

MINISTRY OF PRIMARY AND SECONDARY EDUCATION



INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

INFANT (EARLY CHILDHOOD DEVELOPMENT - GRADE 2) SYLLABUS

2015-2022

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TABLE OF CONTENTS

Ack	nowled	gements1
1.0	Pream	ble
	1.1	Introduction
	1.2	Rationale
	1.3	Summary of Content
	1.4	Assumptions
	1.5	Cross Cutting Themes
2.0	Preser	ntation of the Syllabus
3.0	Aims	
4.0	Syllab	us Objectives
5.0	Metho	dology and Time Allocation4
	5.1	Methodology
	5.2	Time Allocation
6.0	Syllab	us Topics4
7.0	Scope	and Sequence
8.0	Asses	sment15
9.0	Appen	ndices
	Appen	dix I: Glossary of Terms used in Question Papers
	Appen	dix II: Acronyms

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- United Nations Educational Scientific and Cultural Organization (UNESCO)



1.0 PREAMBLE

1.1 Introduction

The Information and Communication Technology (ICT) syllabus is one of the seven learning areas at Infant level as noted in the Curriculum Framework for Primary and Secondary Education. It provides a broad perspective on the basic knowledge and practical skills on how to use and apply a variety of technologies in everyday life. The syllabus intends to equip learners with the general understanding of how information systems are designed to suit particular applications and how such systems work. The ICT syllabus is intended to be infused within other learning areas in the school curriculum.

The syllabus will follow a developmental approach that will lead learners to grow into a confident relationship with ICTs through education Infant module .

1.2 Rationale

ICT requires learners to pay close attention to developing adequate life and career skills. It adequately equips today's learners in entry-level work and beyond, in further study and lifelong learning, and in their personal lives as inquisitive, reflective, discerning and caring citizens. ICT is significantly enhancing and altering human activities, enabling us to live, work and think in ways that most of us never thought possible. Since technology has an increasingly significant impact, and such broad implications for every individual, groups and entire nations, learners must be prepared to understand, control use and apply ICT in effective and efficient ways.

1.3 Summary of Content

The Infant School ICT syllabus covers theory and practical activities in areas such as drawing, programming and designing. This enables learners to be exposed to a wide variety of ICT tools and programs which develop expertise, originality, confidence, self-identity (*Unhu/Ubuntu/Vumunhu*)) and the ability to communicate.

ICT provides unique opportunities for scaffolding and supporting learning for learners with special learning needs, and learners from culturally or linguistically diverse backgrounds. The use of ICT encompasses enterprise skills, a significant contributor to the socio-economic transformation of the nation.

1.4 Assumptions

The syllabus assumes that learners:

- are exposed to some electronic tools at their homes such as smart phones
- > are able to manipulate some electronic tools at their homes
- have innate desire to explore the basic elements and principles of design
- have an appreciation of ICT devices
- > are confident in dealing with electronic devices
- > are persistent in working with difficult problems



1.5 Cross Cutting Themes

ICT learning area will encompass and have a universal thrust on the following cross cutting themes:

- Collaboration
- > HIV and AIDS
- Heritage Studies
- > Human Rights
- Child Protection
- Gender
- Environmental Issues
- Disaster Risk Management

2.0 PRESENTATION OF THE SYLLABUS

The syllabus is presented as a single document catering for Infant level.

3.0 AIMS

The syllabus aims to enable learners to:

- 3.1 appreciate the role and impact of ICTs, safety and security as they apply to self, work and society
- 3.2 develop an understanding of the operating skills required, be creative and innovative in solving problems through ICTs
- 3.3 acquire enterprise skills using ICTs
- 3.4 infuse ICTs in other subjects across the curriculum
- 3.5 create an awareness of their cultural heritage, its preservation and developmental issues using ICTs

4.0 SYLLABUS OBJECTIVES

By the end of the infant school level, learners should be able to:

- 4.1. identify ICT tools in the environment
- 4.2 identify computer packages
- 4.3 create a computer based solution from a given problem statement
- 4.4 operate ICT tools to achieve specific tasks
- 4.5 handle data using ICTs
- 4.6 apply the elements and principles of design
- 4.7 present information in a variety of forms
- 4.8 archive cultural and scientific information using ICTs
- 4.9 infuse ICT into other learning areas
- 4.10 evaluate the effectiveness of computer safety and security



5.0 METHODOLOGY AND TIME ALLOCATION

In this syllabus, some of the methods and approaches that can be used to teach Information and Communication Technology in primary schools are as follows:

5.1 Methodology

- Problem Solving
- Games
- Simulation and Modeling
- Discovery and Experimentation
- Design Based Learning
- Project-based Learning (Case Study)
- Question and Answer
- Discussions and Group Work
- Demonstrations
- Educational Tours
- Research and Presentations

NB: Teachers should be aware of methods and principles that meet the diverse needs of learners that include visual tactile, individualization, self-activity, totality and wholeness.

