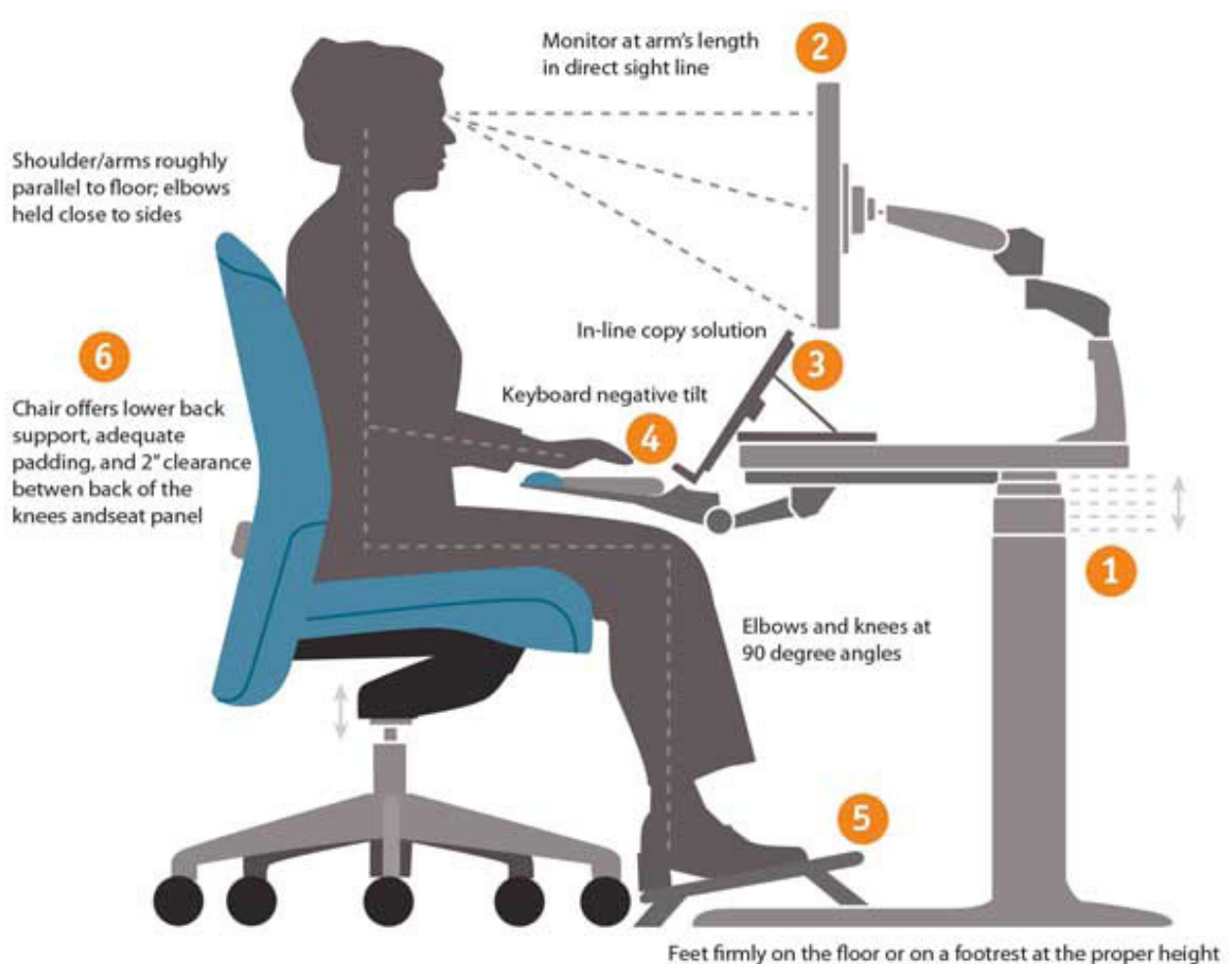- Encourages the integration of community resources beyond school walls

Ergonomics

Ergonomics is a field of study that attempts to reduce strain, fatigue, and injuries by improving product design and workspace arrangement. The goal is a comfortable, relaxed posture.

Why computer ergonomics? Many people spend hours a day in front of a computer without thinking about the impact on their bodies. They physically stress their bodies daily without realizing it by extending their wrists, slouching, sitting without foot support and straining to look at poorly placed monitors.

These practices can lead to cumulative trauma disorders or repetitive stress injuries, which create a life-long impact on health. Symptoms may include pain, muscle fatigue, loss of sensation, tingling and reduced performance.

Monitor at arm's length in direct sight line **2**

Shoulder/arms roughly parallel to floor; elbows held close to sides

In-line copy solution

3

Keyboard negative tilt

6

4

Chair offers lower back support, adequate padding, and 2" clearance betwen back of the knees andseat panel

1

Elbows and knees at 90 degree angles

5

Feet firmly on the floor or on a footrest at the proper height

List of rules for the computer laboratory

WORKSTATION RULES:

Each user is responsible for their station. You are therefore reminded to **carry out** the following tasks **before leaving your station**:

1. **Save** your work in the appropriate location (given by you teacher).

2. **Close** all your open windows.

3. **Log off** your user account.

4. **Return** your **mouse** to the tower.

5. **Push in** your chairs.

6. **The last class** to leave the lab at the end of the day must **correctly shut-down** the computers.

You are also reminded that you are not allowed to:

❌ Eat or drink in the computer laboratory, this includes chewing of gum or candy.

❌ Change any of the desktop themes or screen savers.

❌ Download any music, videos or software without teacher's permission.

❌ Play any computer games during practical sessions.

❌ Use the internet without teacher's permission.

❌ Use any storage devices without teacher's permission and using proper scanning procedures.

❌ Check your own personal mail, chat online with friends or play games while on internet assignments.

❌ Change your station without teacher's permission.

