

Curriculum Resource Pack
for
Class Level One
COMPUTER SCIENCE

developed by

Mujeeb Burdi

Director Quality Assurance & Audit

in consultation with

Director Education & Training DET

&

Head Office Curriculum Team

Courtesy

Oxford University Press, Pakistan

HEAD OFFICE

House # 92 | Street # 6 | G-8/2 | Islamabad – Pakistan.

Tel: +92 51 2852694 | 2853296 | 2284207

Fax: +92 51 2284208 | Mob: 0300-9543823

www.airfoundation.org.pk

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Recommended International Examination Bodies

Name of Teacher _____

Subject _____

Class _____

Campus _____

Textbook Title	
Workbook Title	
Other Resources Material	

Personal Time Table

	MONDAY	TUEDAY	WEDNESDAY	THURSDAY	FRIDAY
1					
2					
3					
4					
Break Time					
5					
6					
7					
8					

- Number of Period of Week
- Total Working Weeks
- Total Working Days

Preface

Welcome to AFSS CRPs!



It gives me great pleasure to introduce you to Air Foundation School System, a school that is committed to the cause of providing quality education to children, with a strong impulse to provide equal opportunities and enabling them to become useful citizens with high morale, courage, confidence and credibility.

Air Foundation School System strives to be one of the most popular and oversubscribed schools

in Pakistan with a dedicated team of teaching and support staff that are committed to providing a supportive and challenging environment in which all pupils are encouraged to fulfill their potential. The school is fully committed to the pursuit of excellence.

In order to provide assistance to school academic staff, AFSS has developed Curriculum Resource Packs (CRPs) for all the subjects that are taught in the school. Each Curriculum Resource Pack (CRP) consists of material related to particular subject and class that enables a teacher to prepare syllabus breakdowns, lesson plans, worksheets and other concerned teaching aids effectively and with ease.

There are four sections in each CRP. Section One deals with the information related to scheme of studies of that particular subject, syllabus breakdown on the basis of each term and month. Section Two provides detailed handouts on lesson planning along with lesson plan template for the teachers to do rest of it. Section Three gives a template of worksheet and related instructions to work on it. Finally, Section Four furnishes detailed guidelines for the teachers related to textbook(s) and workbook(s) of the subject, for which we extend our profound thanks to OUP Pakistan.

We expect that this CRP will prove a very handy resource for the school academic staff.

Mujeeb Burdi

Director Quality Assurance & Audit

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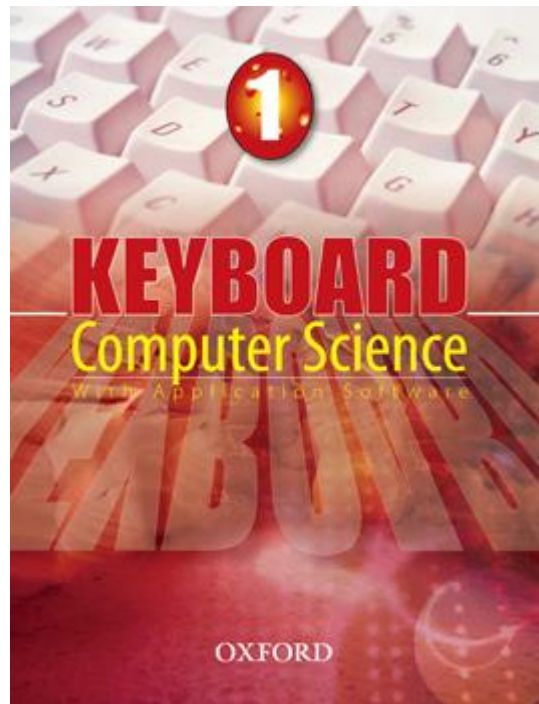


About Textbook, Author & Publication

Keyboard: Computer Science
with Application Software
Book 1

By:
*Sangeeta Panchal & Alka
Sabharwal*

Oxford University Press



First Term					Second Term					Total Periods Per Annum
Teaching Periods (40 min. each)		Teaching Duration			Teaching Periods (40 min. each)		Teaching Duration			
Per Week	Per Term	Single/ Double	Per Term	Per Term	Per Week	Per Term	Single/ Double	Per Term	Per Term	
4	52	52+0	52	13	4	68	68+0	68	17	120
IN SINDH PROVINCE ONLY										
3	39	39+0	39	13	3	51	51+0	51	17	90

Section One

Scheme of Studies

This section deals with the information related to Scheme of studies. Following the national curriculum, AFSS provides various subjects that include sciences and arts in addition to languages and religious education.

In general English, Mathematics, Science, Computer Studies, Sindhi, Urdu, Social Studies, Art & Craft and Islamiyat are taught in the school. Religious education is taught in accordance with the Ministry of Education agreed syllabus.

All the teachers are required to go through the tables in this section and prepare syllabus breakdown on the provided forms for this. The School Heads are responsible for dispatching the prepared "Syllabus Breakdown" to the **Head Office** on monthly and terminal basis.

Subject Table

Pre-School (Playgroup, Nursery & KG)	Primary (Class I to V)	Secondary (Class VI to VIII)	Matriculation (Class IX to X)
English	English	English	English
Mathematical	Urdu	Urdu	Urdu
Urdu	Mathematics	Mathematics	Mathematics
Social Study	Science	Science	Islamiyat
Art/ Hand control	Social Studies	Social Studies	Computer Studies
Music, Rhythm and Movement	Islamiyat	Islamiyat	Pakistan Studies
Islamiyat	Art & Craft	Art & Craft	Physics
Games	Computer	Computer	Chemistry
	Sindhi	Sindhi	Biology

Academic Terms

First Term	April ~ September	06 months
Second Term	October ~ March	06 months

WORKING WEEKS

First Term		Second Term	
April	04 weeks	October	04 weeks
May	04 weeks	November	04 weeks
June	00 weeks <i>Summer Vacation</i>	December	02 weeks <i>02 Weeks Winter Vacation</i>
July	00 weeks <i>Summer Vacation</i>	January	04 weeks
August	04 weeks	February	04 weeks
September	04 weeks	March	03 weeks <i>01 Week Spring Vacation</i>
TOTAL	16 Weeks	TOTAL	21 Weeks

TEACHING WEEKS

First Term		Second Term	
Working Weeks	16	Working Weeks	21
Following weeks are deducted from working weeks to get teaching weeks			
First Mid Term Exam	01 weeks	Second Mid Term Exam	01 weeks
First Term Exam	01 weeks	Final Term Exam	01 weeks
		Revision Work	01 weeks
TEACHING WEEKS	14 WEEKS	TEACHING WEEKS	18 WEEKS

Out of $14+18=32$ teaching weeks, approximately two weeks are deducted on account of public holidays. Hence, there are total 30 teaching weeks to design the curriculum scheme. Just to remain on safe side, we give 13 weeks in first term and 17 weeks in second term to finish off the curriculum scheme.

