National Curriculum for

COMPUTER EDUCATION

(Applied Technology)

Grades VI-VIII

2007

GOVERNMENT OF PAKISTAN
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Introduction

In the era of pervasive computing the world is moving on beyond boxy computers that sit on desks or even on laps. Information technology has opened new avenues that enable unprecedented access to vast bodies of knowledge and possibilities of collaboration among researchers and scientists. In order to safeguard the entitlement in this important sphere our children need to be exposed to information and communication technology at an early stage.

The National Curriculum of Computer Education (Applied Technology) for grade level VI-VIII has been developed in response to the pressing need to provide academic coherence to the rapid growth of computing and technology in the modern world. According to new scheme of studies the curriculum allots three periods per week and is compulsory for the said grade level. The intent of the curriculum is to prepare students achieve the following goals.

- Computer and information literacy
- Productivity through technology
- Algorithmic thinking and problem-solving

The design of the curriculum combines theory and practice into a learning experience. It will provide the students with the first building blocks of computer and information literacy. They will learn to use computers effectively and incorporate the idea of algorithmic thinking into their daily problem-solving vocabulary. The students will be able to acquire information from electronic resources in a variety of formats.

Standards and Benchmarks

National Curriculum for Computer Education (Applied Technology) is comprised of three standards which serve to define the skills and knowledge to be acquired by every student of grade level VI-VIII. The benchmarks, thereafter, serve as a guide indicating how competencies are to be attained in order to meet the standards. They provide indicators of expectations from students at completion of the said grade level.

Standard-1 COMPUTER AND INFORMATION LITERACY

Upon completion of grade eight, all students will:

- Know how computers work.
- Be comfortable using keyboards and other input and output devices.
- Have the knowledge and ability to use computers and technology efficiently.
- Have ability to access Internet in order to exchange and retrieve information.
- Identify ways to safeguard against computer threats and viruses.

BENCHMARKS

The students are expected to:

1-1. Recognize hardware components.
1-2. Use proper terminology appropriate to the task.
1-3. Use a variety of peripherals appropriate to the task.
1-4. Use proper keyboarding techniques to reach an appropriate level of proficiency.
1-5. Use Windows operating system.
1-6. Select and deploy appropriate software for a defined task.
1-7. Communicate information in different formats.
1-8. Use internet and e-mail.
1-9. Discuss common uses of technology in daily life.

Standard-2 PRODUCTIVITY THROUGH TECHNOLOGY

Upon completion of grade eight, all students will:

- Have the knowledge and ability to use productivity tools appropriate to the task.

BENCHMARKS

The students are expected to:

2-1. Use productivity tools (like Paint, Word, PowerPoint, Excel and E-mail) which help to enhance learning, to increase productivity and to promote creativity.
2-2. Design and create interdisciplinary multimedia presentation.

Standard-3 ALGORITHMIC THINKING & PROBLEM-SOLVING

Upon completion of grade eight, all students will:

- Develop understanding of algorithm.
- Begin thinking algorithmically to develop strategy for the problem-solving.

BENCHMARKS

The students are expected to:

3-1. Think algorithmically and logically.
3-2. Identify the assumptions and known information in a problem statement.
3-3. Express the problem in a correct sequential order.
3-4. Draw flowcharts using appropriate symbols.
3-5. Write programs in BASIC to solve simple daily-life problems.
3-6. Create and edit spreadsheets using formulas.

CURRICULUM FOR COMPUTER EDUCATION – GRADE VI

Contents and Scope	Learning Outcomes/Skills
	The students will be able to

UNIT 1 INTRODUCTION TO COMPUTERS

1.1 What is a Computer?	i) Define and recognize a computer. ii) Define data and information. iii) Explain the advantages of using computers.
1.2 The Components of a Computer	i) Explain the difference between hardware and software. ii) Know and get familiar with the hardware components of a computer; a) Input devices: • Keyboard • Mouse • Scanner • Microphone • Digital Camera b) System unit: • Processor • Motherboard or System board • Memory c) Storage devices: • Floppy disk • Hard disk • CD/DVD • USB Flash memory d) Output devices: • Monitor • Printer • Speakers

	e) Communication devices: • Modem
1.3 How a Computer Works?	Describe briefly, the following four basic operations followed by a computer: • Input operation • Processing operation • Storage operation • Output operation

