basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Curriculum and Assessment Policy Statement: Technical Occupational

Grade 8 and 9

DIGITAL TECHNOLOGY

(Office Administration + ICT)

CONTENTS

SECTION 1

INTRODUCTION TO THE CURRICULUM AND ASSESSMENT POLICY STATEMENT: TECHNICAL OCCUPATIONAL GRADE 8 AND 9

1.1 Background

The *National Curriculum Statement Grades R – 12 (NCS)* stipulates policy on curriculum and assessment in the schooling sector.

To improve implementation, the National Curriculum Statement was amended, with the amendments coming into effect in January 2012. A single comprehensive Curriculum and Assessment Policy document was developed for each subject to replace Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines in Grades R - 12.

1.2 Overview

(a) The *National Curriculum Statement Grades R – 12 (January 2012)* represents a policy statement for learning and teaching in South African schools and comprises the following:

(i) National Curriculum and Assessment Policy Statements for each approved school subject*;*

(ii) The policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12; and

(iii) The policy document, National Protocol for Assessment Grades R – 12 (January 2012).

(b) The *National Curriculum Statement Grades R – 12 (January 2012)* replaces the two current national curricula statements, namely the

(i) Revised National Curriculum Statement Grades R - 9, Government Gazette No. 23406 of 31 May 2002*,* and

(ii) *National Curriculum Statement Grades 10 - 12 Government Gazettes, No. 25545 of 6 October 2003* and *No. 27594* of 17 May 2005.

(c) The national curriculum statements contemplated in subparagraphs (a) and (b) comprise the following policy documents which will be incrementally repealed by the *National Curriculum Statement Grades R – 12 (January 2012)* during the period 2012-2014:

(i) The Learning Area/Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines for Grades R - 9 and Grades 10 – 12;

(ii) The policy document, *National Policy on assessment and qualifications for schools in the General Education and Training Band d*, promulgated in *Government Notice No. 124* in *Government Gazette No. 29626* of 12 February 2007;

(iii) The policy document, the *National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF)*, promulgated in *Government Gazette No.27819* of 20 July 2005;

(iv) The policy document, *An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF),*

regarding learners with special needs, published in *Government Gazette, No.29466* of 11 December 2006, is incorporated in the policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12; and*

(v) The policy document, *An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding the National Protocol for Assessment (Grades R – 12)*, promulgated in *Government Notice No.1267* in *Government Gazette No. 29467* of 11 December 2006.

(c) The policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12*, and the sections on the Curriculum and Assessment Policy as contemplated in Chapters 2, 3 and 4 of this document constitute the norms and standards of the *National Curriculum Statement Grades R – 12.* It will therefore, in terms of *section 6A* of the *South African Schools Act, 1996 (Act No. 84 of 1996,)* form the basis for the Minister of Basic Education to determine minimum outcomes and standards, as well as the processes and procedures for the assessment of learner achievement to be applicable to public and independent schools.

1.3 General aims of the South African Curriculum

- The *National Curriculum Statement Grades R - 12* gives expression to the knowledge, skills and values worth learning in South African schools. This curriculum aims to ensure that children acquire and apply knowledge and skills in ways that are meaningful to their own lives. In this regard, the curriculum promotes knowledge in local contexts, while being sensitive to global imperatives.

- The National Curriculum Statement Grades R - 12 serves the purposes of:
  - equipping learners, irrespective of their socio-economic background, race, gender, physical ability or intellectual ability, with the knowledge, skills and values necessary for self-fulfilment, and meaningful participation in society as citizens of a free country;
  - providing access to higher education;
  - facilitating the transition of learners from education institutions to the workplace; and
  - providing employers with a sufficient profile of a learner's competences.
- The National Curriculum Statement Grades R - 12 is based on the following principles:
  - Social transformation: ensuring that the educational imbalances of the past are redressed, and that equal educational opportunities are provided for all sections of the population;
  - Active and critical learning: encouraging an active and critical approach to learning, rather than rote and uncritical learning of given truths;
  - High knowledge and high skills: the minimum standards of knowledge and skills to be achieved at each grade are specified and set high, achievable standards in all subjects;
  - Progression: content and context of each grade shows progression from simple to complex;

- Human rights, inclusivity, environmental and social justice: infusing the principles and practices of social and environmental justice and human rights as defined in the Constitution of the Republic of South Africa. The National Curriculum Statement Grades R – 12 is sensitive to issues of diversity such as poverty, inequality, race, gender, language, age, disability and other factors;
- Valuing indigenous knowledge systems: acknowledging the rich history and heritage of this country as important contributors to nurturing the values contained in the Constitution; and
- Credibility, quality and efficiency: providing an education that is comparable in quality, breadth and depth to those of other countries.

- The National Curriculum Statement Grades R - 12 aims to produce learners that can:
  - identify and solve problems and make decisions using critical and creative thinking;
  - work effectively as individuals and with others as members of a team;
  - organise and manage themselves and their activities responsibly and effectively;
  - collect, analyse, organise and critically evaluate information;
  - communicate effectively using visual, symbolic and/or language skills in various modes;
  - use science and technology effectively and critically showing responsibility towards the environment and the health of others; and
  - demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.
- Inclusivity should become a central part of the organisation, planning and teaching at each school. This can only happen if all teachers have a sound understanding of how to recognise and address barriers to learning, and how to plan for diversity.

  The key to managing inclusivity is ensuring that barriers are identified and addressed by all the relevant support structures within the school community, including teachers, District-Based Support Teams, Institutional-Level Support Teams, parents and Special Schools as Resource Centres. To address barriers in the classroom, teachers should use various curriculum differentiation strategies such as those included in the Department of Basic Education's *Guidelines for Inclusive Teaching and Learning* (2010).

1.4 Time Allocation

1.4.1 Foundation Phase

(a) The instructional time in the Foundation Phase is as follows:

Subject	Grade R (Hours)	Grades 1-2 (Hours)	Grade 3 (Hours)
Home Language	10	7/8	7/8
First Additional Language		2/3	3/4
Mathematics	7	7	7
Life Skills	**6**	**6**	**7**
• Beginning Knowledge	(1)	(1)	(2)
• Creative Arts	(2)	(2)	(2)
• Physical Education	(2)	(2)	(2)
• Personal and Social Well-being	(1)	(1)	(1)
Total	**23**	**23**	**25**

(b) Instructional time for Grades R, 1 and 2 is 23 hours and for Grade 3 is 25 hours.

(c) Ten hours are allocated for languages in Grades R-2 and 11 hours in Grade 3. A maximum of 8 hours and a minimum of 7 hours are allocated for Home Language and a minimum of 2 hours and a maximum of 3 hours for Additional Language in Grades R – 2. In Grade 3 a maximum of 8 hours and a minimum of 7 hours are allocated for Home Language and a minimum of 3 hours and a maximum of 4 hours for First Additional Language.

(d) In Life Skills Beginning Knowledge is allocated 1 hour in Grades R – 2 and 2 hours as indicated by the hours in brackets for Grade 3.

1.4.2 Intermediate Phase

The instructional time in the Intermediate Phase is as follows:

Subject	Hours
Home Language	6
First Additional Language	5
Mathematics	6
Natural Science and Technology	3,5
Social Sciences	3
Life Skills	**4**
• Creative Arts	(1,5)
• Physical Education	(1)
• Personal and Social Well-being	(1,5)
Total	**27,5**

1.4.3 Senior Phase

(a) The instructional time in the Senior Phase is as follows:

Subject	Hours
Home Language	5
First Additional Language	4
Mathematics	4,5
Natural Science	3
Social Sciences	3
Technology	2
Economic Management Sciences	2
Life Orientation	2
Arts and Culture	2
A maximum of two subjects can be selected from the list of thirteen Elective Occupational subjects to replace any two of the following: Technology, Creative Arts and/or Economic and Management Sciences. The instructional time for these subjects is 2 hours each.	
Total	**27,5**

Elective Occupational Subjects (Not more than 2)	
1. Agricultural Studies	Time Allocation per week: 2 hours each
2. Art and Design	
3. Digital Technology	
4. Early Childhood Development	
5. Mechanical Technology	
6. Electrical Technology	
7. Civil Technology	
8. Hairdressing, Nail and Beauty Technology	
9. Ancillary Health Care Studies	
10. Services: Maintenance and Upholstery	
11. Consumer Studies	
12. Hospitality Studies	
13. Wholesale and Retail Studies	

1.4.4 Grades 10-12

(a) The instructional time in Grades 10-12 is as follows:

Subject	Time allocation per week (hours)
I. Home Language	**4.5**
II. First Additional Language	**4.5**
III. Mathematics	**4.5**
IV. Life Orientation	**2**
V. A minimum of any three subjects selected from Group B Annexure B, Tables B1-B8 of the policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12,* subject to the provisos stipulated in paragraph 28 of the said policy document.	**12 (3x4h)**

The allocated time per week may be utilised only for the minimum required NCS subjects as specified above, and may not be used for any additional subjects added to the list of minimum subjects. Should a learner wish to offer additional subjects, additional time must be allocated for the offering of these subjects.