Teaching Weeks	13 Weeks	Teaching Weeks	17 Weeks
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TEACHING DAYS

First Term	Second Term
05 Working Days In Each Week	05 Working Days In Each Week

We multiply total teaching weeks with working days in each week to achieve total working/teaching days in each term

13 Weeks x 05 days	65 days	17 Weeks x 05 days	85 days
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TOTAL TEACHING PERIODS PER WEEK

Preschool		Class I to X	
06 Periods (Monday to Thursday) 05 Periods (Friday)		08 Periods (Monday to Thursday) 05 Periods (Friday)	
06 x 04 Friday	24 periods 05 periods	08 x 04 Friday	32 periods 05 periods
TOTAL	29 Periods	TOTAL	37 periods

Preschool Sample Routine

Playgroup, Nursery & Kindergarten Classes			
Activity	Time	Friday Time	Duration
Assembly/ Physical Education	0745-0800	Monday to Friday	15 min
English Lesson	0800-0845	Monday to Friday	45 minutes
Mathematic Lesson	0845-0930	Monday to Friday	45 minutes
Urdu Lesson	0930-1015	Monday to Friday	45 minutes
Tidy Up Time	1015-1020	Monday to Friday	05 minutes
Snack Time	1020-1040	Monday to Friday	20 minutes
Social Studies/Science Lesson (For Playgroup Writing Activity)	1040-1110	Monday to Thursday	30 minutes
Islamiyat/ Video Session / Art & Craft	1110-1140	Friday Time 1040-1110	30 minutes
Activity Time/ Story Telling Playtime/Music	1140-1200	Friday Time 1110-1130	20 minutes
Tidy Up Time	1200-1210	Friday Time 1130-1135	05-10 minutes
Lineup/ Packup Time	1210-1220	Friday Time 1135-1140	05-10 minutes

Note:

This routine is followed from Monday to Friday

Time Duration: Monday to 275 min = 1100 min

Thursday 235 min = 235 min

Friday

Total Time Per Week: 1335 minutes

Scheme of Work – PRESCHOOL (Playgroup)

TOTAL PERIODS PER WEEK: 29 Periods (Monday ~ Thursday: 08.6 Periods; Friday: 05 Periods, Each Period: 40 minutes)

SN	SUBJECT	FIRST TERM				SECOND TERM			
		Teaching Periods Per Week	Teaching Periods Single/ Double	Teaching Duration Days	Teaching Duration Weeks Per Term	Teaching Periods Per Week	Teaching Periods Single/ Double	Teaching Duration Days	Teaching Duration Weeks Per Term
01	English	5	65+0	65	13	5	85+0	85	17
02	Mathematics	5	65+0	65	13	5	85+0	85	17
03	Urdu	5	65+0	65	13	5	85+0	85	17
04	Hand Movement	4	52+0	52	13	4	68+0	68	17
05	Playtime	2	26+0	26	13	2	34+0	34	17
06	Video Session	2	26+0	26	13	2	34+0	34	17
07	Islamiyat Oral	2	26+0	26	13	2	34+0	34	17
08	Activity Time	1	13+0	13	13	1	17+0	17	17
09	Story Telling	1	13+0	13	13	1	17+0	17	17
10	Music	1	13+0	13	13	1	17+0	17	17
11	Art & Craft	1	13+0	13	13	1	17+0	17	17

Routine of this class is based on time basis. For further explanation please refer AFS-ACA-WI-03(04)

TOTAL PERIODS PER WEEK: 29

Periods Per Week: 1160 minutes + Assembly/PE: 75 min/week + Snack Time: 100 min/week - 10 min Tidyup/ lineup on Friday

TOTAL TIME PER WEEK: 1325 MINUTES PER WEEK

The scheme of studies/ syllabi breakup/ lesson plan on daily, weekly, monthly or term basic may be prepared on the basis of this table.

Scheme of Work – PRESCHOOL (Nursery & Kindergarten)

TOTAL PERIODS PER WEEK: 29 Periods (Monday ~ Thursday: 08.6 Periods; Friday: 05 Periods, Each Period: 40 minutes)

SN	SUBJECT	FIRST TERM				SECOND TERM				Periods Per Annum
		Teaching Periods Per Week	Teaching Periods Per Term	Teaching Duration Days	Teaching Duration Weeks	Teaching Periods Per Week	Teaching Periods Per Term	Teaching Duration Days	Teaching Duration Weeks	
01	English	5	65	65+0	13	5	85	85+0	17	150
02	Mathematics	5	65	65+0	13	5	85	85+0	17	150
03	Urdu	5	65	65+0	13	5	85	85+0	17	150
04	Social Studies	4	52	52+0	13	4	68	68+0	17	120
05	Playtime	2	26	26+0	13	2	34	34+0	17	60
06	Video Session	2	26	26+0	13	2	34	34+0	17	60
07	Islamiyat Oral	2	26	26+0	13	2	34	34+0	17	60
08	Activity Time	1	13	13+0	13	1	17	17+0	17	30
09	Story Telling	1	13	13+0	13	1	17	17+0	17	30
10	Music	1	13	13+0	13	1	17	17+0	17	30
11	Art & Craft	1	13	13+0	13	1	17	17+0	17	30

Routine of this class is based on time basis. For further explanation please refer AFS-ACA-WI-03(04)

TOTAL PERIODS PER WEEK: 29

Periods Per Week: 1160 minutes + Assembly/PE: 75 min/week + Snack Time: 100 min/week - 10 min Tidyup/ lineup on Friday

TOTAL TIME PER WEEK: 1325 MINUTES PER WEEK

The scheme of studies/ syllabi breakup/ lesson plan on daily, weekly, monthly or term basic may be prepared on the basis of this table.

Scheme of Work – PRIMARY SCHOOL (Class I to V)

TOTAL PERIODS PER WEEK: 37 Periods (Monday ~ Thursday: 08 Periods, Friday: 05 Periods, Each Period: 40 minutes)

SN	SUBJECT	FIRST TERM				SECOND TERM				Periods Per Annum		
		Teaching Periods		Teaching Duration		Teaching Periods		Teaching Duration				
		Per Week	Per Term	Single / Double	Per Term	Per Week	Per Term	Single / Double	Per Term			
01	English	6	78	65+13	65	13	6	102	85+17	85	17	180
02	Mathematics	6	78	65+13	65	13	6	102	85+17	85	17	180
03	Urdu	6	78	65+13	65	13	6	102	85+17	85	17	180
04	Science	5	65	65+0	65	13	5	85	85+0	85	17	150
05	Social Studies	5	65	65+0	65	13	5	85	85+0	85	17	150
06	Computer Science	4	52	52+0	52	13	4	68	68+0	68	17	120
07	Islamiyat	3	39	39+0	39	13	3	51	51+0	51	17	90
08	Art & Craft	2	26	26+0	26	13	2	34	34+0	34	17	60
SINDH PROVINCE ONLY: Reduce one period each from Islamiyat, Computer Science & Social Studies												
09	Sindhi	3	39	39+0	39	13	3	51	51+0	51	17	90

The scheme of studies/ syllabi breakup/ lesson plan on daily, weekly, monthly or term basic may be prepared on the basis of this table.