UNIT 2 INTRODUCTION TO WINDOWS

2.1 Stepping into Windows	i) ii)	Know the startup procedure to step into Windows. Recognize and get familiar with the following on the screen. • Desktop • Start button – Start menu • Taskbar • Notification area • Desktop icons: – My Computer – My Documents – Recycle Bin – Internet Explorer
2.2 Working with Windows	i) ii)	Open a window/program from the following locations. • Desktop • Start menu • Run command Get familiar with functioning of the following on a window. • Title bar • Menu bar

	• Toolbar • Scroll bar • Status bar • Maximize and minimize buttons • Close button
2.3 Managing Files and Folders	i) Define a file, a folder and a drive. ii) Create a new • Folder • File iii) Copy a file/folder to another folder/location. iv) Drag a file/folder to another folder/location. v) Cut a file/folder and paste it to another folder/location. vi) Delete a file/folder.

UNIT 3 COMMONLY USED SOFTWARE

3.1 Working with Paint	i) Recognize the Paint window. ii) Get familiar with menu bar, tool box and color box. iii) Draw freehand shapes with the pencil. iv) Use pen, shape, spray, brush and other various tools to draw and color different shapes. v) Copy/paste an image into Paint and modify the artwork as follows. • Change the color of artwork, • Add/paste details, like text or drawing, to the artwork, • Re-size, rotate, skew and invert the artwork, • Delete unwanted details from the artwork. vi) Save file.
3.2 Using a Typing Tutor	i) Recognize keys for right and left hands on the keyboard.

	ii)	Use the correct fingers for typing English text.
	iii)	Build basic typing skills.
	iv)	Improve speed and accuracy through tests and results.
3.3 Working with Word	i)	Recognize word processor – Word.
	ii)	Identify title bar, menu bar, standard toolbar, formatting toolbar, scroll bars, status bar and ruler on the Word screen.
	iii)	Create a new document.
	iv)	Edit text using the following options: • Type text into the document • Select: – text from paragraph – entire document • Cut/Copy text • Paste text • Delete text • Font, font style, font size, alignment • Change case of text • Check spelling and grammar
	v)	Save a document.
	vi)	Print a full document.
3.4 Using Media Player	i)	Recognize Media Player.
	ii)	Use the following playback controls for an audio/video file. • Play/Pause • Stop • Rewind/Fast forward • Adjust and mute volume
	iii)	Play a recorded clip from CD/DVD.

UNIT 4 THE INTERNET AND WORLD WIDE WEB

4.1 Introduction to the Internet	i) Define Internet. ii) Know what the Internet offers. iii) Know the principal means of connecting to the Internet: • Telephone (dialup) modem • DSL • Cable modem iv) Explain the steps involved in accessing the Internet.
4.2 The World Wide Web	i) Know that • World Wide Web (www), also referred to as the Web, is part of the Internet. • Web page is a document on the Web. • Web site is a collection of Web pages maintained by an organization or an individual. ii) Know that each Web page has a unique address, called a URL (Uniform Resource Locator). iii) Know that a web browser (for example, Internet Explorer) is a program that lets user view and explore information on the Web. iv) Use Internet Explorer to access and view different Web pages. v) Know that a search engine is a program that finds Web sites and Web pages. vi) Use search engines • Google • Yahoo • MSN to search for information on the Web.

CURRICULUM FOR COMPUTER EDUCATION – GRADE VII

Contents and Scope	Learning Outcomes/Skills
	The students will be able to

UNIT 1 HARDWARE BASICS

1.1 The System Unit	i) Define system unit. ii) Recognize and explain • Motherboard • Processor: – Control Unit – Arithmetic Logic Unit iii) Explain • Memory: – RAM – ROM iv) Recognize and explain • Expansion cards • Expansion slots
1.2 Cutting Edge Technologies	Explain briefly • Barcode reader • Fingerprint reader • Robot*

UNIT 2 SOFTWARE BASICS

2.1 System Software	i) Define system software. ii) Know the following basic components of system software. • Operating system • Device drivers • Utility programs

* Robots are computer-controlled machines that mimic the motor activities of living things. For example, Honda's Asimo robot resembles a human and is capable of walking upstairs, dancing, shaking hands, finger movement and much more.

	iii) Define operating system. iv) Know important functions of the operating system: • booting and providing a user interface, • managing programs, • file management, • configuring devices. v) Define device drivers. vi) Define utility programs and explain: • File manager • Image viewer • Disk scanner
2.2 Application Software	i) Define application software. ii) Distinguish among following kinds of application software. • Entertainment software (e.g., games, music/video players). • Productivity software (e.g., word processor, multimedia presentation software). • Education and reference software (e.g., encyclopedias, typing tutors).