❌ Switch or remove any of the hardware from your station (including the chair) without teacher's permission.

Please note that the **regulations stipulated apply to every subject session** in the computer laboratory.

REWARDS: Compliments, Exploratory time, stickers, pencils

CONSEQUENCES: Students found breaking any of these regulations will be **dealt with accordingly** (Individual school)

Thanking you for your co-operation in helping us to maintain quality control in our computer laboratory.

(Adopted from the Computer laboratory rules Ministry of Education, St Vincent and the Grenadines, 2004 and modified by the Dr. J.P. Eustace Secondary School 2010, further modified by the Ministry of Education, St Vincent and the Grenadines, 2013)

A Glossary of Computer Terms

A

[access]
The reading or writing of data; as a verb, to gain entry to data. Most commonly used in connection with information access, via a user ID, and qualified by an indication as to the kinds of access that are permitted. For example, read-only access means that the contents of the file may be read but not altered or erased.

[access time]
The time interval between the instant that data is requested and the instant that it is received

[account]
Your subscription to a networked computer system

[account name]
Same as your login ID or user ID. The word you type at the "Login:" prompt; your electronic name.

[address]
A character or group of characters that identify a register, a location or some other data source or destination

[algorithm]
A set of rules for solving a problem in a given number of steps

[analog]
A method of storing information, used by most audiotapes, videotapes and laserdiscs (and all LP phonograph records, remember those?). An analog device uses a physical quantity, such as length or voltage, to represent the value of a number. By contrast, digital storage relies on a coding system of numeric units.

[Application Layer]
Layer seven of the OSI reference model. It serves as a means by which applications access communications services.

[application]
The use to which a data processing system is put within a given discipline, such as a payroll application, an airline reservation application or a network application

[application program]

A program that is written for or by a user that applies to the users' discipline

[application software]

A group of programs designed to perform tasks that can be tailored to a user's specific needs

[argument]

A value supplied to a procedure, macro, subroutine, or command that is required in order to evaluate that procedure, macro, subroutine, or command. Synonymous with parameter

[ASCII]

American Standard Code for Information Interchange (pronounced ask-ee). The form in which text characters are handled in most computer systems and networks. ASCII text has no special characters for formatting such as underlined or bold characters, font changes, etc., thus can be viewed on any personal computer or terminal.

[assembler]

A program that converts symbolically-coded programs into object level, machine code. In an assembler program, unlike a compiler, there is a one-to-one correspondence between human-readable instructions and the machine-language code.

B

[Backbone]

Refers to a piece of cable used to connect different floors or departments together into a network. Also generalized to a network that connects networks together.

[background processing]

Users may use a terminal for one project and concurrently submit a job that is placed in a background queue that the computer will run as resources become available. Also refers to any processing in which a job runs without being connected to a terminal.

[backspace]

A keyboard operation that moves the cursor one place to the left. A destructive backspace erases characters as it goes, thus allowing users to modify what has been typed (distinguished from the left- arrow key).

[backup]

A resource that is or can be used as a substitute when a primary resource fails or when a file has been corrupted to save as in to make a copy in case of future failure or corruption.

[bandwidth]

A piece of the spectrum occupied by some form of signal, where it is television, voice, fax data, etc. Signals require a certain size and location of bandwidth in order to be transmitted. The higher the bandwidth, the faster the signal transmission, and thus allowing for a more complex signal such as audio or video. Because bandwidth is a limited space, when one user is occupying it, others must wait their turn. Bombarding the Internet with unnecessary information is referred to as "taking up bandwidth."

[baseband]

A network medium that uses only one carrier frequency. Examples are Ethernet and PhoneNet.

[batch processing]

Originally, a method of organizing work for a computer system, designed to reduce overhead by grouping similar jobs. In one scheme, jobs were collected into batches, each requiring a particular compiler. The compiler was loaded, and the jobs submitted in sequence to the compiler. The term has come to be applied to background processing of jobs not requiring user intervention on multiuser systems. See compiler.

[batch query]

A query that has been saved so that it can be used more than once and run in the background.

[binary]

A file containing one or more strings of data bits which are not printable characters. Some binary files may be computer programs or other forms of data that contain no text characters at all. Binary files cannot be displayed on screen, but can be downloaded for use with appropriate applications on your computer. Binary (base 2) is also the building block of computer information, representing "on" or "off" and "true" or "not true" as 1 or 0.

[binary number]

A number written using binary notation which only uses zeros and ones. Example: decimal number seven in binary notation is: 111.

[bit]

A binary digit, either a 0 or 1. In the U. S , 8 bits make up one byte; in Europe, byte equals one word.

[bits per second (bps)]

The speed at which bits are transmitted.

[block]
A sequence of words or characters written contiguously, such as into a group, by a computer and stored on a disk, diskette, magnetic tape, etc.

[bold]
A way of emphasizing a word of text, as in darker type or brighter characters on a video display terminal.

[booting]
Turning on your computer.

[bridge]
A device that connects two networks and passes traffic between them based only on the node address, so that traffic between nodes on one network does not appear on the other network. For example, an Ethernet bridge only looks at the Ethernet address.

[broadband]
A communications medium on which multiple signals are simultaneously transmitted at different frequencies. Also refers to switching capability implemented on this medium that allows communication between devices connected to it. In telecommunications it is defined as any channel with a bandwidth greater than voice grade (4 KHz).

[broadcast]
A single message addressed to all nodes on a network.

[browser]
A software tool used to read electronic documents. Mosaic, NetScape and Lynx are the most popular browsers.

[buffer]
A temporary memory for data, normally used to accommodate the difference in the rate at which two devices can handle data during a transfer.

[bug]
An error, can be a hardware malfunction or a software programming error.

[BUS topology]
Network wiring commonly used by Ethernet in which all nodes on the network see all packets.

[byte]

A group of adjacent binary digits, usually 8, on which a computer operates as a unit; often used to represent a single character. (See bit.)