Scheme of Work – SECONDARY SCHOOL (Class VI to VIII)

TOTAL PERIODS PER WEEK: 37 Periods (Monday ~ Thursday: 08 Periods, Friday: 05 Periods, Each Period: 40 minutes)

SN	SUBJECT	FIRST TERM				SECOND TERM				Periods Per Annum
		Teaching Periods		Teaching Duration		Teaching Periods		Teaching Duration		
		Per Week	Per Term	Days	Weeks	Single / Double	Per Term	Days	Weeks	
01	English	6	78	65	13	65+13	Per Term	65	13	180
02	Mathematics	6	78	65	13	65+13	Per Term	65	13	180
03	Urdu	6	78	65	13	65+13	Per Term	65	13	180
04	Science	5	65	65	13	65+0	Per Term	65	13	150
05	Social Studies	5	65	65	13	65+0	Per Term	65	13	150
06	Computer Science	5	65	65	13	65+0	Per Term	65	13	150
07	Islamiyat	4	52	52	13	52+0	Per Term	52	13	120
SINDH PROVINCE ONLY: Reduce one period each from Islamiyat, Computer Science, Social Studies & Urdu										
08	Sindhi	4	52	52	13	52+0	Per Term	52	13	120

The scheme of studies/ syllabi breakup/ lesson plan on daily, weekly, monthly or term basic may be prepared on the basis of this table.

Scheme of Work - HIGH SCHOOL (Class IX & X)

TOTAL PERIODS PER WEEK: 37 Periods (Monday ~ Thursday: 08 Periods, Friday: 05 Periods, Each Period: 40 minutes)

However, schools will follow the scheme of studies as per their relevant examination board BISE. Given below is the scheme which will help the curriculum staff to make syllabi breakdown and lesson plans as per given number of periods, days and weeks.

SN	SUBJECT	FIRST TERM				SECOND TERM				Periods Per Annum
		Teaching Periods Per Week	Teaching Periods Per Term	Teaching Duration Days	Teaching Duration Weeks	Teaching Periods Per Week	Teaching Periods Per Term	Teaching Duration Days	Teaching Duration Weeks	
01	English	6	78	65+13	13	6	102	85+17	17	180
02	Mathematics	6	78	65+13	13	6	102	85+17	17	180
03	Physics	6	78	65+13	13	6	102	85+17	17	180
04	Chemistry	6	78	65+13	13	6	102	85+17	17	180
05	Bio/ CS	6	78	65+13	13	6	102	85+17	17	180
06	Urdu/ Sindhi	6	78	65+13	13	6	102	85+17	17	180
07	Islamiat/ Pak St.	5	65	65+0	13	5	85	85+0	17	150

The scheme of studies/ syllabi breakup/ lesson plan on daily, weekly, monthly or term basic may be prepared on the basis of this table.

Scheme of Studies		SYLLABUS BREAKDOWN			
Textbook	Term	ON TERMINAL BASIS			
Class	No. of periods per week	_____	Duration of each period	_____ prds.	
	No. of periods per term	_____	Teaching time per week	_____ m in.	
Subject	Total teaching days	_____ days	Total teaching weeks	_____ weeks	
Week#	Topic(s)/ Pg. No.(s)	Week#	Topic(s)/ Pg. No.	Week#	Topic(s)/ Pg. No.(s)
1 st		7 th		13 th	
2 nd		8 th		14 th	
3 rd		9 th		15 th	
4 th		10 th		16 th	
5 th		11 th		17 th	
6 th		12 th		18 th	

Scheme of Studies		SYLLABUS BREAKDOWN			
Textbook		ON MONTHLY BASIS			
Class	Subject	Term	Week#	Day	Topic(s) / Pg. No. (s)
		No. of periods per week No. of periods per term Total teaching days	prds. m in. days	prds. m in. days	Duration of each period Teaching time per week Total teaching weeks
			1 st	1 2 3 4 5 6	
			2 nd	7 8 9 10 11 12	
			3 rd	13 14 15 16 17 18	
			4 th	19 20 21 22 23 24	

Section Two

Lesson Planning

This section deals with the information related to lesson planning. The lesson plans are developed by the subject specialists. The duration of each daily lesson plan is 40 minutes. The format of the lesson plan on weekly and daily basis is given in this section of CRP. Based on the same, the academic staff is required to prepare lesson plans on the templates provided in this section.

Each lesson plan consists of the following main components:

- ✓ Learning Objectives
- ✓ Plan (Activities) Time
- ✓ Resources Needed
- ✓ Teachers Evaluation
- ✓ Learning Outcomes
- ✓ Assessment Tasks
- ✓ Homework

Handouts and tables are provided for the help of a teacher. All the teachers are required to go through the tables in this section and prepare lesson plan on weekly and daily basis on the prescribed forms. The School Heads are responsible for dispatching the prepared “LESSON PLANS” to the **Head Office** on monthly and terminal basis.

List of Action Words

This list is used while preparing “Learning Objectives” and “Outcomes” in the lesson plan.

Acquiring Knowledge	Enhancing Cognitive Skills	Developing Psychomotor Skills	Strengthening Problem-Finding and Solving Capabilities	Changing Attitudes, Values, Beliefs, and/or Feelings
To identify	To reflect	To demonstrate	To propose	To challenge
To list	To compare	To assemble	To practice	To defend
To define	To contrast	To adjust	To enhance	To judge
To describe	To catalogue	To install	To recognize	To question
To state	To classify	To apply	To clarify	To accept
To name	To examine	To operate	To determine	To share
To prepare	To evaluate	To detect	To decompose	To adopt
To recall	To forecast	To locate	To consider	To advocate
To express	To formulate	To isolate	To deconstruct	To bargain
To categorize	To investigate	To arrange	To fetter out	To cooperate
To chart	To modify	To build	To discover	To endorse
To rank	To organize	To conduct	To uncover	To justify
To distinguish	To plan	To manipulate	To select	To persuade
To explain	To research	To fix	To analyze	To resolve
To outline	To study	To lay out	To evaluate	To select
To inform	To translate	To perform	To search	To dispute
To label	To differentiate	To sort	To practice	To approve
To specify	To analyze	To construct	To construct	To choose
To tell	To compute	To draw	To simulate	To feel
To memorize	To devise	To employ	To employ	To care
To reproduce	To review	To design	To examine	To express
To recognize	To synthesize	To set up	To change	To reflect
To recte	To relate	To practice	To diagnose	To protest
	To group	To exhibit	To prioritize	To sort
	To estimate	To diagram		To control
	To edit			To value

Instructional Strategies

Given below are some instructional strategies that will help teachers while writing lesson designing component “Plan (Activities) Time” of the lesson plan. These strategies will form the main body of the plan

Ice breakers:	building trust; orienting newcomers; sharing knowledge and experiences.
Board work or newsprint:	introducing content, collecting responses; student and teacher demonstrations of writing or math.
Modeling:	demonstrating a process; sharing examples of good written work or, conversely, common challenges.
Intervention:	stepping into an ongoing process to facilitate, resolve impasses.
Drills:	direct teaching sight words, critical symbols (e.g. for poisonous substance), multiplication tables,
Small group work:	performing tasks or solving problems together, perhaps grouping by skill level; practicing roles, such as reporter or facilitator.
Brainstorming:	drawing from students' own knowledge and experience; group planning for projects.
Prioritizing, categorizing lists:	getting at main ideas and supporting ideas; planning a writing draft.
Active listening:	to others, to tapes; note-taking; asking questions; taking dictation; warming up for reading passages aloud.
Active reading:	note-taking; predicting; using context clues; asking questions.
Active viewing:	to movies, TV programs, role plays or demos; note-taking; asking questions.
Process writing:	developing/prioritizing ideas, generating support, outlining, critiquing (one on one or in groups), drafting, editing, proofreading, publishing.