SECTION 2:

INTRODUCTION TO DIGITAL TECHNOLOGY

2.1 What is Digital Technology?

Digital Technology is the use of computers, applications and internet technologies to enable users to communicate, create, store, distribute and manage information as well as to solve real life problems using appropriate tools and techniques.

Any skills related to being digitally literate – from the ability to answer e-mails to developing a website or coding a solution to a problem, counts as a digital skill.

2.2 Topics to be studied in Digital Technology:

1. System Technologies
2. Keyboarding – Typing Tutor
3. Word Processing
4. Spreadsheets
5. Digital Citizenship
6. Computational Thinking
7. Coding – Block-based coding tools should be used such as Scratch, Micro:Bit or similar

2.3 Specific aims of Digital Technology

- use end-user software applications and development tools proficiently to produce solutions to problems within any real-life scenarios;
- understand the concepts of ICTs with regard to the technologies that make up a computing system;
- use the Internet and the WWW and understand the role that the Internet plays as part of the global information superhighway;
- develop critical thinking and algorithmic problem-solving skills through computational thinking;
- use appropriate techniques and procedures to devise and plan solutions;
- process data and information to draw conclusions, make decisions; and
- become responsible digital citizens.

2.4 Requirements for Digital Technology as a subject

The guidelines for the allocation of resources to teach Digital Technology are outlined in 2.4.1 to 2.4.3. It is recommended that schools plan and budget so that they can meet the requirements for the equipment and software necessary to offer the subject Digital Technology.

2.4.1 Time allocation

The time allocated for Digital Technology must be two hours in a five-day cycle.

The following table provides the time allocation per term for Grade 8 and Grade 9:

	Term 1	**Term 2**	**Term 3**	**Term 4**
Teaching and Learning	8 weeks	8 weeks	8 weeks	6 weeks
Consolidation, Practice and Assessment	2 weeks	2 weeks	2 weeks	4 weeks
Total	10 weeks	10 weeks	10 weeks	10 weeks

The following table provides a breakdown of time allocated per topic:

Topic / Content	**Grade 8**	**Grade 9**
Systems Technologies	2 hours/1 week	2 hours/1 week
Computational Thinking	6 hours/3 weeks	6 hours/3 weeks
Keyboarding Skills	10 hours/5 weeks	6 hours/3 weeks
Word Processing	14 hours/7 weeks	6 hours/3 weeks
Spreadsheets	8 hours/4 weeks	8 hours/4 weeks
Digital Citizenship	4 hours/2 weeks	6 hours/3 weeks
Coding	8 hours/4 weeks	14 hours/7 weeks
Consolidation and Practise	12 hours/6 weeks	14 hours/7 weeks
Assessment	14 hours/7 weeks	14 hours/7 weeks
Practical Task (Project)	2 hours/1 week	4 hours/2 weeks
Total	**80 hours/40 weeks**	**80 hours/40 weeks**

2.4.2 Resources

In Digital Technology, learners are required to work individually on a computer during contact time and need access to the Internet.

2.4.3 Infrastructure, equipment and finance

Schools must have a management plan for the subject that addresses the following:

- Initial capital layout for setting up a computer laboratory. The financial plan should provide for the following:
    - Entry level computers (to ensure a lifespan of 4 - 5 years) or similar devices (e.g. tablet computers or Raspberry Pi devices) – networked
        - One computer/device per learner per period (during contact time)
    - Internet access
- One high-speed printer per network
- Data projector
- Software Requirements
    - Operating system
    - Office suite which includes word processing, spreadsheets and an e-mail application
    - Security software – antivirus
    - Web browser e.g. Microsoft Internet Explorer, Microsoft Edge, Chrome or Mozilla Firefox
    - Multimedia software, i.e. Adobe Flash Player (version 10.2 or later – free online installation)
    - Graphical software development environment – Block-based programming language such as Scratch and/or Micro:Bit (Make Code Editor) (or similar) (freely available from the Internet)
    - Typing Tutor
- Budget
    - Annual running costs
        - Software licensing (operating system, application software, security software)
        - Cartridges, paper, storage media
        - Breakages and maintenance (regular service plan)
        - Insurance
        - Internet connectivity
    - Sustainability plan
        - To upgrade or replace software and equipment every 4 - 5 years.
- Safety standards in terms of electrical points and Distribution boards (DB) must be met. Surge arrestors should be installed. Electrical work within the computer lab must carry a certificate of compliance from an appropriate service provider/authority.
- All anti-theft and fire safety measures must be installed in the computer laboratory

2.5 Career opportunities

Today, digital technology is integrated in all aspects of our lives. Digital skills make one more marketable and effective in any job and support further studies.

The ever-present nature of ICTs has seen its inclusion in every sector of employment and entrepreneurship.

The general aim of this programme is to equip learners with knowledge and skills that will allow them to easily adapt to any ICT environment that requires basic end user computing and computational thinking. The fundamentals of software development, computational thinking and coding are also explored.

SECTION 3

OVERVIEW OF TOPICS PER TERM AND ANNUAL TEACHING PLANS

3.1 Content overview

Suggested guidelines for a Digital Technology Learning Programme

The suggested guidelines are the minimum content that should be covered in Grade 8 and Grade 9. The content and skills presented here should be integrated into meaningful activities that are relevant to learner's context and future workplace expectations. Activities could incorporate a single content item/skill or could include a range of content items/skills. The content should be done sequentially and scaffolded from Grade 8 to Grade 9. Content sequence within a year can be changed to suit the needs of the school.

Grade 8

Topic/ Content	Grade 8			
	Term 1	**Term 2**	**Term 3**	**Term 4**
Systems Technologies	Basic components of a computer system Devices required: Input/Output devices, storage devices, processing (CPU and RAM), digital communication devices Information processing cycle: Input, output, processing, storage, communication File Management (Folder, file extensions, naming conventions, drive and path, search utility)			Consolidation Practical Task
Keyboarding skills using a typing tutor	Typing posture Finger positions Different sections of keyboard Home row Top row Bottom row	Introduction to other keys; Shift, Caps Lock, Insert, Delete, Backspace, Page up, Page down, Home, End, Tab, undo, Redo, Print screen Speed and accuracy practise	Revise alphabetical and numerical keys Special characters, symbols and punctuation marks Revise common short cuts Speed and accuracy practise	Consolidation and Practise Practical Task

Topic/ Content	Grade 8			
	Term 1	**Term 2**	**Term 3**	**Term 4**
Word Processing	Purpose of word processing Basic use of a word processor Opening, saving and basic printing options Word wrapping, hard return, soft return Font Selection of text Cut, copy and paste Delete Built-in styles Spelling and grammar checking Basic Find & Replace Basic Illustrations	Customise margins Page orientation Page breaks Paper size Page borders Line and paragraph spacing Paragraph alignment Indents Symbols Bullets and numbers	Tab settings Tables (insert & delete rows, columns, table, merge, unmerge, text direction, table styles)	Consolidation and Practise Practical Task
Spreadsheets		Purpose of spreadsheets Cell, row, column, sheet Cell reference Resizing rows and columns Transferring common features from word processing skills (e.g. copy, paste, save) Basic formatting and editing (wrap, merge, alignment, borders) Autofill Common data types (Text, Number, Currency, General) Use formulae (calculations) with basic operators and order of precedence	Simple functions (SUM, AVERAGE, MIN, MAX, COUNT) Sorting of data Basic error indicators (#VALUE, #NAME, #NUM, #REF, #DIV/0, #N/A, ####) Troubleshooting	Consolidation and Practise Practical Task

Topic/ Content	Grade 8			
	Term 1	**Term 2**	**Term 3**	**Term 4**
Digital Citizenship		Browsers Safe internet and device usage	Information privacy and piracy Cybercrime threats and issue (phishing, identity theft, hacking)	Consolidation and Practise Practical Task
Computational Thinking	Overview of Computational Thinking: • Pattern recognition • Decomposition • Abstraction • Algorithms Focus: Detail and sequence (Basic Algorithmic thinking)	Focus: Pattern recognition	Focus: Algorithms – read, trace & explain	Consolidation and Practise Practical Task
Coding			Introduction to coding environment and concepts Simple problems to illustrate spatial orientation / logical sequence e.g. draw shapes (Include basic, single condition/ loop if required) Introduction to Events	Look & Feel Simple, basic problems Consolidation and Practise Practical Task