C

[cable]

A set of wires connecting pieces of computer hardware.

[CD-ROM]

Compact Disk - Read Only Memory. Optical (CD) disks that are mastered and then can only be read; i.e., the data cannot be manipulated, removed, etc.

[channel]

Any medium by which information can be transmitted. For example, the air is a channel for our voices just as much as a fiber optic line can be data for a video signal.

[character]

Any symbol (usually alphabetic, numeric, or punctuation) that can be entered into your computer.

[character set]

A set of characters handled by a specified machine; sets include alphabetic characters, numbers, symbols, graphics characters, a space character and control characters. Graphics characters denote a printed mark; control characters produce some particular effect. Two of the most widely used sets are ASCII and EBCDIC.

[chip]

A tiny piece of semi-conductive material, usually based on silicon, used in the manufacture of electronic components.

[code]

n. A language for expressing operations to be performed by a computer.
v. To write in such a language.

[column]

A vertical arrangement of characters or other expressions.

[command]

A request, typed from a terminal or embedded in a file, to perform an operation or to execute a particular program.

[communications line]

A physical medium (wire, microwave beam) used to transmit data.

[communications program]

A program that makes a computer act as a terminal to another computer. Communications programs usually provide for file transfer between microcomputers and mainframes.

[compiler]

A program that translates human-readable programs into a form the computer understands. The input (source code) to the compiler is a description of an algorithm in a problem- oriented language; its output (object code) is an equivalent description of the algorithm in a machine-oriented language.

[computer]

A device or system that is capable of carrying out a sequence of operations in a distinctly and explicitly defined manner. The operations are frequently numeric computations or data manipulations, but also include data input and output. The ability to branch within sequences is its key feature.

[configuration]

The particular hardware elements and their interaction in a computer system for a particular period of operation.

[connect time]

Time that elapses while the user of a terminal is connected to a time-sharing system; it is measured by the duration between logon and logoff.

[control character]

One of 32 characters of the ASCII character set that defines a control function for a character entry and display device such as a terminal. Examples are carriage return, tab, form feed and bell.

[control key]

A special function key on a computer keyboard, frequently used in combination with alphabetic keys, to enter commands.

[copy]

A function that reads data from a source, leaving the source data unchanged and writes it elsewhere. One example would be to copy a deck of punched cards onto magnetic tape.

[CPU]
Central Processing Unit. The main internal component of a computer where executions of instructions are carried out and calculations are performed.

[CRT]
Stands for "Cathode Ray Tube." CRT is the technology used in traditional computer monitors and televisions. The image on a CRT display is created by firing electrons from the back of the tube to phosphors located towards the front of the display. Once the electrons hit the phosphors, they light up and are projected on the screen. The color you see on the screen is produced by a blend of red, blue, and green light, often referred to as RGB.

[crash]
A computer system is said to crash when it stops working for some reason and must be restarted.

[cursor]
A symbol on a display screen that indicates the position at which the next character entered will be displayed. The symbol often blinks so that it can be easily noticed.

[cursor control]
The keyboard keys used to position the cursor on a display screen. They are usually keys labeled with arrows indicating the direction of movement.

[Cyberspace]
The nebulous "place" where humans interact over computer networks (the Internet is considered Cyberspace). Coined by William Gibson in Neuromancer.

D

[Data]
Information suitable for communication, interpretation or processing by a computer.

[data communications]
The collection and redistribution of data through communications channels, often including operations such as coding, decoding and validation.

[data entry]
The entry of data into a computer or onto a computer-readable medium by an operator from a single data device, such as a card reader or keyboard.

[data processing]

The systematic performance of operations upon data, for example, handling, merging, sorting and computing.

[database]

A collection of interrelated data values that may be integrated permanently into a single connected structure or integrated temporarily for each interrogation, known as a query. In its most technical sense, database implies that any of the data may be used as a key for specific queries. In more common usage it means any accessible collection of information and that only a limited set of data values may be used to specify queries.

[database management system]

A systematic approach to storing, updating, securing and retrieving information stored as data items, usually in the form of records in one or more files.

[debug]

To detect, trace and eliminate errors in computer programs.

[default]

A software function or operation which occurs automatically unless the user specifies something else.

[delete key]

Personal computers normally allow deletion of typing mistakes by either the backspace key or the Del key. Users must either specify which of these keys they wish to use, or set their communication software to match whichever key the network expects.

[DHCP]

Dynamic Host Configuration Protocol. Supports booting workstations and other devices that need information from outside before they can complete the booting process, such as an IP number or name of program file to download.

[dial-up]

To connect to a computer by calling it on the telephone.

[digital]

Used in computers to describe information that can be represented by a collection of bits.

[direct access]

The ability to read or write data directly from or to any location on a storage device without having to refer to data that was previously written. Files written with direct access do not have to be read sequentially starting at the beginning.

[directory]

A logical container of files and other directories; synonymous with folder.Typically implemented as a file that contains pointers (directions) to files or other directories.

[disk or diskette]

A small, flat, either rigid or floppy magnetic disk for storing data permanently.Magnetic medium for data storage. Either "floppy" diskettes (720K to 1.4 megabytes), or "hard" disks (usually 20 megabytes or more).

[display]

A device that enables information, either textual or pictorial, to be seen but not permanently recorded. The most widely used kind is the cathode-ray tube.

[distributed file system]

Allows files on remote nodes of a network to appear locally connected.

[document]

A medium and the data recorded on it for human use; for example, a report sheet or book. By extension, any record that has permanence and that can be read by human or machine.

[DOS]

Disk Operating System. A Microsoft program that controls a computers transfer of data to and from a hard or floppy disk. DOS generally refers to the operating systems for the IBM PCs and their clones. Also the name of an old operating system on IBM mainframes.