Oral presentations:	reporting on personal or group responses to class; summarizing personal experience or results of research.
Games:	jigsaw exercises to find critical content; drawing or following maps to specific destinations; find/resolve the grammar/mechanics/calculation error.
Manipulative:	math blocks and rods; build words, sentences, or paragraphs from pieces.
Debate:	express/support personal or group opinion; compare positions; refute/defend positions.
Projects:	multi-stage learning events, such as researching new content and eventually reporting or writing findings/conclusions.
Role-plays:	simulating a real-life situation, such as a job interview.
Peer work:	working together; mentoring; listening and responding; critiquing.
Learning stations:	setting up skills and content areas (reading, math) to allow diversity, spontaneous grouping, and kinetic movement.
Field trips/guest speakers:	going to or drawing from community resources.
Overhead transparencies, LCD projection:	sharing materials; sharing real-time responses (with marking pens and keyboard, respectively)
Computer technology:	Web-based research; interactive learning sites; developing PowerPoint slideshows or Excel spreadsheets.
Reflective activities:	free writing, journal writing, with non-judgmental feedback from teacher.

EXAMPLES OF "AUTHENTIC" TASKS & ASSESSMENTS

Teachers may use these tasks & assessments in assessment column of the lesson plan

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">✓ Making audio tapes to practice/check fluency✓ Anecdotal records of outside work<ul style="list-style-type: none">✓ Book reports✓ Drawings and diagrams✓ Favorite authors report✓ Field trip reports<ul style="list-style-type: none">✓ Interviews✓ Inventories of workplace items✓ Investigations or research<ul style="list-style-type: none">✓ Journals✓ Learning logs, reading logs<ul style="list-style-type: none">✓ Lists of books read✓ Models with descriptions✓ Open-ended problems | <ul style="list-style-type: none">✓ Photographs and documentation✓ Problem-solving activities<ul style="list-style-type: none">✓ Progress Reports✓ Project reports✓ Research papers✓ Developing rubrics<ul style="list-style-type: none">✓ Self-evaluations✓ Simulations✓ Skits and role plays✓ Student-selected best work:
Portfolios✓ Teacher observations with rubric<ul style="list-style-type: none">✓ Writing samples✓ Video tapes✓ Work samples |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

SAMPLE INSTRUCTIONAL RESOURCES

CATEGORY	RESOURCES	
Printed Materials	<ul style="list-style-type: none"> ✓ handouts ✓ articles ✓ pamphlets ✓ books ✓ worksheets 	<ul style="list-style-type: none"> ✓ graphic organizers ✓ workbooks ✓ reference lists ✓ students' writing
Visual Aids	<ul style="list-style-type: none"> ✓ overheads ✓ graphs ✓ manipulative ✓ storyboards ✓ charts & tables ✓ posters ✓ pictures 	<ul style="list-style-type: none"> ✓ slides ✓ chalk/whiteboards, newsprint ✓ photographs ✓ maps ✓ diagrams
Audio-Visual	<ul style="list-style-type: none"> ✓ videotapes & disks ✓ audiotapes & CDs 	<ul style="list-style-type: none"> ✓ Television ✓ LCD projections
Computer-Based	<ul style="list-style-type: none"> ✓ email, listservs ✓ threaded discussions, chat rooms, bulletin boards ✓ interactive learning sites 	<ul style="list-style-type: none"> ✓ PowerPoint slideshows ✓ computer conferencing ✓ websites
People	<ul style="list-style-type: none"> ✓ guest (onsite) ✓ social service reps (offsite) 	<ul style="list-style-type: none"> ✓ other students

POST CLASS REFLECTION QUESTIONS FOR TEACHERS	
Learning Objectives	<ul style="list-style-type: none"> ✓ Did your students achieve the lesson objectives? How do you know? ✓ Were the objectives specific enough for you to be able to measure learning? ✓ If the students did not meet the objectives, do you want to carry them over to the next lesson and/or change them? ✓ Did you look at the Frameworks when forming your learning objectives? Were they matched to the right standards/benchmarks?
Curriculum/Content	<ul style="list-style-type: none"> ✓ What topics unexpectedly emerged and how did you handle that? ✓ What knowledge and skills did you assume students had in going into this lesson? Were your assumptions correct?
Materials and Resources	<ul style="list-style-type: none"> ✓ How did the use of materials help students acquire the knowledge and skills being developed in this lesson? ✓ Going forward, could use of authentic materials be incorporated into instruction?
Assessment/Evidence of Learning/Next Steps	<ul style="list-style-type: none"> ✓ What tools did you use to capture learning, give feedback to learners and/or inform your instruction? ✓ In what areas did students improve per these tools? ✓ How well did the activities work and why? ✓ What does the assessment data tell you about the design of the next lesson? ✓ How did you enable the students to capture the high points or summarize or apply what they learned? ✓ How were students engaged in evaluating the lesson and giving input for the next lesson?

Lesson Design/Activities

- ✓ How did you incorporate Frameworks standards/benchmarks into the lesson? Did the lesson allow enough practice/application to achieve the standards/benchmarks?
- ✓ Was the lesson sufficiently balanced in terms of giving students opportunities to practice multiple skills? (speaking & listening, critical thinking, etc)
- ✓ Did the activities engage learners in a focused topic of interest? Why/why not?
- ✓ Were activities chunked sufficiently to facilitate skills/knowledge acquisition?
- ✓ Were activities sufficiently designed to support learning outcomes, especially more sophisticated kinds of outcomes, such as supporting a personal opinion?
- ✓ How did you build in review into your lesson?
- ✓ Who talked during the lesson and how much? Why or why not?
- ✓ Did students actively participate in the lesson, why/why not?
- ✓ How did you address students' varied learning styles, learning issues/disabilities, or learners that may have greater knowledge/skill than classmates

Sample lesson plan: Unit 1 Food and digestion

Topic	Time	Objectives	Outcomes	Plan (Activities) Time	Resources Needed
1 Food types	1 period 40 mins.	To name the components of a balanced diet.	To give examples of food in which these components are found.	Background information (5 mins.) Introduction (10 mins.) Discussion on the different types of food. (20 mins.) Make a chart. Assessment tasks (5 mins.)	Examples of different types of food Charts to show the various types
2 Food tests	1 period 40 mins.	To find out what food contains and the role of the main nutrients in the body.	To perform chemical tests in the laboratory.	Chemical tests in the laboratory (10 mins. each)	Samples of food containing starch, protein, glucose, fat
3 Digestion	1 period 40 mins.	To know the parts of the digestive system and to know the functions of each part.	To describe how large molecules are broken down during digestion and how enzymes work.	Discussion on the nature and role of enzymes (10 mins.) To perform simple experiments to find out the nature of enzymes (20 mins.) Assessment tasks (10 mins.)	Drawings on the board to explain how enzymes act on food Samples of saliva and starch
4 Supplying every cell	1 period 40 mins.	To describe how food is absorbed into the blood stream.	To describe how blood transports the products of digestion around the body to understand the structure and function of villi.	Discuss the structure and function of villi (10 mins.) Discuss the absorption of food in relation to the structure of the villi (20 mins.) Assessment tasks (10 mins.)	A chart showing the various parts of the digestive system

Assessment Tasks	Homework	Teachers evaluation of the lesson
1 Why is it important to eat a balanced diet? 2 Describe how you would find out if a biscuit contains proteins, fat, glucose, starch. 3 Draw the digestive system and label it. What is the function of each part that you have labelled? 4 What are enzymes? What is the role of enzymes in the digestion of food? 5 How is digested food transported to all parts of the body?	Attempt all the exercises at the end of each page.	The 'Test yourself' questions on pages 10-11 will be given as a test of about one hour after the unit has been studied thoroughly.