Grade 9

Topic/ Content	Grade 9			
	Term 1	**Term 2**	**Term 3**	**Term 4**
Systems Technologies	System software Application software Utility software Cloud computing Search engine ICTs in everyday life Online banking and shopping			Consolidation and Practise Practical Task
Keyboarding skills using a typing tutor	Number keys Numeric keypad Calculator utility Speed and accuracy practise	Consolidation Speed and accuracy practise	Consolidation Speed and accuracy practise	Consolidation and Practise Speed and accuracy practise
Word Processing	WordArt Text boxes Headers and Footers Page numbering	SmartArt	Table of contents Consolidation	Consolidation and Practise Practical Task
Spreadsheets	Creating, editing graphs/charts Draw conclusions by analysing graphs/charts	Working with sheets Functions (ROUND, COUNTA, COUNTBLANK, COUNTIF) Troubleshooting basic errors	Paper size Page margins Page orientation Headers and footers Print area and print titles Consolidation	Consolidation and Practise Practical Task
Digital Citizenship	Ethical, social and safety awareness when online	Copyright and plagiarism Public domain Referencing sources	Understand cybercrime, protection and legal consequences	Consolidation and Practise Practical Task
Computational Thinking	Focus: Decomposition and abstraction	Focus: Problem-solving steps and techniques	Focus: Algorithms	Consolidation and Practise Practical Task
Coding	Variables Operators Simple control structures	Read code and explain what it does, test code, code completion	Complete code/ programs, read code, and explain what it does, test code, convert code, e.g. simple pseudo code	Consolidation and Practise Practical Task

Topic/ Content	Grade 9			
	Term 1	**Term 2**	**Term 3**	**Term 4**
	Read code and explain what it does, test code, code completion Simple, basic programs using one or two of the following: • sequence • single conditional • single iteration construct	Simple, basic programs using: • sequence • basic conditional • basic iteration construct	or simple flow diagrams to code Use problem-solving steps to plan a solution Diagrams to represent the problem Simple, basic programs using: • sequence • basic conditional • basic iteration construct	

3.2 Content outline

Grade 8

Term 1

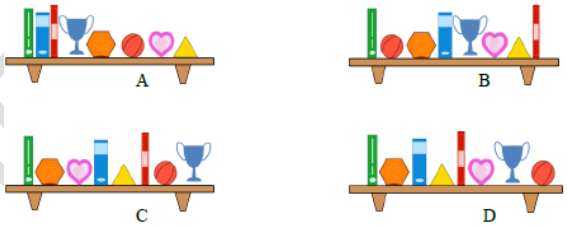
TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Systems technologies Introduction to computers Devices Information processing cycle File management	Basic components of a computer system Display a knowledge of the devices required: • Input devices • Output devices • Identify storage devices and capacities (hard drive, flash drive, optical drive/disc, memory cards) • Digital communication devices Display a knowledge of the Information Processing Cycle: • Input, output, processing, storage and communication • Expand concept of processing (CPU and RAM) Demonstrate basic file management tasks: • Create a new file/folder • Copy, cut and paste a document to a new location • Open, save and close features of files, e.g. 'open with', 'save to', 'close all' • View and sort files/folders, e.g. by name, by date, by type (file extension), by size	**2 hours**	**Resources:** Notes, posters, internet search for pictures, advertisements, etc. Possible teaching activities: **Activity (Devices)**: Crossword puzzle where clues are pictures and learners will a have a name list resource for storage devices. Learners will associate names in the list with the pictures and finally write the correct term in the crossword frame. **Activity (Information Processing Cycle)**: Worksheet with pictures of the Information Processing Cycle. Learners will identify and explain the steps in the cycle that they will get from a resource that teacher will prepare in random order. **Note:** Learners should be able to interpret simple advertisements regarding basic devices. **Activity (File Management)**: Demonstrate how to switch on and shut down (restart) a computer. Identify and name the different basic components within the operating system environment e.g. files, folders, taskbar, start button, etc. Teacher to demonstrate the use of cut, copy and paste files within and between folders. Activities that allow learners to drag and drop files and folders, double clicking, left click and right click. Create/use a set of instructions that direct the learner to perform practical activities with regard to file management tasks.

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Keyboarding skills *(using a Typing Tutor)*	• Demonstrate the correct typing posture and positioning of fingers, wrists, fore-arms and back to facilitate touch typing. • Able to identify different sections on keyboard (alphabetical, numerical, function keys) • Able to type home row (asdfgh;lkj) • Able to type top row (qwertyuiop) and home row • Able to type bottom row (zxcvbnm,./) and home row • Able to type a combination of short words	**4 hours**	The correct posture for sitting in front of computer, hands on keyboard, elbows etc. Drill exercises consisting of letter combinations Use a typing tutor that are available as open source or freeware **Note:** Any suitable method for learning to touch type could be followed. After learners master the basic keyboarding and touch-typing skills they should practise on a regular basis, e.g. first few minutes of each period or at the end of a week. Time management for keyboarding skills should be controlled by the teacher.

Word Processing:
Formatting and editing
Basic printing options
	Understand the purpose of using a word processor, such as Microsoft Word
	Become familiar with the Word processing environment
	Basic use of the word processor:
	• open a new blank <Ctrl N>/existing document
	• type words, sentences and paragraphs
	• understand and apply:
	  ○ word wrapping
	  ○ the use of the hard return <Enter>
	  ○ the use of the soft return <Shift Enter>
	• save documents <Ctrl S>
	• print documents <Ctrl P> (printing options: select printer, print all pages, print selection, print current page, custom print)
		2 hours	Activities consisting of words, sentences and paragraphs.
			Note: Shortcuts can be taught during or after the skill has been taught.
			Explanations:
			Word wrapping is when the word processor automatically moves text to the next line when reaching the right-hand margin).
			Hard return: The **word** processor forces the text to the start a next paragraph when the **Enter key** is pressed
			The **soft return** keeps the text together (in the same paragraph), but on separate lines.

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Word Processing: Formatting and editing	Apply basic formatting techniques to words/text/ paragraphs using the following: • use the **Font group** on the **Home tab** (of MS Word) • apply bold <Ctrl B>, italics <Ctrl I>, and underline <Ctrl U> features • change the font type and size • highlight text, change font colour, text effects • select words, text and paragraphs using mouse or alternative methods • edit words/text/paragraphs using cut (delete) <Ctrl X>, copy <Ctrl C>, paste (insert), <Ctrl V> • different methods of deleting • apply built-in Styles to format text	**2 hours**	Teacher will demonstrate the following formatting: **Font group** includes font type, font size, change case, bold, italics, underline, text effects, highlight text, font colour Mouse selections: double click to select a word and triple click to select a paragraph Alternative method for selecting text: Shift and Arrow keys
Word Processing: Spelling and Grammar checking	Type a variety of paragraphs: • without/with headings • use word processing features to proofread and correct work, i.e. use spell check • find synonyms for words using Thesaurus • basic use of the Find and Replace feature (search for text and replace it with something else)	**2 hours**	**Resources:** Typed activities from textbooks, self-designed examples Proofreading off the screen should be strongly encouraged. Learners will do activities to practise the use of the Spelling and Grammar checker and Thesaurus. **Note:** Learners should be able to apply styles from the Style gallery to paragraphs with headings.
Word Processing: Basic illustrations	Insert and manipulate illustrations: • insert and resize shapes (including move, crop, cut (delete), copy and paste, recolour • insert and resize pictures (including move, crop, cut (delete), copy and paste, recolour • apply wrapping and grouping options to shapes and pictures	**2 hours**	Teacher to demonstrate the use of a basic illustrations. Learners to practice the following: adjust size, create basic regular shapes, use different colours fills, outlines and effects. Cropping, wrapping and resizing images. **Activities**: • Learners will do activities to practise resizing, cropping and wrapping of shapes and pictures. • Learners to group and ungroup multiple pictures and shapes.