[dot-matrix printer]

A printer that creates each character from an array of dots. The dots are formed by pins striking a ribbon against the paper, one pin for each dot position. The printer may be a serial printer (printing one character at a time) or a line printer.

[down]

A computer is down when it is not running. It may be shut down for maintenance, hardware failure, or failure of the operating system or user program.

[download]

The transfer of information from a remote computer system to the userssystem.Opposite of upload.

[downtime]

The time interval during which equipment is nonfunctional.

[drag and drop]

A protocol supported by OPEN LOOK and Macintosh System 7 that allows a user to specify the input file to an application by dragging the icon representing the file onto the applications icon and dropping it there. OPEN LOOK also recognizes dragging the icon into the applications input panel. For example, dragging a files icon into the print tool application causes it to be printed.

[drive]

A generic term used to identify the equipment that serves as a player or recorder for a storage medium.

[DVD]

Stands for "Digital Versatile Disc." A DVD is a high-capacity optical disc that looks like a CD, but can store much more information.

E

[EEPROM]

Electrically Erasable Programmable Read-Only Memory and is a type of non-volatile memory used in computers and other electronic devices to store small amounts of data that must be saved when power is removed.

[EBCDI]

Extended Binary Coded Decimal Interchange Code is an 8-bit character encoding used mainly on IBM mainframe and IBM midrange computer operating systems.

[edit]

To enter, modify or delete data.

[editor]

A program that permits the review and editing of the contents of a file.

[e-mail]

electronic mail. Information exchanged by electronic means in a manner analogous to that provided by the postal service.

[e-mail address]

The way you specify where an E-Mail message should be delivered.

[enter key]

A special function key on a keyboard used to transmit a line or screen of data from a display screen to a computer. Often used interchangeably with return key.

[EPROM]

Erasable programmable read-only memory.EPROM is a special type of memory that retains its contents even after power loss, until it is exposed to ultraviolet light.

[erase]

To remove data from a data medium, leaving the medium available for recording new data.

[error message]

A message that reports the detection of an error.

[error checking]

Uploading or downloading transfer check employed to identify errors in data transmission.

[Ethernet]

A local area network originally developed by Xerox for linking personal computers. Later adapted by DEC and Intel as well and subsequently adopted as an international standard called 802.3. It transmits data at 10 megabits per second. All computers on a network were originally connected to a coaxial cable up to one kilometer. Each computer monitors all transmissions, looking for packets containing its identifier as the destination. Only one signal may be present on the channel at a time and no single computer controls transmissions.

[execute]

To interpret a computer instruction and carry out the operations specified in the instruction.

F

[fiber optics]

A high speed channel for transmitting data.Made of high-purity glass sealed within an opaque tube. Much faster than conventional copper wire such as coaxial cable.

[field]

Usually the smallest data element in a record; a specified area used for a particular category of data; for example, columns used to represent a particular item of data, such as an employee's wage (fixed field). The particular field is always used to record the same kind of information. In free field records, each field has an identifier that is present in the record and linked to the contents of the field.

[file]

A collection of any form of data that is stored beyond the time of execution of a single job. A file may contain program instructions or data, which may be numerical, textual or graphical information.

[file format]

The type of file, such as picture or text; represented as a suffix at the end of the filename (text = TXT or .txt, etc.).

[file server]

A computer designated to store software, courseware, administrative tools, and other data on a local- or wide-area network. It "serves" this information to other computers via the network when users enter their personal access codes.

[folder]

A place where a user's e-mail messages may be stored. Every user has a folder for new messages, and on most systems may create other folders for specific purposes.

[font]

A set of consistent size, shape or style of printer characters, including alphabetic and numeric characters and other signs and symbols.

[format]

The defined structure of information that is recorded on magnetic media, displayed on a visual display device or printed on a page. Used as a verb, it means to put data into a predetermined structure or divide a storage medium, such as a disk into sectors, so that it is ready to receive data.

[freeware]

Software that is distributed for free, with no license fee.

[frequency]

A measurement of the number of electromagnetic waves that pass over a given point in a given period of time.

[FTP]

File Transfer Protocol. A program that allows for file transfers over the Internet.

[function key]

A keyboard key that gives an instruction to a computer, as opposed to keys that produce letters, numbers, marks of punctuation, etc.

G

[garbage]

Unwanted or meaningless information in memory, on disk or on a tape.

[gateway]

An electronic door between one computer network and another. A device or set of devices that connects two or more networks, enabling data transfer between them. When the networks are similar, a gateway routes packets or messages. When the networks differ, a gateway also performs extensive protocol conversion.

[GIF]

Graphic Interchange Format. CompuServe non-platform specific format for low-resolution, compressed graphics interchange.

[graphic]

A computer-generated picture produced on a computer screen or paper, ranging from simple line or bar graphs to colorful and detailed images.

[GUI]

Graphical User Interface. Defines a format for scroll bars, buttons, menus, etc., and how they respond to the user.

H

[handshaking]

A procedure performed by modems, terminals, and computers to verify that communication has been correctly established.

[hang]

When a computer freezes, so that it does not respond to keyboard commands, it is said to "hang" or to have "hung."

[hard copy]

A printed copy of machine output in a visually readable form.

[hard disk]

A data-recording system using solid disks of magnetic material turning at high speeds.

[hardware]

Physical computer equipment such as electrical, electronic, magnetic and mechanical devices.

[header]

The portion of a message, preceding the actual data, containing source and destination address and error-checking fields.

[help]

Users in need of help can often issue a command such as "?" to access on-line help and tutorial systems.

[host]

A computer that is made available for use by multiple people simultaneously.

[host computer]

In the context of networks, a computer that directly provides service to a user. In contrast to a network server, which provides services to a user through an intermediary host computer.

[HTML]

Hypertext Markup Language. A convention of codes used to access documents over the World-Wide Web. Without HTML codes, a document would be unreadable by a Web browser.