5.2 Time Allocation

ECD A should be allocated 2 periods of 15 minutes each per week. ECD B should be allocated 2 periods of 20 minutes each per week. In Grades 1 and 2 the learning area should be allocated at least 1 hour per week per class.

6.0 SYLLABUS TOPICS

- 6.1. ICT Tools
- 6.2 Creating and Publishing
- 6.3 Application Software
- 6.4 Safety and Security
- 6.5 Programming



Devices and Commands Computer safety rules e-waste management Digitising information Parts of a computer Computer security Text Formatting Health hazards Auto Shapes Multimedia **Devices and Commands** Formulation of computer safety rules **Drawing and Colouring** Handling of computers Parts of a computer Word processing Computer security Multimedia **Text Input** Computer safety rules Computer play ICT toys Multimedia Drawing Puzzles Control ECD B Computer safety rules Computer play ICT toys Multimedia Scribble Control Paint **PROGRAMMING** CREATING AND PUBLISHING APPLICATION SOFTWARE SAFETY AND SECURITY ICT TOOLS

7.0



COMPETENCY MATRIX ECD A

TOPIC	OBJECTIVES Learners should be able to:	CONTENT/ COMPETENCIES	SUGGESTED ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.1 ICT TOOLS	 play with available ICT toys 	• ICT toys • ICT models	 Naming available ICT toys Playing with available ICT toys Creating ICT models using locally available resources 	Toy LaptopsSmart PhonesRemote ControlsCameras
7.2 CREATING AND PUBLISHING	 scribble using the mouse or touch screen select colours 	• Scribble • Drawing	 Scribbling using selected colours Drawing using selected colours 	ICT toolsCharts of scribbled work
7.3 APPLICATION SOFTWARE	 select and use different painting tools paint pictures and shapes 	 Painting 	 Identifying painting icons such as pencils, brushes and colour icons Free painting using the mouse or touch screen Painting pictures and shapes 	MousePaint ProgramTouch screenSmart boardsZimbabwean Flag
	identify musical toysplay with the musical toysplay using musical software	Multimedia Music	 based on Socio-cultural context Naming musical toys Playing music from toys and computer related tools Conducting educational tours: visiting studios 	Toy PhonesPianosComputersMusic Software
7.4 SAFETY AND SECURITY	 state computer safety rules 	 Basic computer safety rules Safe computer use 	 Discussing computer safety rules Stating computer safety rules 	Charts showing computer safety rules
7.5 PROGRAMMING	identify different electronic toysguide a floor robot	Control Robotics	 Exploring a range of control toys and devices Visiting specific locations using a robot on a floor map. 	 Electronic toys with remotes Homemade robots

COMPETENCY MATRIX ECD B

OBJECTIVES
Learners should be able to:
1
mouse

TOPIC	OBJECTIVES Learners should be able to:	CONTENT/ COMPETENCIES	SUGGESTED ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.8 APPLICATION SOFTWARE	draw patterns and shapes	Drawing	Drawing different patterns and shapes based on socio-cultural context	• ICT tools
	play media filesretell folktalesrecord sounds and videos	Multimedia Educational cartoons based on folktales	 Playing media files using ICT tools Conducting educational tours Watching educational cartoons using ICT tools Recording sounds and videos 	• ICT tools
7.9 SAFETY AND SECURITY	 state computer safety rules identify physical security requirements for ICT tools 	Basic computer safety rules -Computer security	 Stating computer safety rules Discussing computer safety rules Discussing physical security requirements for ICT tools 	 Charts and pictures showing computer safety rules Pictures showing computer security
7.10 PROGRAMMING	 guide a floor robot in relation to other objects on a floor map identify the different tasks that the robots can do 	• Control -Robotics	 Visiting specific positions using a robot on a floor map related to other objects Conducting educational tours 	 Scratch Programming, Logo ATM and automatic doors