UNIT 3 CUSTOMIZING A WORD DOCUMENT

3.1 Changing Display of Document	i) Know that Word offers five different views of a document. • Normal view • Web layout view • Print layout view • Outline view • Reading layout view ii) Change the view of a document using different view options.

	iii)	Increase/decrease zoom settings to view an area of a document.
	iv)	Split document into separate sections.
3.2 Editing Text	i)	Insert/delete text in the document.
	ii)	Move or copy text to a new location in the document.
	iii)	Undo/redo last edited changes in the document.
	iv)	Insert the current date and time into a document.
	v)	Count the number of words in a document.
	vi)	Use the Find feature to locate a word or phrase in a document.
	vii)	Find and replace a word or phrase in a document.
	viii)	Use thesaurus on Research task pane to replace a word in the document.
	ix)	Insert symbols that do not appear on the keyboard.
	x)	Add a comment to text in the document.
3.3 Formatting Text	i)	Change font of text.
	ii)	Change style (bold, italic, underline) of the text.
	iii)	Change color of the text.
	iv)	Highlight text in the document.
	v)	Change alignment of the text.
	vi)	Change the line spacing.
3.4 Formatting Paragraphs	i)	Create a bulleted or numbered list.
	ii)	Indent text in a paragraph of a document.
	iii)	Use tabs to line up information in a document.
	iv)	Add a border to text in the document.
	v)	Add shading to the document to emphasize an area of text.
3.5 Formatting Pages	i)	Insert a page break in the document.
	ii)	Insert section breaks to divide a document into sections.

	iii)	Add page numbers in the document.
	iv)	Add a header or footer to display additional information on each page of the document.
	v)	Add footnotes or endnotes to provide additional information about text in the document.
	vi)	Change the margins in the document.
	vii)	Centre vertically, the text on a page.
	viii)	Change the orientation of pages in the document.
	ix)	Add a watermark to display a faint picture or text behind the information in the document.
	x)	Create newspaper columns.
3.6 Printing a Document	i)	Preview a document before printing.
	ii)	Use different print options to print a document.
	iii)	Change paper size and source.

UNIT 4 MULTIMEDIA PRESENTATIONS

4.1 Creating a PowerPoint Presentation	i)	Define • Multimedia Presentation • Slide and slide show
	ii)	Know that PowerPoint uses graphics, animation, sound and data or information to make visual presentations.
	iii)	Recognize the following options in the New Presentation task pane. • Blank presentation • Design template
	iv)	Collect content for the presentation (text, pictures etc.)
	v)	Add the following as a background fill effect. • Gradient • Texture • Pattern

	• picture vi) Select an appropriate slide layout. vii) Add following to the placeholders in the presentation. • Text • Clip Art • Drawings
4.2 Adding Animations	i) Apply following effects to the presentation. • Slide transition • Custom animation ii) Run the slide show by choosing Slide Show from the View menu.

UNIT 5 ELECTRONIC MAIL

5.1 Introduction to E-mail	i) Define • E-mail • E-mail account and E-mail address • User name and password ii) Know that • Yahoo mail, • Hotmail, offer web based e-mail services.
5.2 Sending and Receiving E-mail	i) Create/sign-in an e-mail account. ii) Recognize the following parts of an e-mail message. • To: • Subject: • Cc: • Attach files: iii) Compose an e-mail message. iv) Attach a file to the e-mail. v) Send the e-mail.

	vi) Use the following folders. • Inbox • Sent • Trash vii) Check an e-mail. viii) Reply an e-mail. ix) Sign out an e-mail account.

CURRICULUM FOR COMPUTER EDUCATION – GRADE VIII

Contents and Scope	Learning Outcomes/Skills
	The students will be able to

UNIT 1 NETWORKS AND COMMUNICATIONS

1.1 Computer Networks	i) Define a computer network. ii) Know that • a sending device, • a receiving device, • communication devices, • a transmission medium, are required for communication to take place. iii) Define a client and a server. iv) Explain the types of computer networks. • LAN • WAN • MAN v) Describe communication devices: • Dialup modem • Network card vi) Know the types of physical transmission media: • Twisted-pair cable • Coaxial cable • Fiber-optic cable
1.2 Cutting Edge Technologies	Explain the following in the simplest possible terms (preferably with diagrams). • Cellular communications • Satellite communications • Global Positioning System • Bluetooth

UNIT 2 COMPUTER SECURITY THREATS

2.1 Computer Security Threats	i) Define • Virus • Worms • Adware • Hacker ii) Know that a virus, worm and adware can spread through: • Infected flash drives or floppy disks • E-mail attachments • Surfing insecure websites • Installing pirated software
2.2 Managing an Antivirus	i) Define • Antivirus • Virus definitions/updates ii) Know the following widely used antivirus software. • Symantec • MacAfee • AVG iii) Scan a computer for viruses.