[HTTP]

HyperText Transfer Protocol. Extremely fast protocol used for network file transfers in the WWW environment.

[hub]
A device that is a center of network activity because it connects multiple networks together.

[hyperlink]
A pointer that when chosen displays the item to which it points. It typically takes the form of a button or highlighted text that points to related text, picture, video, or audio. Hyperlinks allow non-linear exploration of media that contain them.

[hypermedia]
Media (such as text, graphics, video, audio) that contains hyperlinks.

[hypertext]
A document which has been marked up to allow a user to select words or pictures within the document, click on them, and connect to further information.The basis of the World-Wide Web.

I

[icons]
On-screen pictures that symbolize various commands.

[I/O]
Input/Output. The part of a computer system or the activity that is primarily dedicated to the passing of information into or out of a central processing unit.

[inbox]
The mailbox that holds incoming e-mail.

[input]
As a verb, to enter information, instructions, text, etc. in a computer system or program. As a noun, the data so entered. Input devices include the keyboard and OCR reader.

[instruction]
A statement to the computer that specifies an operation to be performed and the values and locations of the data to be processed.

[interactive]

Pertaining to an application in which each entry evokes a response from a system or program, as in an inquiry system, for example, an airline reservation system. An interactive system may also be conversational, implying continuous dialog between the user and the system.

[Internet]

A means of connecting a computer to any other computer anywhere in the world via dedicated router sand servers. When two computers are connected over the Internet, they can send and receiveall kinds of information such as text, graphics, voice,video,andcomputer programs

[IP]

(Internet Protocol) The Internet standard protocol that provides a common layer over dissimilar networks, used to move packets among host computers and through gateways if necessary. The numeric address of a computer connected to the Internet; also called Internet address.

[interrupt]

A suspension of a process, such as the execution of a computer program, caused by an event external to the computer and performed in such a way that the process can be resumed. Events of this kind include sensors monitoring laboratory equipment or a user pressing an interrupt key.

[IRC]

Internet Relay Chat, or just Chat. An on-line group discussion.

J

[job]

A set of data that defines a unit of work for a computer; it usually includes all necessary computer programs, linkages, files and instructions to the operating system.

[JPEG]

Joint Photographic Experts Group. The ISO proposed standard for compression of digital data, especially 24-bit color images.

[justify]

In word processing, to print a document with even (straight, non-ragged) right and left margins.

K

[key]

An identifier in a database or file. A primary key is a unique identifier. A secondary key is typically not unique. A key may be used to specify data in a query. Example: Tag number to specify a car in a database of automobile registration information.

[keyboard]

Similar to a typewriter, contains the letters for typing text, and keys that give the computer its commands.

[kilobyte(K)]

1,024 bytes, often used to mean 1,000 bytes.

L

[LAN]

Local Area Network.A network that usually covers a contiguous and fairly small geographical area.

[LAN e-mail system]

An e-mail system in which the UA runs on LAN-attached workstations.

[laser printer]

Anelectrophotographic (xerographic) printer in which a laser is used as the light source.

[Layer]

A grouping of related tasks involving the transfer of information.Also, a level of the OSI reference model.

[LCD]

An LCD, or Liquid Crystal Display, is a type of screen that is used in many computers, TVs, and cell phones. LCDs are very thin, but are actually composed of several layers. Those layers include two polarized panels, with a liquid crystal solution between them. Light is projected through the layer of liquid crystals and is colorized, which produces the visible image.

[LED]

Light emitting diode, LED display is a flat panel display which uses an array of light-emitting diodes as a video display.

[line]

In communications, a wire connecting a terminal to a computer; also a unit of text.

[line printer]

A computer output device in which an entire line of print is composed and determined within the printer prior to printing. The line is printed as a unit and there is no movement of a print head.

[link]

A form of markup which designates that data within a document will automatically connect with either nested data or an outside source. Used in the design of hypertext.

[login or logon]

The opening sequence of keystrokes used via computer screen instructions to connect to a system or begin operations on a computer.

[login ID]

Same as account name or user ID.

[logoff]

Leave a network system, usually by typing "bye" or "q" for quit. Sometimes called "logout."

[LPR]

Line Printer Remote.A protocol that allows one system to send a file to another system to be queued to a device to which the receiving system has access.

M

[machine language]

A programming language or instruction code that is immediately interpretable by the hardware of the machine concerned.

[macro]

A single computer instruction that stands for a given sequence of instructions.

[magnetic disk]

A flat circular plate with a magnetizable surface layer used for storage of data.

[magnetic tape]

A tape with a magnetizable surface layer on which data can be stored by magnetic recording.

[mailbox]

A file of e-mail messages on which a UA can operate as if they were incoming messages (read, reply, forward, delete, etc). Compare with inbox.

[main memory]

Usually the fastest storage device of a computer and the one from which instructions are executed.

[mainframe]

The cabinet that houses the central processing unit and main memory of a computer system, separate from peripheral devices such as card readers, printers, disk drives, etc. and device controllers. The term has come to be applied to the computer itself in the case of large systems.

[mainframe, minicomputer, micro-computer]

Three sizes of computers. Big corporations use mainframes and large school systems might use a mid-range computer, sometimes called a minicomputer, as a file server and administrative tool. The correct term for microcomputer is personal computer or PC.

[MB]

Megabytes. 1,048,576 bytes, often used to mean one million bytes (1,000,000) bytes.

[medium]

The material used to support the transmission of data. This can be copper wire, coaxial cable, optical fiber, or electromagnetic wave as in microwave.

[memory]

A device or medium that serves for temporary storage of programs and data during program execution. The term is synonymous with storage, although it is most frequently used for referring to the internal storage of a computer that can be directly addressed by operating instructions. Your computer's temporary storage capacity, measured in kilobytes (KB) or megabytes (MB) of RAM (random-access memory). Long-term data storage on discs, is also measured in kilobytes or megabytes.