<table>
<tr><th>TOPIC</th><th>CONTENT
The learner is able to:</th><th>Duration</th><th>Techniques, activities, resources and process notes</th></tr>
<tr><td></td><td></td><td></td><td>Note: Do NOT include the Lock aspect ratio when resizing shapes and pictures.</td></tr>
<tr><td>Computational Thinking</td><td>Overview of Computational Thinking:
Pattern recognition
Decomposition
Abstraction
Algorithms
Focus on Detail and Sequence (Basic algorithmic thinking using daily examples)
Use detail and sequence to follow certain steps to complete a task or solve a problem
Place objects/statements/words in a correct order</td><td>2 hours</td><td>Learners are given pieces or blocks of statements and asked to form a working whole e.g. Parson’s puzzles – it provides learners with a selection of jumbled statements/steps that they need to rearrange to complete a task or solve a problem.
Activities such as the following:
<u>Activity 1</u>
Sequence the following steps so that they are in a logical order:
Turn off the tap
Dry your hands
Rub your hands together
Rinse the soap away with
Rinse your hands with water
Put soap on your hands
Turn on the tap
Note:
Steps must be easy to understand
Detailed and specific
Clear and unambiguous
<u>Activity 2</u>
Beatrix is trying to rearrange her shelf. She has two rules:
1. Rectangular items must not be next to each other.
2. Circular items must not be next to rectangular items.</td></tr>
</table>

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
			Question: Which one of these shelves has followed her rules correctly? 
Consolidation and Practise	• Consolidate content and skills	**2 hours**	
Formal Assessment	• The assessment will consist of Practical task/s (keyboarding skills, word processing skills) with a weighting of 60% and a Theory test (systems technologies, computational thinking as well as theory questions regarding word processing) with a weighting of 40%. E.g., Theoretical assessment can be done with multiple-choice questions showing a picture and giving options for the correct terminology.	**2 hours**	
	TOTAL	**20 hours**	

Term 2

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Keyboarding skills	• Type with other keys on the keyboard such as Shift, Caps Lock, Insert, Delete, Backspace, Page up, Page down, Home, End, Tab, undo <Ctrl Z>, redo <Ctrl Y>, Print screen; • Revise alphabetical keys. • Type 2 to 5 minute speed and accuracy tests. • Introduce number keys on the top row: 1234567890	**4 hours**	Variety of keyboard exercises should be done at the start of every lesson/day for remedial, accuracy or speed building purposes **Note:** After learners master the keyboard (can touch type) keyboarding skills should be practiced on a regular basis, e.g. first 10 minutes of each period. **Activity**: Learners practise the use of the number keys
Digital citizenship	• Introduce concepts of the WWW and URL • Introduce the concept of the internet • Connecting to the internet • Explain what the purpose of a browser is • Identify two web browsers • Explain how to work with a web browser: buttons, address bar, search bar, tabs and tabbed browsing, downloads, history • Explain website, web page and hyperlink • Explain two search engines • Safe Internet and device usage: passwords, two-factor authentication, captcha	**2 hours**	Work with a web browser **Activity:** Type in a URL in the address bar **Activity**: How to use search engines Purpose of safe Internet and device use (What, why and how) Good practices for creating and using passwords; Other examples of using the Internet safely such as two-factor authentication and captcha. **Activity**: Explore and customise settings on your phone to ensure privacy of information. Lock your phone with a pin code or pattern lock. This ensures that even if your phone is stolen, no immediate access is possible.
Word Processing: Page layout/setup	Type/use a variety of layout options: • Apply and customise margin sizes • Change page orientation (Portrait and landscape) • Two pages using forced/manual page breaks • Select a paper size • Page borders (basic): settings, style, colour, width, art borders	**2 hours**	**Activity**: Teacher to prepare some text in one lengthy paragraph. [Tip: generate random dummy text for Word by typing the following formula: =rand(1,50), i.e. Random data relating to word processing of 1 paragraph and 50 lines will appear.] Learners change margin sizes and paper sizes, change page orientation, insert page breaks and page borders.

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Word Processing: Layout and paragraph formatting	Type/use a variety of layout and formatting options: • Change line spacing (single, 1.5 and double) • Change paragraph spacing (before and after) • Apply paragraph alignment (left, centre, right, justify) • Increase and decrease indent feature on the Home tab in the Paragraph group • Inserting symbols (basic: caret (ê), acute (é), diaresis (ë), plus-minus (±), etc. • Bulleted lists (basic) • Numbered lists (1 level only) Preference to numbers but exposure to Roman numerals (i, ii, iii) as well as Alphabetical (a, b, c) numbering.	**2 hours**	**Activity**: Teacher to prepare some text in one lengthy paragraph. [Tip: generate random dummy text for Word by typing the following formula: =rand(1,50), i.e. Random data relating to word processing of 1 paragraph and 50 lines will appear.] Learners will perform the various formatting and editing on the text. Screen proofreading should be strongly encouraged. **Note**: Numbered lists are used when sequence is important, otherwise use bulleted lists
Spreadsheets	• Explain the purpose of a spreadsheet and the concepts of a cell, row, column and a sheet. • Understand the use of cell references • Demonstrate the resizing of rows and columns • Transfer common features from word processing skills (e.g. copy, paste, save) to spreadsheets (and vice versa) • Use basic formatting and editing to format cells: wrap, merge, unmerge, alignment, borders, shading, text direction • Use the autofill feature • Decide on common data types such as o General o Number, including number of decimal places o Currency, including number of decimal places o Text • Use formulae (calculations) with basic operators	**4 hours**	Teacher to introduce basic spreadsheet environment, explaining rows, columns, cells and sheets. Give a practical example of the purpose of a spreadsheet. Different methods of editing contents of cells. Provide activities to practice: • Cell/row height and cell/column width • Selecting cells/cell ranges. Applying formatting such as: wrap, merge, split, alignment, borders, shading, text direction and autofill **Activity:** Teacher to develop a document where cells are inappropriately formatted for given data and learners are required to format all cells/data correctly. **Activity:** Learners to practise basic calculations in spreadsheets.

<table>
<tr><th>TOPIC</th><th>CONTENT
The learner is able to:</th><th>Duration</th><th>Techniques, activities, resources and process notes</th></tr>
<tr><td></td><td>including brackets: addition (+), subtraction (-), multiplication (*) and division (/)
• Understand the order of precedence</td><td></td><td></td></tr>
<tr><td>Computational Thinking</td><td>Revise sequence and detail concepts using basic algorithms

Focus on pattern recognition;

• Identify what a pattern is
• Interpret a given set of raw data then recognise the pattern
• Look for similarities among and within problems
• Make predictions based on patterns

Consolidate Computational Thinking concepts and practices.

Note

Integrate computational thinking concepts and practices with other topics where applicable such as spreadsheets</td><td>2 hours</td><td>Activities such as:

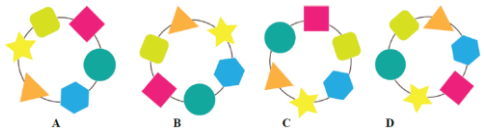
<u>Activity 1</u>

Emily has broken her favourite bracelet. The broken bracelet now looks like this:

Question:

Which of the following four bracelets shows what the bracelet looked like when it was whole?

<u>Activity 2</u>

Three spotlights are used to light the theatre stage in the beavers' forest, a red one, a green one and a blue one. The colour of the stage depends on which of the three spotlights are turned on.

This table shows the possible combinations of colours.

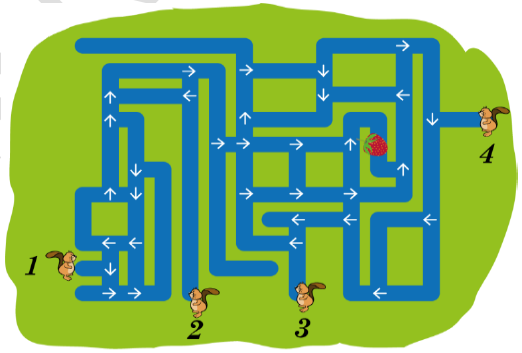
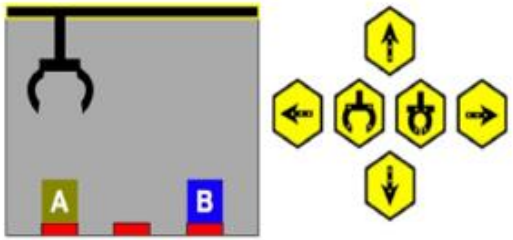
<table>
<tr><th>Red light</th><th>Green light</th><th>Blue light</th><th>Stage colour</th></tr>
<tr><td>off</td><td>off</td><td>off</td><td>Black</td></tr>
<tr><td>off</td><td>off</td><td>on</td><td>Blue</td></tr>
<tr><td>off</td><td>on</td><td>off</td><td>Green</td></tr>
<tr><td>off</td><td>on</td><td>on</td><td>Cyan</td></tr>
<tr><td>on</td><td>off</td><td>off</td><td>Red</td></tr>
<tr><td>on</td><td>off</td><td>on</td><td>Magenta</td></tr>
<tr><td>on</td><td>on</td><td>off</td><td>Yellow</td></tr>
<tr><td>on</td><td>on</td><td>on</td><td>White</td></tr>
</table>
</td></tr>
</table>