tablets, smart phones socio-cultural context Print and Electronic Monkey jam and Available ICT tools Microsoft paint, Pictures based on Word processing Painting Package desktops, laptops, Media Player Tux paint programme RESOURCES SUGGESTED Print media ICT Tools: ICT Tools ICT tools such as: media Painting using a Paint package to Identifying numeric and letters on space-bar, enter and back space keyboard keys: delete, caps lock, Operating computer parts using Drawing of pictures and shapes programs such as Notepad and Demonstrating the use of basic Playing computer games using Photographing using ICT tools during class related activities using ICT tools Typing letters, numbers and Recording audio and video create pictures and effects SUGGESTED ACTIVITIES Naming computer parts Creating a picture story the keyboard AND NOTES WordPad ICT tools words Word processing COMPETENCIES Drawing and Multimedia Parts of a Computer colouring identify the layout of a keyboard | • Text input CONTENT/ play recorded music and videos draw and colour pictures and Learners should be able to: identify parts of a computer use basic keyboard keys use the computer parts type text and numbers create a picture story take a photo **OBJECTIVES** shapes **CREATING AND APPLICATION PUBLISHING** SOFTWARE ICT TOOLS TOPIC 7.11

			 Navigating music buttons on a media player such as pause, play and next Controlling volume settings on a media player 	
7.14 SAFETY AND SECURITY	 state the computer safety precautions describe the consequences of breaking computer safety rules 	Formulation of Rules Computer safety precautions	 Stating computer safety precautions Discussing the consequences of breaking computer safety rules 	• Educational pictures and videos on computer safety
	 describe physical security requirements for ICT tools 	Computer security	 Discussing physical security requirements for ICT tools 	Pictures and videos on computer security
	 explain ways of preventing electrical accidents when using a computer shut down computer devices properly 	Handling of computers Protecting the computer from electrical damage Proper shutting down procedures	 Discussing ways of preventing electrical accidents when using a computer Shutting down the computer before switching off the plugs 	 Plugs Adapters Surge protectors UPS

10

TOPIC	OBJECTIVES • Learners should be able to:	• CONTENT/ COMPETENCIES	SUGGESTED ACTIVITIES AND NOTES	• SUGGESTED RESOURCES
7.15 PROGRAMMING	move screen objects using a set of instructions ordering a sequence of commands into a programmable robot or toy demonstrate how computer processes instructions and commands (computational thinking)	Devices and commands Program Algorithms Turtle and electronic toys	 Exploring how devices respond to commands following instructions to move around a course Exploring outcomes when individual buttons are pressed on robots, such as floor turtles and combine these together to draw shapes 	Screen turtle Logo Scratch Programming programmable toys code academy

GRADE 2	
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SUGGESTED RESOURCES	 ICT Tools: desktops, laptops, tablets, smart phones Print and Electronic media 	 Work cards ICT tools Plane shapes Pictures Paint Program 	 ICT tools Chart with alphabetical letters and numbers 	 Word processor software ICT tools: desktops, laptops, tables, smart phones
SUGGESTED ACTIVITIES AND NOTES	Naming computer parts Outlining uses of computer parts Playing games using ICT tools Conducting educational tours to organizations which specializes on computer hardware	 Demonstrating how to Insert auto shapes Formatting shapes Combining shapes and pictures using a range of tools in a paint package to create and retell a picture story based on everyday life 	 Discussing the use of a coding scheme Writing of words using code instead of letters 	 Selecting text using shift and the arrow navigation keys Applying Bold, underline, font colour and size to text
CONTENT/ COMPETENCIES	Parts of a Computer	 Auto Shapes -Symbols -Pictures 	 Digitising information Cryptography Coding Decoding 	Formatting Text
OBJECTIVES Learners should be able to:	 identify parts of a computer explain uses of computer parts use different parts of the computer to perform tasks 	 insert shapes and pictures format shapes combine shapes create and retell a picture story 	 classify text using a specified coding scheme code and decode text using a specified coding scheme 	select textformat text
TOPIC	7.16 ICT TOOLS	7.17 CREATING AND PUBLISHING		7.18 APPLICATION SOFTWARE

TOPIC	OBJECTIVES Learners should be able to:	CONTENT/ COMPETENCIES	SUGGESTED ACTIVITIES AND NOTES	SUGGESTED RESOURCES
	 access media files from removable disks play music and videos from computer devices create a story board using pictures, videos and sound 	• Multimedia	 Retrieving media files from removable disks Navigating music buttons on a media player such as pause, play, next Conducting educational tours: music concerts, studios 	• Expert guest presentation • ICT tools - projectors - computers - tablets - DVDs - CDs - CDs - Smart phones - memory sticks - smart boards
7.19 SAFETY AND SECURITY	 match computer safety rules from provided pictures and videos 	Computer safety rules	 Formulating computer safety rules from given pictures and videos Carrying out safety drills 	 Pictures and videos showing computer safety rules
	 describe physical security requirements for ICT tools 	Computer security	 Discussing physical security requirements for ICT tools 	 Pictures and videos on computer security
	 identify health hazards associated with computers describe the correct posture when operating ICT tools identify precautions to be taken when using ICT tools list proper methods of disposing broken down ICT Tools 	• Health Hazards - e-waste management	 Discussing Repetitive Strain Injuries (RSIs) Discussing the importance of ventilation when using a ICT tools Demonstrating proper sitting posture Discussing dangers associated with incorrect use of ICT tools such as use of 	 Screen guards, Adjustable chairs ICT tools