[menu]

A displayed list of options from which a choice can be made. The list is often displayed with a code opposite each option; the selection may be made by typing the appropriate code.

[message]
E-Mail: The unit of information transferred by an e-mail system. It consists of an envelope that identifies the recipients to an MTA; headers containing who the message is from, to, subject, relaying information, etc; and a body that contains the information the sender wishes to communicate.

[microcomputer]
A computer system in which the central processing unit is built as a single tiny semiconductor chip or as a small number of chips.

[microprocessor]
Main computer chip that provides speed and capabilities of the computer. Also called CPU.

[modem]
Short for MOdulation/DEModulation, it is a device that can convert a digital bit stream into an analog signal (modulation) and can convert incoming analog signals back into digital signals (demodulation). The analog communications channel is typically a telephone line and the analog signals are typically sounds.

[modem setup]
Modem speed or baud rate, parity, data bits, stop bits, and duplex must be set the same at the user's computer as at the network system. Communication software is used to set up the modem.

[module]
A logically self-contained and discrete part of a larger computer program.

[monitor]
A television-like screen that shows text, graphics, and other functions performed by the computer.

[mouse]
A device that is moved by hand to move a pointer to indicate a precise position on a display screen. The device has one or more buttons on top and a cable connected to a computer; it may use wheels and be friction-driven or it may use light reflected from a special pad.

[multimedia]
A single work assembled using elements from more than one medium, such as high-resolution color images, sounds, video, and text that contains characters in multiple fonts and styles.

[multiplexer]
A device that merges information from multiple input channels to a single output channel.

[multiuser]
The capability of some computer systems to provide access to many simultaneous users.

N

[Network Layer]
The third layer of the OSI reference model. It controls underlying telecommunications functions such as routing, relaying, and data link connections.

[network]
A collection of two or more computers interconnected by telephone lines, coaxial cables, satellite links, radio, and/or some other communication technique. A computer "network" is a group of computers which are connected together and which communicate with one another for a common purpose. Computer networks support "people and organization" networks, users who also share a common purpose for communicating.

[node]
A member of a network or a point where one or more functional units interconnect transmission lines.

O

[off-line]
Not connected to a network. You can save money on pay-for-use networks by preparing your messages off-line using your word-processing software, and uploading them instead of typing them in while you're connected to (or on-line with) the network.

[on-line]
Active and prepared for operation. Also suggests access to a computer network. Connected to a network or via a network. Examples: Send me a message on-line. In other words, send me an e-mail message.

[online service]
Commercial online services like America Online, CompuServe, and Prodigy enable their users to send

and receive Internet E-Mail, although they don't yet offer access to most other Internet services.

[open]

Under open systems, unencumbered specifications are freely available, independent branding and certification processes exist, multiple implementations of a single product may be created and competition is enhanced.

[open platform]

A national Internetnetwork that would allow citizens the ability to access, create, and publish information.

[open system]

A system that implements sufficiently open specifications for interfaces, services and supporting formats to enable properly-engineered applications software to be ported with minimal changes across a wide range of systems, to interoperate with other applications on local and remote systems, and to interact with users in a style that facilitates user portability.

[OpenWindows]

A windowing environment from Sun Microsystems based on X-windows and NeWS.

[operating system]

software that controls the basic, low-level hardware operations, and file management. It is provides the link between the user and the hardware. Popular operating systems include: DOS, MacOS, VMS, VM, MVS, UNIX, and OS/2. (Note that "Windows 3.x" is not an operating system as such, since in must have DOS to work.)

[output]

Information retrieved from a computer, displayed by a computer or produced by a program running on a computer.

P

[packet]

Basic component of communication over a network. A group of bits of fixed maximum size and well-defined format that is switched and transmitted as a complete whole through a network. It contains source and destination address, data and control information. See also frame.

[parameter]

A variable, or quantity that can assume any of a given set of values, of which there are two kinds: formal and actual. (See argument.)

[parity]

Data has even or odd parity if the number of 1 bits is even or odd. A parity bit is a bit added to data to make the parity always even or odd. A parity bit may be used for detection of errors in RAM as well as in data transmitted through noisy communications channels. A parity error is detected when data that is supposed to be even parity is not, or vice versa.

[password]

A string of characters that a program, computer operator, or user must supply to meet security requirements before gaining access.

[peripheral]

Anything extra or added on for your computer, such as a modem, a mouse, or a fax adapter. Peripherals can be added on externally or installed inside the machine.

[PC]

Personal Computer. An IBM or IBM clone personal computer (Microcomputer) that is used by one person, as opposed to a Macintosh.

[Physical Layer]

The first layer of the OSI reference model. It governs hardware connections and byte-stream encoding for transmission.

[ping]

Packet Internet Groper. Probably originally contrived to match the submariners term for a sonar pulse.
n. Slang term for a small network message (ICMP ECHO) sent by a computer to check for the presence and aliveness of another.
v. To verify the presence of. To get the attention of.

[pixel]

Picture Element. In computer graphics, the smallest element of a display space that can be independently assigned color or intensity.

[Platform]

Hardware environment that supports the running of a computer system.

[plotter]

An output device for translating information from a computer into pictorial or graphical form on paper or

a similar medium.

[port]
That portion of a computer through which a peripheral device may communicate.Often identified with the various plug-in jacks on the back of your computer. On a network hub, it is the connector that receives the wire link from a node.

[portable]
In computer usage, a file or program is "portable" if it can be used by a variety of software on a variety of hardware platforms. Numeric data files written as plain character format files are fairly portable.

[post]
The act of placing a message in an on-line conference. The noun "posting" is sometimes used to refer to a conference message.

[printer]
An output device that converts the coded information from the processor into a readable form on paper.

[printout]
The printed output of a computer.

[procedure]
A portion of a high-level language program that performs a specific task.