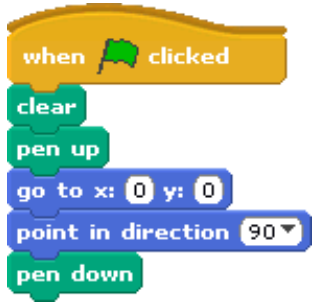
TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
			From the beginning of the show, the lights will be switched on and off in this pattern: • The red light repeats the sequence: two minutes off, two minutes on. • The green light repeats the sequence: one minute off, one minute on. • The blue light repeats the sequence: four minutes on, four minutes off. **Question**: What will the colour of the stage be in the first 4 minutes of the show? 
Consolidation and Practise	• Consolidate content and skills	**2 hours**	
Formal Assessment	• The assessment will consist of Practical task/s (keyboarding skills, word processing skills, spreadsheet skills) with a weighting of 60% and a Theory test (systems technologies, computational thinking, digital citizenship) as well as theory questions regarding word processing and spreadsheets) with a weighting of 40%.	**2 hours**	
	TOTAL	**20 hours**	

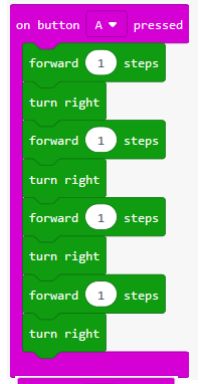
Term 3

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Keyboarding skills	• Revise alphabetical and number keys • Type 2 to 5 minute speed and accuracy tests • Type special characters, symbols and punctuation marks available on the keyboard. (! @ # $ % ^ & * ? < >) • Revise common shortcuts for Editing text e.g. Ctrl B (bold), Ctrl I (italic), Ctrl U (underline), Ctrl Z (undo) and Ctrl + Enter (hard return/page break), Ctrl C (copy), Ctrl X (cut), Ctrl V (paste) Integrate computational thinking concepts and practices where applicable	**2 hours**	Variety of keyboard activities should be done for remedial, accuracy or speed building purposes using all the keys, including the shortcuts **Note:** Keyboarding skills should be practised on a regular basis, e.g. first few minutes of each period.
Digital citizenship	Understand the privacy of information and information piracy Understand cybercrime threats, issues and remedies: • identity theft • hacking • phishing	**2 hours**	Give examples on how sharing of personal information can be unsafe as well it being offensive, embarrassing or humiliating to others. Teachers should focus on examples of identity theft. And then ways to prevent it. An activity can be done that pitches two websites against each other and the reasons why one is safe and the other is not. What to look for to verify it being safe. Also look for reviews from other people who have used a shopping site and their experiences **Activity:** Learners could engage in safety quizzes.

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Word Processing: Tab settings Tables	Use tab settings in the word processor by applying: • tabs setting (left, centre, right) Produce tables using the table feature in the word processor and manipulate by: • changing borders and shading • merging of cells • inserting or deleting rows/columns • changing cell alignment • change text direction in a cell/column/row • apply table styles	**2 hours**	Apply tab settings on the Paragraph group on the Home tab A table can then be inserted between two paragraphs. Certain rows and/or columns can be merged/unmerged.
Spreadsheets: Basic functions Sorting Error indicators Troubleshooting	• Cell ranges • Use basic functions: MIN, MAX, SUM, COUNT and AVERAGE to solve simple problems • Sort data – up to two levels • Identify problems based on the following error indicators: #VALUE, #NAME, #NUM, #REF, #DIV/0, #N/A, ###### • Troubleshoot basic errors in formulae and functions Integrate with computational thinking concepts and practices where applicable	**4 hours**	Give learners some problems that allow them to use the required formulae and functions on prepared data. Learners use formulae and functions to solve real-life problems. E.g. monthly budget, calculating area and perimeter, or problems that learners encounter in Mathematics and Mathematical Literacy, etc. Prepare an activity giving the error indicator which expects the learners to give the cause of the error. Provide incorrect formulae for learners to troubleshoot.
Computational Thinking	Revise sequence and detail as well as pattern recognition concepts Focus on algorithms: • Understand what an algorithm is using simple real-life scenarios • Read, understand and explain an existing algorithm • Test steps in an algorithm	**2 hours**	Teacher asks learners questions (See **Annexure 2** Developing Algorithms) examples: Teacher can demonstrate a simple problem such as the making of a cup of coffee and introduce the concept of an algorithm showing learners the various steps in making the coffee. Examples of activities:

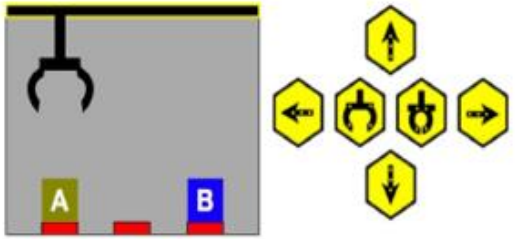
TOPIC	CONTENT **The learner is able to:**	Duration	Techniques, activities, resources and process notes
	Consolidate Computational Thinking concepts and practices. **Note** Integrate computational thinking concepts and practices with other topics where applicable such as spreadsheets and coding		**Activity 1:** Four beavers start swimming from different places. They only swim forwards and always follow the arrows.  **Question:** Select all the beavers who will reach the strawberry? **Activity 2:** The crane in the port of Lodgedam responds to six different input commands: 1. Left 2. Right 3. Up 4. Down 5. Grab 6. Release 

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
			Crate A is in the left position, crate B is in the position on the right **Question** Which is the correct set of instructions to swap the position of the two crates? Write down the letter of the correct answer. A (Down, Grab, Up, Right, Down, Release, Up) B (Down, Grab, Up, Right, Down, Release, Up) (Right, Down, Grab, Up, Left, Left. Down, Release, Up) (Right, Down, Grab, Up, Right, Down, Release) C (Right, Right, Down, Grab, Up) (Left, Left, Down, Release, Up) D (Down, Grab, Up, Right, Right, Down, Release, Up) (Down, Grab, Left, Down, Release, Up) (Down, Grab, Up, Right, Down, Release, Up
Coding	• Identify and interact with block-based programming environment, components and understand their roles/features • Create shapes/animations using a block-based programming language, e.g. Scratch, Micro:Bit or similar (e.g. use pen/turtle) • Create solutions for simple, basic problems to illustrate spatial orientation/logical sequence through animation and shapes • Introduce Events as needed **Note:** Include basic, single condition (IF THEN) or simple, single loop (REPEAT (specified number of repeats) or FOREVER) required, e.g.	**4 hours**	**Scratch examples:** **Activity:** Teacher will facilitate getting started with Scratch by using examples and introductions from the Scratch website and/or some of the many 'Introduction to Scratch' videos available on the internet, such as codeclubprojects.org. (freely resources). **Activity**: Provide completed Scratch programs., e.g. use the code on the right. Learners will explore and make a note of what the effect of the various scripts are • Explain the role of the "pen": Will leave a line even when moving to 0, 0. Therefore pen must be in up position before moving. As new lines 

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
	• when sprite needs to turn when touching edge, a simple, single condition could be introduced. • when learners identify patterns in drawing (such as when drawing a square) they could use basic, single loop to 'shorten' the code. **Note** Integrate coding with computational thinking concepts, practices and perspectives **Note:** Include basic, single condition (IF THEN) or simple, single loop (FOREVER) required, e.g. • when learners identify pattern in drawing (such as when drawing a square) they could use basic, single loop to 'shorten' the code.		are drawn over the old ones, you have to clear the paint area before starting a new run. Learners could also 'act out' (role play) the code on a grid drawn onto the floor to understand what it is doing.  **Now use the code on the right** • Let learners explore to see what the code does. • Let learners draw more shapes. • Learners to look for patterns / repetition (include basic, single loop if required) Explain to learners that the shape depends on the size of the angles. **Micro:Bit examples:**  **Activity:** Imagine that there's a virtual turtle, as small as an LED, that you can control with commands to draw a square. Learners could also 'act out' (role play) the code on a grid drawn onto the floor to understand what it is doing. Make learners aware of the pattern(s) in the code  **Activity:** Code the buttons on the micro:bit to represent 'smileys', e.g. to show that it's happy or sad

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Consolidation and Practise	• Consolidate content and skills	**2 hours**	
Formal Assessment	• The assessment will consist of Practical task/s (keyboarding skills, word processing skills, spreadsheet skills, web page design skills) with a weighting of 60% and a Theory test (systems technologies, computational thinking, digital citizenship as well as theory questions regarding word processing, spreadsheets and web page design) with a weighting of 40%.	**2 hours**	
	TOTAL	**20 hours**	