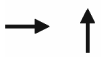
UNIT 3 SPREADSHEETS IN EXCEL

3.1 Introduction to Spreadsheet	i) Define spreadsheet. ii) Know the purpose of spreadsheet. iii) Recognize spreadsheet software – Excel. iv) Explain workbook and worksheet. v) Get familiar with Excel application window: • Title bar • Menu bar • Standard toolbar • Formula bar

	• Document (worksheet) window • Sheet Tabs vi) Identify • Columns • Rows • Cells • Cell address vii) Manipulate data (numeric and non-numeric) into a cell /range of cells by • Entering data • Editing data • Auto filling data viii) Enter a formula. ix) Insert functions: • SUM • PRODUCT • AVERAGE • POWER • SQRT • MAX • MIN x) Create a spreadsheet such as monthly report of expenses, students result sheet and salary report etc. xi) Save a spreadsheet.
3.2 Formatting Worksheet Elements	i) Select a cell/range of cells to • Cut/copy • Paste • Format text: – Font – Font size – Font style – Font colour

	– Alignment ii) Apply borders and shading to a cell/range of cells. iii) Insert new rows/columns.
3.3 Inserting Charts	Use chart wizard to insert a • Column chart, • Line chart, • Pie chart, into a worksheet.

UNIT 4 PROBLEM-SOLVING

4.1 Problem-Solving	i) Make a clear statement of the problem. ii) Extract the following from the problem statement. • What is given – the Input • What is required – the Output • The processing requirements
4.2 Flowcharting	i) Define a flowchart. ii) Identify the standard flowchart symbols: • Start/terminal symbol  • Input/Output symbol  • Processing symbol  • Flow lines  • Decision symbol  iii) Draw a flowchart to solve problem, like: • To make tea • To make an omelet • To find the sum and average of five given numbers

	• To find the product of five given numbers • To display the larger one out of the two given unequal numbers • To find the area of a rectangular region with given length and width • To find the area of a circular region with given radius

UNIT 5 COMPUTER PROGRAMMING

5.1 Introduction to Programming	i) Define the following terms. • Program • Programming language. ii) Differentiate between: • Constant and variable • Syntax and logical error iii) Recognize an arithmetic expression. iv) Know: • Arithmetic operators: +, –, *, /, ^ , and their order of precedence • Assignment operator '=' • Relational operators <>, <=, >=, <, >
5.2 Programming in BASIC	i) Get familiar with the use of: • Basic commands LIST, RUN, LOAD and SAVE • PRINT statement, to display text on the screen • INPUT statement, to accept data • READ and DATA statement, to take input • IF-THEN-ELSE statement ii) Assign a variable to an arithmetic expression iii) Write a program to solve a problem, like: • To find the sum and average of five given numbers

	• To find the product of five given numbers • To display the larger one out of the two given unequal numbers • To find the area of a rectangular region with given length and width • To find the area of a circular region with given radius • To convert Celsius to Fahrenheit and vice versa, using appropriate formula

Implementation

Assessment and Evaluation

Assessment is the process of gathering information using a variety of tools and techniques that reflect how well a student is achieving the curriculum expectations in a subject. As part of assessment teachers provide students with descriptive feedback that guides their efforts towards improvement. The quality of assessment largely determines the quality of evaluation. Evaluation refers to the process of judgments and decisions based on the interpretation of evidence gathered through assessment. Rowntree* (1990) defined assessment as having two purposes: firstly to support and provide feedback to learners and improve their ongoing learning, and secondly to report on what they had already achieved. In essence the first is formative assessment and the second is summative assessment. Morgan and O'Reilly† (1999) believe that assessment is the engine that drives and shapes learning, rather than an end of course event that grades and reports on performance.

Assessment and evaluation should be based on the expectations outlined in the national curriculum. To ensure that assessment and evaluation lead to the improvement of student learning, teachers must use specific assessment and evaluation strategies that

- address both what students learn and how well they learn.
- are administered over a period of time and designed to provide opportunities for students to demonstrate full range of their learning.
- ensure that each student is given clear directions for improvement.
- promote students' ability to assess their own learning.
- are communicated clearly to students and parents in advance.