	Topic	Time	Objectives	Outcomes	Plan (Activities) Time	Resources Needed
1						
2						
3						
4						
5						
6						
Assessment Tasks			Homework		Teachers evaluation of lesson	
1						
2						
3						
4						

Air Foundation School System •



DAILY LESSON PLAN

Day No. _____

Week No. _____

Term: _____

Subject: _____

Class: _____

TOPIC: _____

Date: ____/____/____

Time: ____ min.

Day: _____

Lesson Plan

Session _____

Learning Objectives	Outcome	Plan (Activities) Time	Resources Needed

Assessment Tasks	Homework	Teachers evaluation of lesson
1		
2		
3		
4		

Section Three

Worksheets

This section deals with the designing and preparation of the worksheets for each class and subject. A worksheet template is provided which will help the teachers in developing their own worksheets as per class level and subject. It is recommended that there should be at least 3 to 4 worksheets of each unit/ lesson/ chapter of the textbook.

Teachers will give numbers to each worksheet in accordance with unit/lesson/chapter and sequel of the worksheet. For example, if you are preparing first worksheet of unit/lesson/chapter one, the worksheet number would be “1.1”. Similarly, if there is third worksheet of unit/lesson/chapter ten, the number would be “10.3”. While giving numbers to worksheets remember that first you give unit/lesson/chapter number, then the worksheet sequence number. In case you are giving assessment marks on the particular worksheet, give maximum ten marks on each.

All the teachers are required to go through the template of worksheet in this section and prepare WORKSHEETS on the provided forms for this. The School Heads are responsible for dispatching the prepared “WORKSHEETS” to the **Head Office** on monthly and terminal basis.

My Name: _____ Date: _____ C/T: _____

Worksheet

WORKSHEET NO. _____

Marks obtained out of 10 | _____ | _____

Section Four

Guidelines for teachers



Teaching Guide

KEYBOARD

Computer Science

With Application Software

Contents

Introduction	2
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Chapter 3	
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Introduction

In context of the development of machines and how we use them, no one machine has come as far as quickly as the computer. Not too long ago, there was a time when computers were gigantic constructions incorporating miles upon miles of wiring which only performed tasks which today would be considered very simplistic.

Today, we find that computers are part of all aspects of our lives. Whether we are at work, going on vacation, studying at school or college, or just out to get some groceries, there is no getting away from this wonderful machine.

In light of this all encompassing presence of the computer in our lives, it is becoming more and more essential that our children start learning how to use this machine at the earliest possible opportunity.

That opportunity comes in the form of computer education at school. But any sort of education given at the early stages of learning, not only has to be comprehensive enough for the level, it also has to be presented in a way which is easy for both the teacher to explain and the student to comprehend.

This is where the Keyboard: *Computer Science With Application Software* comes in. With two friendly characters, Gibran and Mr C guiding students through a journey in to the magical world of computers, the series is a must have for an aspiring computer teacher.

The series takes into account that today's student is not totally unfamiliar with computers and the applications that can be used on them and thus adopts an approach which is progressive. Each chapter in the book has a series of components:

The ***Did You Know?*** Box provides interesting pieces of information on the topic being covered.

Fast Forward is geared to making students expert users of the software and introduces keyboard shortcuts.

Top Tip provides students with pointers on different operations.

Practice Time is the ideal way to learn what has been taught and appears after each major topic has been covered in the chapter.

Computer Manners imparts on students the proper etiquette of using computers safely and effectively.

Tricky Terms recaps for students the difficult words that might have cropped up during the course of the chapter along with their meanings.

Memory Bytes is a quick summary of what was taught in the chapter.

Exercises test the students understanding of the concepts that have been taught.

In the Lab helps to transfer the knowledge gained in the study of the book to the computer lab on a practical level.

Teacher's Notes provide tips to on how to tackle the subject matter creatively.

Appendices at the end of each book provide ample of activities, projects and questions for students.

Understanding Computer Ergonomics

A lot is spoken of these days on the proper way of doing just about anything. This, in a nutshell, is ergonomics, the science which allows us to ensure that consumer products are safe, efficient and comfortable to use.

Points to note:

- Pupil's eyes are level with the text on the monitor
- Hands and wrists should be straight
- The neck should be slightly bent and the head almost straight
- The shoulders should be down and the arms relaxed and at the sides
- The students' elbows should be level with the keyboard
- The feet should be planted on the floor and the lower back should be properly supported

Discourage students from applying a posture while working at their workstation, which is contrary to the tips mentioned above.

Using this Teacher's Guide

The purpose of any guide is to provide a general framework of how to go about conducting an activity. The same logic is applicable to this teacher's guide. To begin with, this guide will help you develop clear objectives and learning outcomes for the topics taught in the book.

Sample lesson plans for topics in each chapter will help you develop your own and help you manage your time more effectively, as you try to distribute the 40 minutes allocated to you in the best possible way.

Generally speaking, lesson plans follow a similar pattern where the first 3-5 minutes are used as time to introduce the concept that will be taught during the class. The next 20 minutes are used for the actual instruction, which is followed by around 10 minutes of feedback from the class. Finally, the last 3-5 minutes are used for assigning homework and winding up the class.

In addition to these lesson plans, worksheets have also been incorporated into this teacher's guide and that answers to questions which appear throughout the book are also presented here.

A point to note:

The worksheets included in this Teacher's Guide are based on concepts covered not only in Book 1 of the Keyboard Computer Science series, but those in Book 2 as well. This is to ensure progression of learning and a wider scope of activity.

The correct way to use these worksheets is to pair the children. Discuss the instructions on the worksheet, but do not provide children with the answers. Give clear instructions as to what is expected of them and allow them to work co-operatively. **Less explanation and more activity are key to successful teaching.**

Word of caution

It is advisable that during the course of the practical classes, access to the internet be completely shut off. You can ask your school's computer lab supervisor to help you out on this account. This will ensure that there is no time wasting on part of the students and that they remained focussed on the studies at hand. More importantly, it will ensure that no objectionable browsing is done by the students.

In fact it is best to limit access to students to the application software that they are working on.

Chapter 1 A Computer

Teaching Objectives:

- To discuss the types and functions of familiar machines
- To introduce computer as a machine
- To identify the functions of a computer

Learning Outcome:

By the end of the lesson the students will be able to

- understand the function of machines in general and that of a computer in particular

Lesson introduction – 5 minutes

Use the first five minutes to discuss the different types of machines and their functions that you see at home or outside. An introduction could be given regarding the computer that it is a machine also.

In this respect, display a collection of pictures of familiar machines to the class. Children will identify their names. Elicit from what they think those machines do. E.g. a microwave heats up food.

Main Lesson – 30 minutes

Now with the class read pages 7 and 8. Point to the picture of a computer on page 8 and ask the class:

- a. What is the name of this machine?
- b. What do you think it is used for?

This is the moment when you can tell them that a computer can work like a human being and can perform different tasks. Guide the children to complete work on pages 9, 10 and 11.