Term 4

TOPIC	CONTENT **The learner is able to:**	Duration	Techniques, activities, resources and process notes
Coding	• Use a block-based programming language to create shapes and animations • Create solutions for simple, basic problems to illustrate spatial orientation/logical sequence through animation and shapes • Use events as needed • Introduce simple parallelism (e.g. broadcast in Scratch) to create inter-active stories **Note:** (simple, single condition (IF THEN) or basic, single loop (REPEAT (specified number of repetitions) or FOREVER) could be introduced, if required – basic program) **Note** Integrate coding with computational thinking concepts, practices and perspectives	**4 hours**	When people learn to code in a block-based tool, they learn important strategies for solving problems, designing projects and communicating ideas. It also helps learners to learn to think creatively, reason systematically, and work collaboratively — essential skills for life in the 21st century **Example of tasks:** • Develop a simple game/e-card for a celebration, e.g. Birthday. (Learner decides on the detail). • Create an interactive badge **Activity:** The crane in the port of Lodgedam responds to six different input commands: 1. Left 2. Right 3. Up 4. Down 5. Grab 6. Release  Crate A is in the left position, crate B is in the position on the right Write a Scratch program to swap the position of the two crates

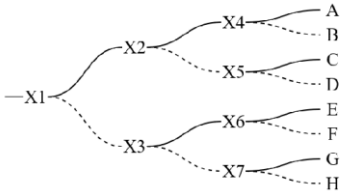
Consolidation, Practise	Consolidate content and skills	**6 hours**	**Practical work:** • Provide problem solving activities where learners need to apply end-user skills and coding skills to complete tasks and solve problems **Theory work:** • Provide scenarios and case studies with worksheets • Provide computational thinking problems
Practical task (Project)	Complete a practical task that includes word processing, spreadsheets and coding.	**2 hours**	
Formal Assessment	The assessment will consist of Practical task (Project), Speed and accuracy test (keyboarding) with a weighting of 60% and a Theory Examination (systems technologies, computational thinking, digital citizenship as well as theory questions regarding word processing and spreadsheets) with a weighting of 40%.	**8 hours**	
	TOTAL	**20 hours**	

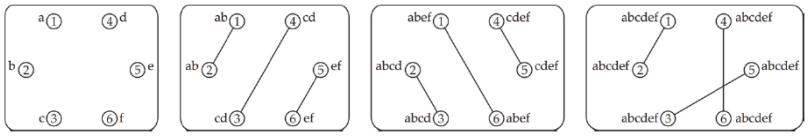
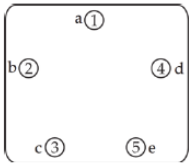
Grade 9

Term 1

TOPIC	CONTENT **The learner is able to:**	Duration	Techniques, activities, resources and process notes
Keyboarding skills	Touch type with confidence: • Number keys (numeric keypad and/or top row numbers) using a typing tutor • Number keys (numeric keypad) using Calculator utility of Windows • 2 – 5 minute speed and accuracy practise	**2 hours**	Activities consisting of letter combinations, short words, sentences and numbers (**numeric keypad**) using typing tutor.
Systems technologies Software Cloud computing ICTs in everyday life	Display a knowledge of Systems and Application software: • Explain the difference between system software and application software (Windows vs MS Office suite) • definition and function of application software (Microsoft Office Suite, e.g. Word processing, Spreadsheets) • utility software (Anti-virus) Display a knowledge of cloud computing: • Demonstrate the use of Cloud computing, e.g. OneDrive / Dropbox / Google Drive, Google Docs / Google Sheets • Demonstrate an understanding of a Search engine (e.g. Google) Demonstrate a knowledge of ICTs in everyday life: • Use of ICTs in real life (shopping, banking and education) • Explain how their education can be supported by online/computer resources • Explain the features/characteristics of online banking and shopping	**2 hours**	Activity: teacher to create a list of characteristics about system and application software. Learners will attempt to associate each item in the list with the relevant type of software. Further make a list of various software and learners will tabulate them into either system or application software. Teacher to demonstrate how to • save/upload/ download/share a file using cloud storage • sharing rights and user permissions Learners should be able to interpret simple advertisements relating to software Teacher to demonstrate the use of websites that support shopping, banking and education.

TOPIC	CONTENT **The learner is able to:**	Duration	Techniques, activities, resources and process notes
Digital citizenship	Ethical, social and safety awareness when online • Online harassment • Cyber stalking and cyber bullying • Online identity • Social media safety • Awareness of digital footprint • Netiquette • Ethics online	**2 hours**	• Discuss what online harassment, cyber stalking and cyber bullying is, how to prevent it, how to deal with it when it happens. Cyber stalking is the stealthily following of a person, tracking internet chats (3-years imprisonment and/or fine) • Discuss differences and similarities between online identity and offline identity • Discuss online and social media safety measures. • Discuss the fact that the digital world is permanent. What you write online, sites you visit, any comments or photos you upload are connected to you forever. You have your name and reputation to protect. • Discuss good manners and netiquette for the digital world. • Discuss how to behave and manage oneself ethically when online and when using digital/social media.
Word Processing: WordArt Text boxes Headers & Footers	Insert and manipulate WordArt and text boxes: • Insert WordArt and text boxes • Shape styles and WordArt styles: Shape fill, Shape outline, Text fill, Text outline • Apply shape and text effects: Insert document header and footers: • basic headers and footers • automatic page numbering	**2 hours**	Teacher to demonstrate inserting and manipulating WordArt and text boxes. Learners will then be required to engage in practice activities. **Activity**: Teacher to prepare some text in one lengthy document. [Tip: generate random dummy text for Word by typing the following formula: =rand(1,50), i.e. Random data relating to word processing of 1 paragraph and 50 lines will appear.] Example: Learners can insert a header for page number and footer with their names.
Spreadsheet	• Create graphs/charts from given data and choose appropriate graph types from column, line, pie • Create and edit graphs using the following basic graph elements ○ chart title ○ axis titles ○ data labels	**2 hours**	Teacher prepares data and learners create charts from existing data. Learners will be given data and they have to select appropriate graph for analysis. Chart formatting e.g. titles, labels and legend. They could then insert/use all the graph features/formatting to enhance graphs/charts for easy user interpretation.

TOPIC	CONTENT **The learner is able to:**	Duration	Techniques, activities, resources and process notes
	○ legend • Troubleshoot basic problems in graphs • Draw basic conclusions by interpreting and analysing graphs Integrate with computational thinking concepts, practices and perspectives where applicable		Learners are given poorly designed graph to identify and correct the layout and other problems. **Note:** Learners should also be able to use graphs from spreadsheet as part of, e.g. a report in the word processor
Computational Thinking	Revise and consolidate all aspects of computational thinking Focus on decomposition and abstraction: • Break down a complex problem or system into smaller, more manageable parts through **decomposition** • Focus on the important information only, ignoring irrelevant detail and seeing problems as finite chunks which can be re-used rather than re-built repeatedly through **abstraction** Link Computational Thinking concepts and practices to coding content. **Note** Integrate computational thinking concepts, practices and perspectives with other topics such as spreadsheets and coding where applicable	**2 hours**	Encourage learners to always look for simpler or quicker ways to solve a problem or achieve a result. Examples of activities: **<u>Activity 1</u>** 8 trains (named A to H) enter the switch X1 from the left on the figure below. Train A needs to go to station A, train B to station B, train C to station C, etc. Each of the switches X1 to X7 are initially set to direct trains to the left. After a train has passed a switch, the switch reverts to the other direction. The Railroad Director needs to ensure that all the trains go to their correct stations.  **Question:** What is the correct order for the trains to pass through switch X1? **AECGBFDH ADCGBFEH AGCDBFEH** or **ACEDFGHB**

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
			Activity 2 Every Friday, six spies exchange all the information they have gathered during the week. A spy can never be seen with more than one other spy at the same time. So, they have to have several rounds of meetings where they meet up in pairs and share all the information they have at that point. The group of 6 spies needs only three rounds to distribute all their secrets: Before the meetings each spy holds a single piece of information. (spy 1 knows 'a', spy 2 knows 'b', etc.). In the first round spies 1 and 2 meet and exchange information so now both know 'ab'. The diagrams show which spies meet in each round with a line. It also shows which pieces of information they all have. After three rounds all information has been distributed.  **Which of the following statements is true?** 