For assessment and evaluation of grade level VI-VIII the institutions adopt their own criteria. The means by which each institution achieves quality should differ according to the circumstances in which it operates, but each must give priority to meeting students' expectations in terms of learning outcomes they can legitimately expect to achieve. In essence an effective learning-outcomes-oriented quality assurance system must be based on constant monitoring and effective feedback loops.

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* Rowntree, D. (1990) *Teaching through Self-Instruction (Second Ed)*, London: Kogan Page.

† Morgan, C. and O'Reilly, M. (1999) *Assessing Open and Distance Learners*, London: Kogan Page.

Unitwise Weightages

Following tables explain weightages of specified topics with respect to grades VI-VIII. They will be supportive to:

- the teachers and education planners to develop the assessment and evaluation strategies,
- the textbook writers to give a specific weightage to a particular topic.

UNITWISE WEIGHTAGES – GRADE VI

Unit	Title	Weightage
1.	Introduction to Computers	20 %
2.	Introduction to Windows	20 %
3.	Commonly-used Software	40 %
4.	The Internet and World Wide Web	20 %
	TOTAL	100 %

UNITWISE WEIGHTAGES – GRADE VII

Unit	Title	Weightage
1.	Hardware Basics	10 %
2.	Software Basics	10 %
3.	Customizing a Word Document	50 %
4.	Multimedia Presentations	20 %
5.	Electronic Mail	10 %
	TOTAL	100 %

UNITWISE WEIGHTAGES – GRADE VIII

Unit	Title	Weightage
1.	Networks and Communications	10 %
2.	Computer security threats	10 %
3.	Spreadsheets in Excel	20 %
4.	Problem-solving	20 %
5.	Computer Programming	40 %
	TOTAL	100 %

The Distribution of Time – Theory and Lab

Teaching schedules are among the integral parts of classrooms. They help school management to run and monitor the teaching of a particular subject. The following tables, indicating unitwise time distribution for theory and lab classes, will be supportive to the teachers and education planners. Although the time to be spent may be varied according to circumstances, it is advisable that teachers do not grossly depart from the suggested time.

UNITWISE TIME DISTRIBUTION – GRADE VI

Unit	Title	No. of Periods (3 periods per week)	
		Theory	Lab
1.	Introduction to Computers	11	4
2.	Introduction to Windows	9	6
3.	Commonly-used Software	10	30
4.	The Internet and World Wide Web	20	10
	TOTAL	50	50

UNITWISE TIME DISTRIBUTION – GRADE VII

Unit	Title	No. of Periods (3 periods per week)	
		Theory	Lab
1.	Hardware Basics	14	2
2.	Software Basics	14	2
3.	Customizing a Word Document	5	30
4.	Multimedia Presentations	5	20
5.	Electronic Mail	2	6
	TOTAL	40	60

UNITWISE TIME DISTRIBUTION – GRADE VIII

Unit	Title	No. of Periods (3 periods per week)	
		Theory	Lab
1.	Networks and Communications	14	2
2.	Computer Security Threats	6	2
3.	Spreadsheets in Excel	5	25
4.	Problem-solving	10	0
5.	Computer Programming	15	21
	TOTAL	50	50

The Textbook

There are many important entities involved to revamp the entire education system. The school has to play its own role, parents have to contribute their share and teachers have to assume a significant place in fostering education. Print materials, particularly the textbooks, have to play a key role towards providing quality education at all levels. Although there are many stakeholders that contribute towards the overall learning of the child yet the importance of textbook as a reservoir of information/ knowledge cannot be ignored.

Textbook writers have a vital role to play in penetrating the young minds through their writing. A textbook

- whose content as well as presentation is thoughtfully planned,
- which is written by qualified and competent subject expert(s), and
- which is attractive and engaging,

must stimulate the interest of teacher and the taught.

Guidelines for Textbook Authors

Textbooks aimed at lower level tend to include more learning features than those at higher level. However in textbook writing generally the following aspects may be taken into consideration.

- The textbook should be in line with the objectives of National Curriculum.
- The author should continuously focus on standards and benchmarks.
- The textbook should be visually appealing and should maintain interest of the students.
- The title page should be attractive and representative of the content of the textbook.
- The colour scheme of pictures should be close to real life.
- The textbook should include detailed table of contents.
- The text should be clear and concise.
- The material should not be cramped. To make it more digestible, it may be chunked into smaller parts with headings.
- The author should bring himself to the mental level of students he is writing for.
- The span of the textbook should be fairly reasonable.
- The textbook is expected to provide accurate and up-to-date information.
- The text material should be arranged in a logical manner; simple to complex, familiar to unfamiliar and concrete to abstract.
- The text material must be free from ambiguities and errors.