Lesson Windup – 5 minutes

The last five minutes can be used to recap what was taught in the class. The exercises can be assigned as class work and homework.

Lab Class:

Visit the computer lab to look at the computers there. Make a list of all the other machines the children can see in school.

The class can complete the related sample worksheet in the class.

Exercises Answers

Page 10 Ex 1

cup – c	orange – o	mango – m	parrot – p
umbrella – u	tap – t	elephant – e	rabbit – r

Page 11 Ex 2

- a. humans
- b. machine
- c. inside
- d. sums
- e. music

Page 11 Ex 3

- a. cross
- b. cross
- c. tick
- d. tick
- e. cross

MCQs:

Complete the following statements by choosing the right answer:

1. Machines make our work _____.
a. hard b. easy
Answer: b.
2. A washing machine washes clothes which are _____.
a. clean b. dirty
Answer: b.
3. A fridge keeps food and water _____.
a. cool b. warm
Answer: a.
4. A computer is a machine which lets us do _____ things.
a. many b. few
Answer: a.
5. A computer is a _____.
a. machine b. box
Answer: a.
6. The computer room should be kept _____.
a. clean b. dirty
Answer: a.
7. Machines are made by _____.
a. humans b. animals
Answer: a.
8. A crane is found _____ the house.
a. inside b. outside
Answer: b.

Chapter 2: Parts of a Computer

Teaching Objectives:

- To identify the different components of a computer
- To explain their functions
- To differentiate between a monitor and another similar looking object

Learning Outcome:

By the end of the lesson the students will be able to

- recognize parts of a computer and understand the function of each
- recognize a monitor

Teaching:

Lesson introduction - 5 minutes

The first five minutes should be used to introduce the different parts of a computer. The expected responses can be TV/monitor, CPU, mouse, printer, etc.

Main Lesson - 30 minutes

You can write down the names of the parts of the computer on the board and ask them their functions.

Invite a student to come to the front of the class. *Amir's body is made of many parts e.g. hands, feet, nose etc. In the same way, the computer is also made up of many parts. Today we are going to learn about some of these parts. A monitor is like a TV screen. Every computer has to have a monitor.*

Once you get the responses, refer to pages 12 and 13.

Identify the key components of the computer and their features. For this purpose, ask the students what is a computer's brain and what it does. Refer to page 14. Introduce the remaining parts i.e keyboard and mouse with the help of pages 15 and 16.

Lesson Windup - 5 minutes

Recap what they have learnt so far by asking the following questions:

- a) What does a monitor look like?
- b) How does the CPU help in operating a computer?
- c) What is the keyboard used for?
- d) What does the mouse do?

Chapter 2 contains a variety of related activities. It is suggested that the teacher select those that are relevant to the class.

Lab Class:

Take the children to the lab and explain the functions of each part. For the keyboard, you can open Word software for the children by showing what happens when a key is pressed. Remember, in the case of very young pupils, actual experience of working on computers is much more effective than simply reading about them.

Exercises and answers

Page 17 Ex 1

- a. moon – m
owl – o
umbrella – u
star – s
elephant – e
- b. mango – m
orange – o
nest – n
ice cream – i
tree – t
owl – o
rabbit – r
- c. key – k
ear – e
yo-yo – y
bangle – b
orange – o
apple – a
rabbit – r
dog – d
- d. cake – c
pen – p
umbrella – u

Page 19 Ex 2

monitor – dad (draw a line from dad to the monitor in the exercise)
keyboard – son
mouse – daughter
CPU– mother

Page 20 Ex 3

monitor
CPU
keyboard
mouse

Page 20 Ex 4

Missing parts are:
CPU, keyboard, monitor, and mouse

Page 22 Ex 5

Colouring activity

Exercises and answers

Page 39 Ex 1

- alphabet keys – 26
- Space bar – 1
- number keys – 10
- Enter key – 1

Page 39 Ex 2

alphabet keys - helps you type letters

number keys - helps you type numbers

Space bar - is used to insert a blank space between words

Enter key - it makes you move to the next line

Page 40 Ex 3

The answer is 'keyboard'

Page 40 Ex 4

- The **Space bar** is the longest key on the keyboard.
- The **Enter** key is used to move to the next line.
- The **number** keys are used for typing numbers.
- The **alphabet** keys are used for typing words.
- We can type by pressing **keys** on the keyboard of a computer

Page 41 Ex 5

Colouring activity

MCQs:

Complete the following statements by choosing the right answer:

- We use a _____ to type on a computer.
a. pencil b. keyboard
Answer: b.
- The alphabet keys are used for typing _____ and sentences.
a. words b. numbers
Answer: a.
- The number keys are also known as _____ keys.
a. alphabet b. numeric
Answer: b.
- The _____ key is the longest key on the keyboard.
a. Space bar b. Enter key
Answer: a.

5. The Space bar is used to _____ blank spaces between two words.
a. insert b. make

Answer: a.

6. The _____ key is used to go to the next line
a. Enter b. Space bar

Answer: a.

Chapter 5: Computer Mouse

Teaching Objectives:

- To explain the correct placing of the mouse
- To show the correct usage of the mouse

Learning Outcome:

By the end of the lesson the students will be able to

- learn the correct placing and usage of the mouse

Teaching:

Introduction - 5 minute

The first five minutes should be used to demonstrate the correct way of holding a mouse.

Main Lesson - 30 minutes

Demonstrate how a right-handed person would hold a mouse and a left-handed person would hold it. A practical demonstration to show the correct use of the mouse is essential. Therefore, it will be good teaching practice to take the class to the lab, immediately after having read pages 43 to 45. Explain to the students that the mouse is a part of the computer which helps us draw pictures or point to things on the screen of the monitor.

Also, the mouse actions should be demonstrated, while using it on the computer. Explain what the mouse pointer does. *The arrow on the computer is called the mouse pointer. We know the mouse pointer is working when it makes a clicking sound.*

Ask them questions about the computer mouse for e.g.

What is a mouse pad?

What happens when you move a mouse?

What is a scroll button?

Once you get responses, go through the pages 45-48.

Lesson Windup - 5 minutes

Recap the lesson in order to see what the students have learnt.

Lab Class:

Demonstrate various mouse actions to reinforce learning.

Exercises and answers

Page 49 Ex 1

3rd mouse 1st mouse 2nd mouse

Page 49 Ex 2

First picture (x) second picture (tick)

Page 50 Ex 3

Colouring activity

Page 50 Ex 4

- A scroll mouse has **three** buttons.
- The arrow on the computer monitor is called the mouse **pointer**.
- The computer mouse should always point **towards** the computer system.
- A mouse should always be placed on a **mouse pad**.

MCQs:

Complete the following statements by choosing the right answer:

- The scroll button helps you move _____ a page.
a. up and down b. left and right

Answer: a.

- The special seat for the mouse is called mouse _____.
a. chair b. pad

Answer: b.

- The mouse should point _____ the computer system.
a. towards b. away from

Answer: a.

- The arrow on the computer monitor is called the mouse _____.
a. pointer b. finger

Answer: a.

- When we move the _____, the pointer also moves.
a. keyboard b. mouse

Answer: b.