Coding	• Introduce variables and operators in the block-based programming environment • Use sequence to solve simple numeric/mathematical problems • Complete programs (code completion, e.g. Parsons Puzzles) • Read and explain code • Trace code • Test code • Use problem-solving steps to plan a solution to a simple problem • Use diagrams to represent the problem, e.g. Input-Processing-Output (IPO) table, flow chart • Use events as needed • Use parallelism as needed **Note** Integrate with computational thinking concepts. practices and perspectives	**4 hours**	When people learn to code using block-based tools, they learn important strategies for solving problems, designing projects and communicating ideas. It also helps learners to learn to think creatively, reason systematically, and work collaboratively — essential skills for life in the 21st century **Example of tasks:** • Create a currency/temperature converter.
Consolidation and Practise	• Consolidate content and skills	**2 hours**	
Formal Assessment	• The assessment will consist of Practical task/s (keyboarding skills, word processing skills, spreadsheet skills, coding skills) with a weighting of 60% and a Theory test (systems technologies, computational thinking, digital citizenship) as well as theory questions regarding word processing, spreadsheets and coding) with a weighting of 40%.	**2 hours**	
	TOTAL	**20 hours**	

Term 2

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Keyboarding skills	• Type revision, remedial and drill activities. • Type speed building exercises	**2 hours**	Variety of keyboard exercises should be done for remedial, accuracy or speed building purposes Learners could do a typing test online for certification of accuracy and speed. **Note:** From Term 2 onwards, the time allocated for keyboarding could be used for other content, e.g. computational thinking and coding, providing that keyboarding skills are practiced on a regular basis, e.g. first 10 minutes of each period.
Digital citizenship	Understand what copyright and plagiarism is (about software, information, intellectual property), including . • What copyright is • Who it applies to • What the Public Domain is • How to reference sources	**2 hours**	**Copyrigh**t is the law that protects the work of people who create pictures, music, papers, artwork, sound, etc, so that it cannot be used without permission or acknowledgement. The **public domain** contains pictures, music, papers, artwork, sound, etc. that can be used without permission but must be acknowledged. **Plagiarism** is the practise of using someone else's work and using it as your own, even if it is copyrighted. Plagiarism is a criminal offence and has serious consequences when one is found guilty. Teacher should give examples. Learners should know how to use basic referencing techniques and NOT the word processor referencing tool, e.g. • For a book: Author, Year published, Title of book, • For a website: Topic, Website address, date accessed.)

Word Processing: SmartArt graphics	Insert and manipulate SmartArt graphics: • Insert basic SmartArt graphics • SmartArt shapes: insert before/after, change shape, change colour • Insert or edit text in a SmartArt shape • Insert images into a SmartArt shape	**2 hours**	Teacher to facilitate an activity where learners practice the requisite inserting, editing and formatting techniques of SmartArt graphics. **Activities**: Insert a SmartArt graphic into a document with text to practice using the tools for resizing and arrangement of shapes.

Spreadsheets	• Work with sheets
	  ○ Insert
	  ○ Delete
	  ○ Rename
	• Perform calculations using the following functions: COUNTA, COUNTBLANK, ROUND, COUNTIF
	• Troubleshoot basic errors in formulae and functions
	Integrate with computational thinking concepts and practices where applicable
		4 hours	Teacher gives learners a spreadsheet with several sheets and learners should insert, delete and rename the sheets.
			Give learners some problems that allow them to use the required formulae and functions on prepared data.
			Provide incorrect formulae for learners to troubleshoot.

Computational Thinking	Revise and consolidate all aspects of computational thinking Devise a strategy to complete a task/solve a problem Use the following problem-solving steps and techniques to solve a problem: 1. Write down the main ideas and requirements of the problem. 2. Represent the problem by using a diagram, table, flow chart, description or any other method to indicate how you understand the problem. 3. Identify the tools/instruments needed to solve the problem 4. Plan the detail and sequence the steps. 5. Implement the steps to solve the problem. 6. Reflect on how well you have solved the problem.	**2 hours**	Teacher selects real-life problems and learners should solve various computational thinking problems through devising a strategy, identifying and analysing requirements for a specific problem, e.g. withdraw money from ATM, load airtime onto mobile phone.
Coding	• Complete programs by selecting and sequencing instructions (code completion, e.g. Parsons Puzzles)	**4 hours**	All content should be done practically and as written activities.

	• Read, trace and explain code • Test code • Use problem-solving steps to plan a solution to a simple problem • Use diagrams to represent the problem, e.g. Input-Processing-Output (IPO) table, flow chart • Use sequence and blocks within basic control structures (condition or loop) – to solve simple problems **Note** Integrate with computational thinking concepts. practices and perspectives		Activities should be based on: • problem-solving steps • basic, single conditional (IF… THEN…) or (IF… THEN...ELSE…) • basic, single loop • tracing/explaining/testing the code
Consolidation and Practise	• Consolidate content and skills	**2 hours**	
Formal assessment	• The assessment will consist of Practical task/s (keyboarding skills, word processing skills, spreadsheet skills, coding skills) with a weighting of 60% and a Theory test (systems technologies, computational thinking, digital citizenship as well as theory questions regarding word processing, spreadsheets and coding) with a weighting of 40%.	**2 hours**	
	TOTAL	**20 hours**	

Term 3

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Keyboarding skills	• Type revision, remedial and drill exercises. • Type speed building exercises.	**2 hours**	Variety of keyboard exercises should be done for remedial, accuracy or speed building purposes Learners could do a typing test online for certification of accuracy and speed.
Digital citizenship	Understand cybercrime and the protection and legal consequences related the: • Protection from Harassment Act o What is the Act about? o Examples contained in the Act o One legal consequence of not complying • Protection of Personal Information Act (POPIA) o What is the Act about? o Examples of personal information contained in the Act o One legal consequence of not complying • The Act on the regulation of interception of communication and provision of communication-related Information (RICA) o What is the Act about? • The Electronic Communications and Transactions Act (Cybercrimes Bill) o What is the Act about? o Examples contained in the Act o One legal consequence of not complying	**2 hours**	Examples: Digital Wellness Programme manual for facilitators, 2014, Telecommunications and postal services Explain Acts in simple terms together with the protection and/or implications ONLY for school learners – NOT for businesses, etc.

TOPIC	CONTENT **The learner is able to:**	Duration	Techniques, activities, resources and process notes
Word Processing: Table of Contents Consolidation	Insert an automatic table of contents using headings created with styles from the style gallery **Consolidation** Type document or retrieve pre-typed document and apply basic corrections and changes using editing and formatting features: • text selection • copy, paste, delete • basic find and replace • insert or delete letters, words or paragraphs • use spelling and grammar feature where necessary • insert and/or delete columns and rows in a table • change cell format: alignment, text direction • change borders and shadings • save with a new name (Save As feature)	**2 hours**	Learners to apply Styles to a text document in order to generate a TOC. Teacher to demonstrate the use of cut, copy and paste on text within a document and also on files within and between folders. Learners will then be required to engage in practice activities
Spreadsheets	• Format and edit by doing the following: ○ Set paper size, page margins and page orientation ○ Insert headers and footers ○ Set a print area and print titles (Gridlines, repeat rows/columns) • Consolidate, revise and reinforce content, concepts and spreadsheet skills Integrate with computational thinking concepts and practices where applicable	**2 hours**	Use formatting and editing skills on prepared data and work with page sizes, page margins, page orientation, setting a print area and print titles. Learners should complete spreadsheet activities that encourage thinking and decision-making using all acquired spreadsheet knowledge and skills.
Computational Thinking	Revise and consolidate all aspects of computational thinking • Complete existing algorithms	**2 hours**	Demonstrate the different outcomes of a flawed algorithm (See Kite problem, **Annexure 2**).