TOPIC	OBJECTIVES Learners should be able to:	CONTENT/ COMPETENCIES	SUGGESTED ACTIVITIES AND NOTES	SUGGESTED RESOURCES
			ear phones, addiction to video gamesDiscussing proper methods of e-waste management	
7.20 PROGRAMMING	 identify computer processes, instructions and commands create and edit sequences of instructions. 	• Devices and Commands -Program Algorithms -Turtle	 Exploring a screen turtle navigating around a course or grid. Drawing shapes from a sequence of instructions Directing the turtle through the use of text 	 Scratch application package Prolog

8.0 ASSESSMENT

8.1 Assessment Objectives

8.1.1 Knowledge and Understanding

Learners should be able to:

- identify ICT tools in the environment
- recognise information in a variety of forms
- communicate using ICT tools
- incorporate ICT into other subjects
- present information in a variety of forms
- archive cultural information using ICT tools

8.1.2 Problem solving

Learners should be able to:

- create a computer project from a given problem statement
- give commands to control a device using ICT
- select and apply appropriate techniques and principles to develop data structures
- present information in a variety of forms
- implement data structures

8.1.3 Practical Skills

Learners should be able to:

- select and apply appropriate techniques and principles to develop data structures
- design and develop solutions to given problem
- create a computer project from a given problem statement

8.2 Scheme of Assessment

The ICT Syllabus for Infants embraces continuous assessment which is mainly formative in nature.

Continuous Assessment (100%)

Profiling and practical assignments are administered on learners from ECD through to Grade 2, while tests start at Grade 1. Tests and assignments are designed by the class teacher. Assessment instruments like checklists and observation schedules must go through national standardisation.

NB: Assessment through practical assignments and tests may not contribute to the final mark. Profiling should continue through to Grade 7.



LEVEL	FORM OF ASSESSMENT	ASSESSMENT TASK	NATURE OF ASSESSMENT TASK	FREQUENCY
ECD	Continuous	 Scribbling Painting Colouring Gaming Audio and video recording Photographing Solving puzzles 	Practical exercises	 Regularly
GRADE 1	Continuous	 Drawing Painting Colouring Gaming Audio and video recording Photographing Solving puzzles Typing 	Practical and written exercises	Fortnightly and monthly
GRADE 2	Continuous	 Drawing Painting Colouring Gaming Audio and video recording Photographing Solving puzzles Typing 	Practical and written exercises	 Fortnightly and monthly

NB: Practical exercises can be done individually or in groups

Assessment Table

Assessment Criteria

Assessment Instruments:

- Checklists
- Rating Scale
- Observation Guide
- Exercises
- Theory Tests
- Practical Tests



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9.0 APPENDICES

APPENDIX I: GLOSSARY OF TERMS USED IN QUESTION PAPERS

It is hoped that the glossary will be helpful to learners as a guide. The glossary has been deliberately kept brief not only with respect to the number of terms included but also to the descriptions of their meanings. Learners should appreciate that the meaning of a term must depend in part on its context.

1	Define	is intended literally, only a formal statement or equivalent paraphrases being required.
2	State	implies a concise answer with little or no supporting argument e.g. numerical answer that can readily be obtained by inspection
3	List	requires a number of points generally each of one word with no elaboration, where a number of points is specified this should not be exceeded.
4	Explain	may imply reasoning or some reference to theory depending on the context
5	Describe	requires the candidate to state in words (using diagrams where appropriate) the main points of the concept
6	Outline	implies brevity that is restricting the answer to given essentials
7	Predict/deduce	the candidate is expected to produce the expected answer by making a logical connection between other pieces of information
8	Suggest	it is used in two main contexts that is either to imply that there is no unique answer or to imply that learners are expected to apply their general knowledge
9	Find	is a general term that may variously be interpreted as calculate, measure, determine etc
10	Determine	often implies that the quantity concerned cannot be measured directly but is obtained by calculation

APPENDIX II: ACRONYMS

ATM	Automated Teller Machine
CDs	Compact Disks
SYSTEM UNIT	Central Processing Unit
DVDs	Digital Versatile Disks
GUI	Graphical User Interface
ICT	Information and Communication Technology
Internet	International Network
UPS	Uninterrupted Power Supply
RSI	Repetitive Strain Injuries