Textbook Style and Structure

To make a textbook an effective teaching and learning tool its style and structure is given due importance. The material needs to be structured in a coherent and logical way, and that writing style should be reader friendly.

Unit Opening	
Unit Outline	Include list of headings.
Student Learning Outcomes (SLOs)	One SLO for each heading may be included. If they are numerous then a reasonable number is acceptable.
Short Introduction	Explain what this unit covers and why.

Unit Body	
Key Terms	Use italics for emphasis and bold for key terms. Define key terms when first introduced and collate them with their definitions for the glossary.
Tips or Hints	Separated from the main body of text, they allow the author to speak directly to the student, offering useful advice or flagging important points.
Visuals	Include pictures that illustrate the use and importance of computer and technology.

Unit Ending	
Checkpoint Exercises	Include multiple-choice questions, interpretive exercises, fill-in and matching items. Students may also be asked to label diagrams or write a one word answer to short question.
Lab Exercises	Include computer lab exercises, appropriate to the unit.
Summary	Include a review of the main concepts. This can relate to the SLOs by covering each in turn (bullet points work well). The summary should not include any new information.

End of Textbook	
Glossary	Include only the key terms in the glossary.
Bibliography	Include bibliography and list of books for suggested reading.
Index	Include index for the key terms used in the book.

The Teacher's Manual

Ideally the teacher's manual should come with the textbook. The manual is aimed at informing teachers how the textbook is written and how best to use it to facilitate student learning. It can be seen as a means of helping teachers develop professionally. It provides detailed explanation of key concepts and the way to teach a particular topic. Its basic features are as below.

The teacher's manual should

- be easy to understand and use.
- help teachers teach text and extend activities.
- give sequenced instructions for each activity.
- include detailed lesson plans.
- suggest projects to assign.
- include teaching learning resources.
- establish a test bank (having questions different from text) and suggest interactive quizzes corresponding to each unit.
- involve various up-to-date and relevant teaching strategies and rationale for suggested teaching.
- explain how to implement each teaching strategy.
- identify constraints and strengths of each strategy or activity.
- identify resources needed for teaching strategies and extension of activities.
- expand and develop teachers repertoire of knowledge and skills.
- identify assessment strategies.

The Workbook

Workbooks contain writing activities and exercises that are related to each unit in the textbook. Workbook exercises help to develop students' conceptual understanding of the topics dealt with in the text. They assist students in developing skills by applying knowledge to new situations. A workbook has the following basic features.

A workbook should

- be easy for students to understand and follow.
- involve clear and explicit instructions.
- be stimulating, challenging and innovative.
- correspond to knowledge and skill developed in the textbook.
- consist of many exercises and activities for each unit, topic and subtopic.
- be non-repetitive in style and structure.
- avoid using too many activities for one topic or skill.
- include exercises and activities which are different from those in textbook or teacher's manual.
- suggest accessible and affordable materials/resources for the proposed activities.

The Web-based Resources

The World Wide Web is growing very fast to access an immense volume of rapidly evolving information. It is acting as a driving force since its ease of use makes the internet trivially accessible. Through web-based links like the ones mentioned below the teachers, parents and students can

- access various sites around the world,
- access additional information and currency on the topics,
- view three-dimensional figures, graphics, lesson plans, activities and various books of interest.

Title of Website	Universal Resource Locator (URL)
About.com	www.about.com
Coloring.com	www.coloring.com
Computer Knowledge	www.cknow.com/vtutor/index.html
Excel Tutorial	www.usd.edu/triu/tut/excel
Funbrain	www.funbrain.com
Google	www.google.com
Hotmail	www.hotmail.com
HowStuffWorks	www.howstuffworks.com
Internet4Classrooms	www.internet4classrooms.com/on-line_word.htm
Learn the Net	www.learnthenet.com/english/index.html
PowerPoint in the classroom	www.actden.com/pp
Robot Magazine	www.botmag.com
TypingMaster	www.typingmaster.com
TypingTutor	www.typingtutor.com
Yahoo!	www.yahoo.com
Yahoo Mail	www.mail.yahoo.com
Wikipedia	en.wikipedia.org

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