[process]
A systematic sequence of operations to produce a specified result; a unique, finite course of events defined by its purpose or by its effect and achieved under given conditions. As a verb, to perform operations on data in a process.Also an address space and the code executing in it.

[program]
A set of actions or instructions that a machine is capable of interpreting and executing. Used as a verb, to design, write and test such instructions.

[programmer]
A person who designs, write and tests computer programs.

[programming]
A notation for the precise description of computer programs or algorithms. Programming language languages are artificial languages in which the syntax and semantics are strictly defined.

[prompt]

A character or message provided by an operating system or program to indicate that it is ready to accept input.

[protocol]

An agreement that governs the procedures used to exchange information between cooperating entities and usually includes how much information is to be sent, how often it is sent, how to recover from transmission errors and who is to receive the information.

[public domain]

Not protected by copyright; you may freely make copies and distribute them; you may make derivative works.

Q

[query]

A request that specifies the manner in which data is to be extracted from one or more databases.

[queue]

A sequence of stored computer data or programs awaiting processing that are processed in the order first-in first-out (FIFO).

[quit]

Ends the work without writing out a new file or new version of the exiting work file unless there is a save that interrupts before dumping the session.

R

[RAM]

Random Access Memory.Memory in which each element can be individually addressed and accessed with the same speed as any other element of the memory. The main memory of a computer is usually RAM. One of the earliest forms of RAM was called core, because it consisted of directly addressed doughnuts or cores of ferromagnetic material each of which represented one bit. A faster more recent form of RAM is called Dynamic RAM.

[random access]

Differs from direct access by the fact that each element can be accessed with the same ease and speed as any other.

[read]

To sense and retrieve or interpret data from a form of storage or input medium.

[read/write]

A magnetic mechanism that can read, write and erase data encoded as polarized patterns on magnetic disk or tape.

[Real-time]

The processing of transactions as they occur rather than batching them. Pertaining to an application in which response to input is fast enough to affect subsequent inputs and guide the process and in which records are updated immediately.

[record]

A collection of related data or words, treated as a unit. For example, in stock control, each invoice could constitute one record.

[record length]

Depending on the context, the length in bytes (i.e., columns) of a physical record or a logical record . On ICPSR Tape Information Forms and on CDNet, the abbreviation "RecLen" is used for physical record length.

[record type]

A record that has a consistent logical structure. In files that include different units of analysis, for instance, different record types are needed to hold the different variables. For example, one record type might have a variable for income in one column and another record type might have a variable for household size in that same column. The codebook will describe these different structures and how to determine which is which so that you can tell your statistical software how to interpret that particular column as income or household size.

[recovery]

The process by which data bases are rebuilt after a system fails.

[rectangular file]

A rectangular file is one which contains the same number of card-images or the same physical record length for each respondent or unit of analysis . A Hierarchical file can be stored in a rectangular file structure by storing all units of analysis in a single physical record. For instance, each record might contain one household unit, two family units, and four person units for each family unit. This method of storage

of hierarchical files can be very inefficient in terms of storage space, but can make the file easier to describe and work with.

[reel tape]
One-half inch magnetic tape stored on round reels.

[remote]
Equipment or site that is located out of the way or at a distance from primary equipment or a larger or primary site. Sometimes used as the opposite of local.

[remote access]
The ability to access a computer from outside a building in which it is housed. Remote access requires communications hardware, software, and actual physical links, although this can be as simple as common carrier (telephone) lines or as complex as TELNET login to another computer across the Internet.

[resource]
An on-line information set or an on-line interactive option. An on-line library catalog or the local school lunch menu are examples of information sets. On-line menus or graphical user interfaces, Internet e-mail, on-line conferences, telnet, FTP, and Gopher are examples of interactive options.

[response]
A message placed in a conference as a follow-up to a topic or to another response; or, a reply to an e-mail message.

[retiming]
A function of a repeater or Ethernet hub that receives a signal, cleans and regenerates it, and then sends it.

[return key]
The key on a terminal keyboard that, when struck, places the cursor at the left margin one line below its previous horizontal position.

[ROM]
Read-only memory. Information is stored once, usually by the manufacturer, that cannot be changed. Most compact discs are ROM.

[root directory]
The directory that contains all other directories.

[router]

A device connecting separate networks that forwards a packet from one network to another based only on the network address for the protocol being used. For example, an IP router looks only at the IP network number.

[routine]

Part of a computer program, or a sequence of instructions called by a program, that may have some general or frequent use.

[routing]

The process of finding a path over which a packet can travel to reach its destination.

[run]

The single, continuous execution of a program by a computer on a given set of data.As a verb, to initiate processing by a program.

S

[scanner]

A device that senses alterations of light and dark.

[scheduling]

An automated capability to schedule meetings and/or resources (such as meeting rooms, projectors, etc.) by looking at online calendars.

[screen]

The surface of a monitor on which information can be viewed.

[screen editor]

A program that allows a file to be edited by making changes to the text displayed on the screen. It may also support commands to make changes to the whole file at once. Changes to the portion displayed on the screen are immediately shown.

[scroll]

To move all or part of the display image vertically or horizontally to view data otherwise excluded. Scrolling can be performed with a mouse in the horizontal/vertical bars on each window or by using the page up/down - home/end - or arrow keys.

[sequential]

A method of storing and retrieving information that requires data to be written and read sequentially. Accessing any portion of the data requires reading all the preceding data.

[server]

A computer that shares its resources, such as printers and files, with other computers on the network. An example of this is a Network Files System Server which shares its disk space with a workstation that does not have a disk drive of its own.

[service (or service provider)]

An organization that provides access to part of the Internet. You have to arrange for an account with a service to connect your computer to the Internet. Examples; LIME, FLOW

[soft copy]

An electronic version of a file, usually in computer memory and/or on disk; as opposed to hard copy, the paper printout.