- A sound is heard when you press a button on the mouse.
a. tick b. click

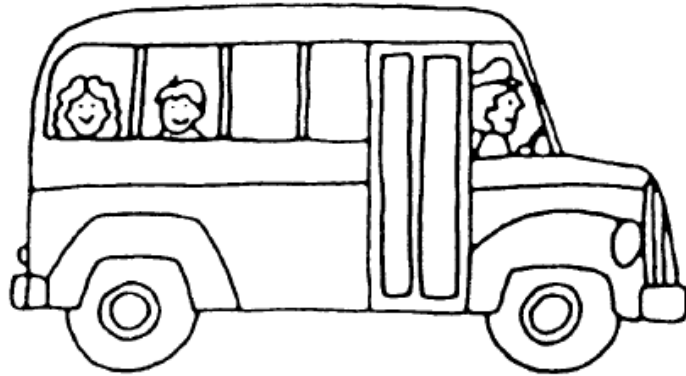
Answer: b.

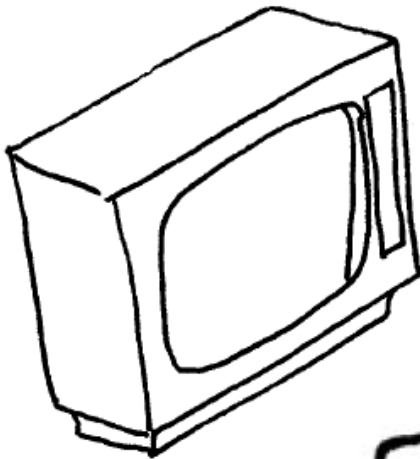
Sample worksheet

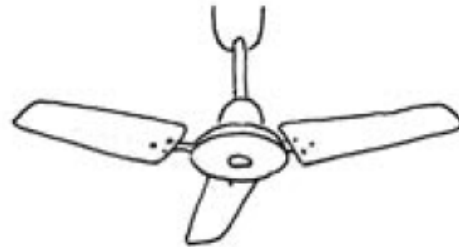
Chapter 1: A Computer

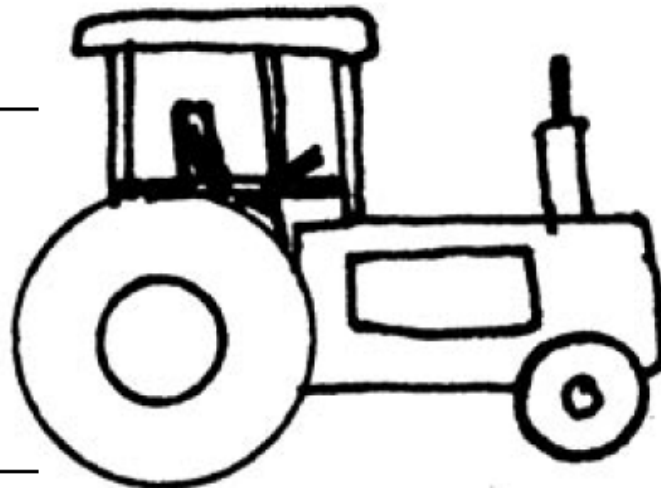
1. Do you know which machines are used at home? Look at the pictures below and write the names of the correct machines. Colour them.











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Sample worksheet

Chapter 1: A Computer

1. Circle the picture which shows a machine being used to work with.



2. Can you find the computers in these pictures? Circle them. What do you think they are called?










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Sample worksheet

Chapter 2: Parts of a Computer

1. Match each part of the computer with its name. Can you explain what each device is used for in a computer system? Write the use of each device below each picture.

monitor		 _____ _____
keyboard	_____ _____	 _____ _____
mouse	 _____ _____	 _____ _____
printer	_____ _____	 _____ _____
CPU	_____ _____	 _____ _____

Discuss with your teacher any two differences between a TV and a computer and write them in the table below:



Computer	Television
_____ _____	_____ _____

Sample worksheet

Chapter 2: Parts of a Computer

- Imagine that you need to turn on your computer but there is no one around to help you out. Below are pictures which will help, but they are not in order. Write the correct step in the box to show the correct order.











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Sample worksheet

Chapter 3: Uses of Computers

1. Here is a list of things that Gibran and his family do everyday. Put a ✓ in front of those for which they use a computer and ✗ by those for which they do not use a computer.

a. Gibran watches his favourite cartoon

b. His mother bakes a cake.

c. Father types a report and emails it to his office.

d. Gibran plays cricket using a bat and ball.

e. They sit down to have dinner.

f. Gibran's father gets printed tickets from the airline.

g. Gibran's sister types a poem and prints it.

2. One of the things that computers help us do is to sort information. Imagine you are a computer and sort out the letters below into alphabetical order.

Q N Z W S X E D C R F V T

G B Y H A U J M I K O L P

Sample worksheet

Chapter 3: Uses of Computers

a. Who uses the computer at home? Colour the right pictures.

b. Who uses a computer at school?

c. Who uses the computer in the hospital?