[software]

Computer programs that perform various tasks. Word processing programs (like WordPerfect or Microsoft Word), spreadsheet programs (like Lotus or Excel), or database programs (like dBase III+, Foxbase, or FileMaker) are all software.

[software tool]

A program that is employed in the development, repair or enhancement of other programs. Tools include editors, compilers and linkers. Also refers to utilities, such as formatters and file utilities.

[sort]

To arrange a set of items in sequence according to keys; for example, to arrange the records of a personnel file into alphabetical order by using the employee names as sort keys.

[source code]

The program in a language prepared by the programmer. This code cannot be directly executed by the computer and must first be translated into object code.

[spool]

Simultaneous Peripheral Operations On-Line.A scheme that allows multiple devices to simultaneously write output to the same device such as multiple computers printing to the same printer at the same time. The data are actually written to temporary files while a program called a spooler sends the files to the device one at a time.

[spreadsheet]
Software program that allows mathematical calculations, such as budgeting, keeping track of investments, or tracking grades.

[SQL]
Structured Query Language. ANSI standard data manipulation language used in most relational data base systems. A language for requesting data from a relational database.

[storage]
A device or medium that can retain data for subsequent retrieval.

[string]
A sequence of characters.

T

[tape density]
A measure of how much data, can fit on a magnetic tape.

[task]
A separately dispatchable function on a computer.

[TCP/IP]
Transmission Control Protocol/INTERNET Protocol.The communication protocols on which the Internet is based.

[telecommunication]
Communicating with other people through the computer using communication software and modems.

[telecomputing]
Using computers for telecommunication; computer networking.

[TELNET]
A program that allows users on the Internet to log in to remote systems from their own host system.

[terminal]
A device connected to a computer network that acts as a point for entry or retrieval of information. Personal computers can be made to act as network terminals, by running terminal emulation (communication) programs.

[terminal emulation]
Most communications software packages will permit a personal computer or workstation to communicate with another computer or network as if it were a specific type of hardware terminal.

[terminal server]
A device that allows asynchronous devices such as terminals to select and then communicate with hosts or other devices over a network.

[terabyte]
1,099,551,627,776 bytes, often used to mean one trillion bytes (1,000,000,000,000).

[text]
A string of characters. A text file should contain only characters - as opposed to codes or commands.

[time out]
What happens when two computers are talking and one fails to respond within a certain time, for whatever reason.

[topic]
In a conference, a message which is generally written to convey a new idea or a new piece of information, relevant to that conference.

[transfer]
To copy or move information from one computer to another.

U

[UNIX]

A popular computer software operating system used on many Internet host systems.

[upload]

To transfer information from a users system to a remote system.Opposite of download.

[URL]

Uniform Resource Locater. A scheme used to locate a document accessible over the Internet.

[USB]

 Universal Serial Bus: a standard for connection sockets on computers and other electronic equipment.

[user]

Anyone who uses a computer connected to the Internet.

[user-friendly]

A system or program that relatively untrained users can interact with easily.

[username]

Account name or user ID.

[utility]

A specialized program that performs a frequently required everyday task such as sorting, report program generation, or file updating.

V

[variable]

In social science research, for each unit of analysis, each item of data (e.g., age of person, income of family, consumer price index) is called a variable.

[VDT]

VDT (video display terminal, or sometimes visual display terminal) is a term used, especially in ergonomic studies, for the computer display .

[vision]

A future-oriented statement of where you want to be, of what you want things to be like.

[VMS]

Virtual Memory System.An operating system for the VAX and Alpha computers of Digital Equipment Corporation.

[virus]

A program that can make a copy of itself without you necessarily being aware of it; some viruses can destroy or damage files, and generally the best protection is to always maintain backups of your files

[VoIP]

Voice Over Internet Protocol,is basically a telephone connection over the Internet.The data is sent digitally, using the Internet Protocol (IP) instead of analog telephone lines.

[volume]

A physical unit of a storage medium, such as tape reel or disk pack, that is capable of having data recorded on it and subsequently read. Also refers to a contiguous collection of cylinders or blocks on a disk that are treated as a separate unit

W

[WAN]

Stands for "Wide Area Network." It is similar to a Local Area Network (LAN), but it's a lot bigger. Unlike LANs, WANs are not limited to a single location. Many wide area networks span long distances via telephone lines, fiber-optic cables, or satellite links

[window]

A rectangular area on a display screen in which part of an image or file is displayed. The window can be any size up to that of the screen and more than one window can be displayed at once.

[Windows]

A trademark of Microsoft Corporation for a software product that provides an environment for a graphical user interface for DOS and DOS applications.

[word processor]

A program used to enter or edit text information in personal computers, often used to create a file before it is uploaded to a network; may also be used to process text after it has been downloaded.

[wordwrap]

An editor feature that causes a word that will not fit on a line to be moved in its entirety to the next line rather than be split at the right margin.

[work space]

Disk space made available to the system to provide temporary storage space for files too large to fit within a user's permanent disk storage quota or for files not needed beyond a single run of a program or set of programs.

[workstation]

A general purpose computer that is small enough and inexpensive enough to reside at a person's work area for his or her exclusive use. It includes microcomputers such as Macintosh, and PCs running DOS, as well as high-performance desktop and deskside computers.

[write]

To record data in a storage device, a data medium, or an output display. To save information, especially files, to a disk, to replace old data with new and permit later access from within a software package; the complement of read.

[www]

World Wide Web.A wide-area hypermedia information retrieval technology that interconnects information around the world. It allows you to travel through the information by clicking on hyperlinks that can point to any document anywhere on the Internet

X

[X window system]

A standard for controlling the display on a bitmapped terminal. X-windows normally uses a network connection, and unlike the typical terminal connection, multiple applications possibly on different computers can use the display simultaneously in different windows.

Further information Contact the:

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