a dog

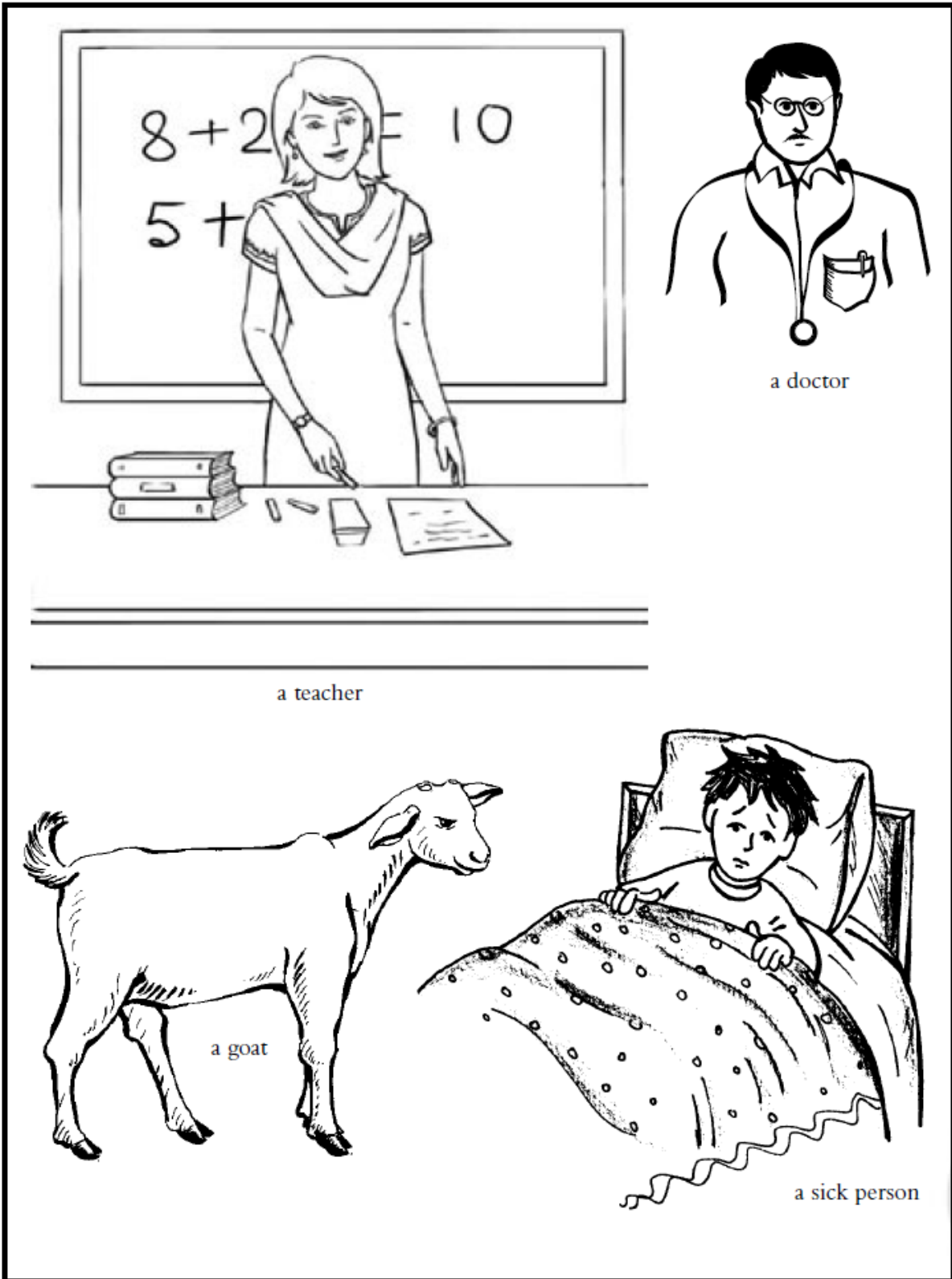


a baby



parents

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Sample worksheet

Chapter 4: Know your Keyboard

1. What do you do when you have finished watching television? You turn it off, of course. Below are the steps you need to turn off a computer, but they are all jumbled up—can you put them in order?

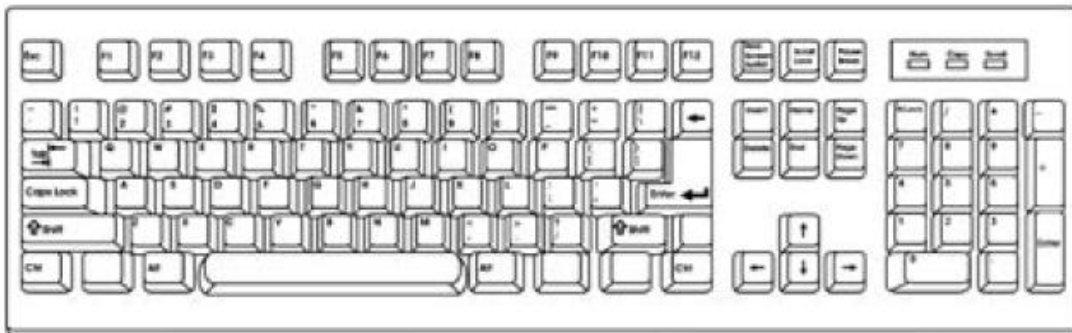






2. Below is an illustration of a keyboard. Do the following:

- Colour the alphabet keys green.
- Colour the numeric keypad blue.
- Circle the Enter key.
- Colour all keys marked with F yellow.
- Colour the Space bar red.



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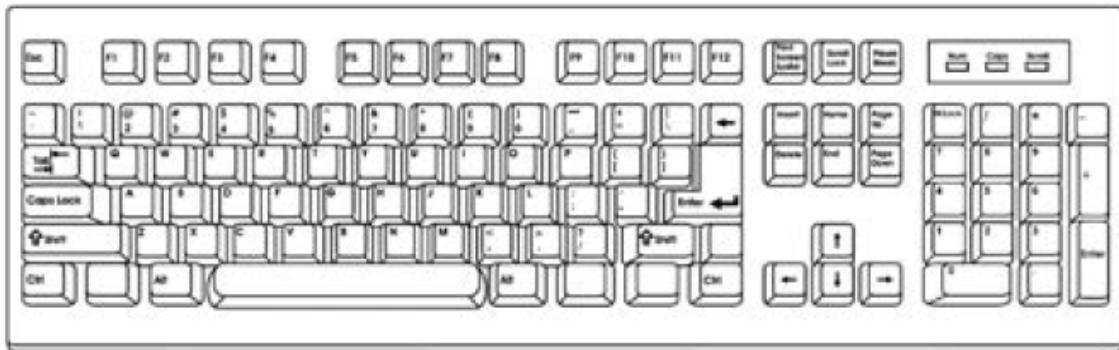
Sample worksheet

Chapter 4: Know your Keyboard

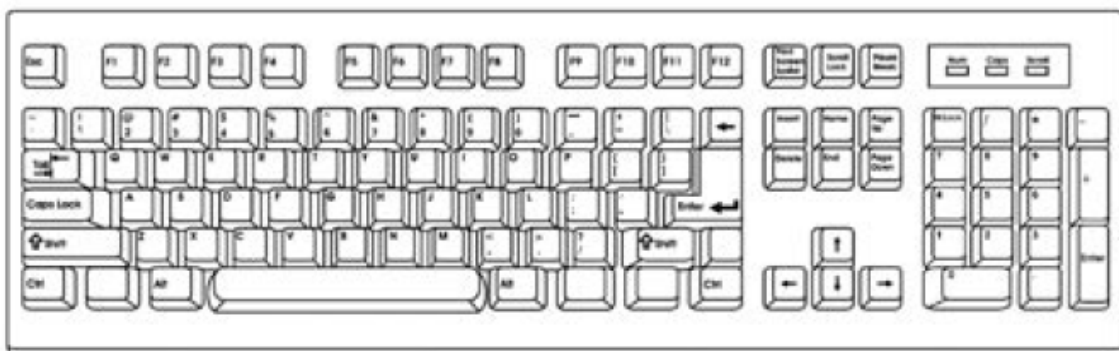
1. Do you know the functions of different keys on the keyboard? Match the keys to their functions.

- | | |
|---------------|-------------------------------------------------------------|
| number keys | are used for typing words and sentences |
| alphabet keys | are used for typing numbers |
| Space bar | is used to go to the next line |
| Enter key | is used to insert blank spaces between two words or letters |

2. Which keys are used to type your school's name? Colour those blue.



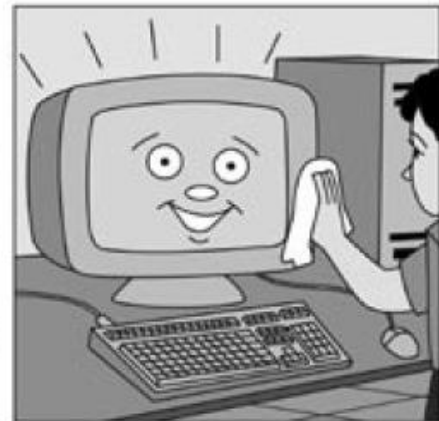
3. Which key are used to type your teacher's name? Colour those red.



Sample worksheet

Chapter 5: Computer Mouse

1. Below is a series of pictures showing children using the computer. Circle the ones where you think something is wrong. Tell your teacher what you think is wrong in the pictures.



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Sample worksheet

Chapter 5: Computer Mouse

1. Match the part of the computer with its function.

- | | |
|-------------|---------------------------------------------------|
| a. monitor | used to enter information into a computer. |
| b. mouse | used to take out information on a piece of paper. |
| c. keyboard | always makes a click sound when used. |
| d. printer | looks like a TV screen. |

2. List at least five uses of computers.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

3. Draw a computer system and label the mouse, printer, keyboard, monitor and the CPU, then colour the picture.