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
	• Develop a step-by-step solution (algorithm) to the problem, or a set of rules to solve the problem • Solve basic problems using algorithms • Troubleshoot existing algorithms **Note** Integrate computational thinking concepts, practices and perspectives with other topics such as spreadsheets and coding where applicable		Explain the consequences of lack of detail and sequence and follow-up by correcting the algorithm for the kite problem Learners to write algorithms for tasks e.g. making a sandwich, etc. Learners should use flow charts to create an algorithm to describe to a friend how to get to a specific location.
Coding	• Complete programs using basic conditional and/or iteration • Read, trace and explain code • Test code • Use problem-solving steps to plan a solution to a simple problem • Use diagrams to represent the problem, e.g. Input-Processing-Output (IPO) table, flow chart • Code a simple, basic program using sequence and basic conditional and/or iteration construct **Note** Integrate with computational thinking concepts. practices and perspectives	**6 hours**	Learners should be able to • Read, trace and explain code • Understand each step of the problem solving process. Learners should apply problem solving steps and computational thinking processes taught as part of this subject to solve basic problems through coding. Learners should exercise problem solving of basic practical tasks
Consolidation and Practise	• Consolidate content and skills	**2 hours**	

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Formal Assessment	• The assessment will consist of Practical task/s (keyboarding skills, word processing skills, spreadsheet skills, coding skills) with a weighting of 60% and a Theory test (systems technologies, computational thinking, digital citizenship) as well as theory questions regarding word processing, spreadsheets and coding) with a weighting of 40%.	**2 hours**	
	TOTAL	**20 hours**	

Term 4

TOPIC	CONTENT The learner is able to:	Duration	Techniques, activities, resources and process notes
Consolidation and Practise	Consolidate content and skills	**8 hours**	**Practical work:** Provide problem solving activities where learners need to • apply end-user skills to complete tasks and solve problems • apply computational thinking and coding skills to complete tasks and solve problems **Theory work:** Provide • Scenarios and case studies with worksheets • Computational thinking problems
Practical task (Project)	Complete a practical task that includes a word processing, spreadsheet, HTML and coding activity.	**4 hours**	
Formal Assessment	• The assessment will consist of Practical task (Project), Speed and accuracy test (keyboarding) with a weighting of 60% and a Theory Examination (systems technologies, computational thinking, digital citizenship as well as theory questions regarding word processing, spreadsheets, web page design and coding) with a weighting of 40%.	**8 hours**	
	TOTAL	**20 hours**	

SECTION 4

ASSESSMENT IN DIGITAL TECHNOLOGY

4.1 Introduction

Assessment is a continuous planned process of identifying, gathering and interpreting information about the performance of learners, using various forms of assessment. It involves four steps: generating and collecting evidence of achievement; evaluating this evidence; recording the findings and using this information to understand and thereby assist the learner's development in order to improve the process of learning and teaching.

Assessment involves activities that are undertaken throughout the year. In grades 8 and 9 assessment comprises 2 different but related activities: informal daily assessment (assessment for learning) and formal assessment (assessment of learning).

Assessment is a continuous, planned process of identifying, gathering and interpreting information about the performance of learners, using various forms of assessment. It involves four steps: generating and collecting evidence of achievement; evaluating this evidence; recording the findings and using this information to understand and thereby assist the learner's development in order to improve the process of learning and teaching.

Assessment should be both informal (Assessment for Learning) and formal (Assessment of Learning). In both cases regular feedback should be provided to learners to enhance the learning experience.

Assessment in Digital Technology should encourage computational thinking practices that are integrating the power of human thinking with the capabilities of ICTs, application packages and programming.

4.2 Informal or daily assessment

Assessment for learning has the purpose of continuously collecting information on a learner's achievement that can be used to improve their learning.

Informal assessment is the daily monitoring of learners' progress. This is done through observations, discussions, practical demonstrations, learner-teacher conferences, informal classroom interactions, etc. Informal assessment may be as simple as stopping during the lesson to observe learners or to discuss with learners how learning is progressing. Informal assessment should be used to provide feedback to the learners and to inform planning for teaching, but need not be recorded. It should not be seen as separate from learning activities taking place in the classroom. Learners or teachers can mark these assessment tasks.

Self-assessment and peer assessment actively involves learners in assessment. This is important as it allows learners to learn from and reflect on their own performance. The results of the informal daily assessment tasks are not formally recorded unless the teacher wishes to do so. The results of daily assessment tasks are not used for promotion and certification purposes.

4.3 Formal assessment

All assessment tasks that make up a formal programme of assessment for the year are regarded as formal assessment. Formal assessment tasks are marked and formally recorded by the teacher for progression and certification purposes. All formal assessment tasks are subject to moderation for the purpose of quality assurance and to ensure that appropriate standards are maintained.

Formal assessment provides teachers with a systematic way of evaluating how well learners are progressing in a grade and in a particular subject. Examples of formal assessments include tests, examinations, practical tasks, alternative task. Formal assessment tasks form part of a year-long formal programme of assessment in each grade and subject.

Formal assessment tasks form part of a yearlong formal Programme of Assessment in each grade and subject, are school-based and are weighted as follows for the different grades:

The following tables provide the formal assessment requirements for Digital Technology:

Grades	Formal school-based assessments	End-of-year examinations
R -3	100%	
4 - 6	75%	25%
7 – 9		External examination
Academic stream	40%	60%
Occupational stream	60%	40%
10 and 11	25% including a mid-year examination	External examination: 75%
12	25% including mid-year and trial examinations	External examination: 75%

The cognitive demands in assessment should be appropriate for the age and developmental level of the learners in the grade. Assessment in Digital Technology must cater for a range of cognitive levels and abilities of learners. The assessment tasks should be carefully designed to cover the content of the subject as well as the range of skills and the cognitive levels that have been identified in the specific aims. The design of assessments should therefore ensure that a full range of content and skills are assessed within each Grade in the Phase. The specific aims, topics, content and range of skills in the subject should be used to inform the planning and development of assessments.

Formal assessments must cater for a range of cognitive levels and abilities of learners, as shown below:

Cognitive levels

Level 1	Level 2	Level 3
Knowledge	Understanding Application	Analysis Evaluation Creation
40%	**45%**	**15%**

4.3.1 Cognitive demand

Each question in formal assessments is evaluated in terms of its cognitive demand and its level of difficulty.

Level	Taxonomy	Description
L1/C1	Knowledge Remembering	Recall of factual/process knowledge ***in isolation***, i.e. one step/set of basic steps/instructions/process at a time, e.g. definitions in the theory section and single steps or procedures found in the application packages or programming.
L2/C2	Understanding Applying	Combining isolatable bits or demonstrates **understanding** of steps/processes/isolatable bits, such as translating from one form of representation to another, e.g. translating pictures, symbols, diagrams, screenshots, 'words'/mathematical equations into e.g. spreadsheet formulas or converting a flow chart representation of a program/program segment to a functional program. These questions could include reproduction of aspects of documents. It also requires using a combination of ***known routines/steps/ processes*** in a familiar context in order to complete a task, where ***all the information required is immediately available to the learner.***
L3/C3	Analysing Evaluating Creating (Problem-solving)	Requires ***reasoning/investigation/developing a plan*** or combining different sequence/sets of steps/algorithm; has some complexity where candidates need to see how parts relate to a whole and completing a task could have more than one possible approach. It could also require weighing possibilities, deciding on most appropriate solution and testing to locate errors/ troubleshooting as well as pattern recognition and generalisation. These questions will comprise actions/strategies/ procedures where candidates are required to create their own solutions to challenges **different** to those learners may have encountered in the classroom. These questions could include decomposition, abstraction, analysing documents or data, and decision-making.

4.3.2 Levels of difficulty

Levels of difficulty are categorised as follows:

D1: Easy for the average Grade 8 or 9 candidate to answer

D2: Moderately challenging for the average Grade 8 or 9 candidate to answer

D3: Difficult for the average Grade 8 or 9 candidate to answer

D4: Very difficult for the average Grade 8 or 9 candidate to answer. The skills and knowledge required to answer the questions at this level allow for an A-grade candidate (extremely high-achieving/ability learner) to be discriminated from other high ability/proficiency candidates.

In judging the level of difficulty of each question, both the demands that each question makes on the cognitive ability of an average Grade 8 or 9 learner and the intrinsic difficulty of the question or task

is considered. In making this judgement, the difficulty or ease of a particular question is identified. A four-category framework for thinking about question or item difficulty adapted from Leong (2006) has been used in this identification process. This framework comprises the following four general categories of difficulty:

- **Content difficulty**: this indexes the difficulty of the subject matter, topic or conceptual knowledge; some content is inherently more difficult than other content.
- **Stimulus difficulty**: this relates to the linguistic features of the question and the challenge that candidates face in reading, interpreting and understanding the question.
- **Task difficulty**: this refers to the difficulty that candidates face when trying to formulate or produce an answer.
- **Expected response difficulty**: this refers to difficulties because of the mark scheme or memorandum, in other words how marks are allocated.

4.4 Programme of assessment

The Programme of Assessment for Digital Technology is designed so that formal assessment tasks in a school take place in each term. While the sequence of the topic areas should be maintained, there is no prescription on pacing per term. Each topic area can have more than one test that will finally be converted to the weighting indicated.

The table below gives a guideline for the composition of formal assessment in Digital Technology per topic area.

Grade 8 Programme of Assessment

<table>
<tr><th colspan="4">Formal Assessment</th></tr>
<tr><th>During the year</th><th colspan="3">End of year Assessment</th></tr>
<tr><td>60%</td><td colspan="3">40%
(15%+45%+40%=100% converted to 40%)</td></tr>
<tr><td rowspan="2">SBA tasks*</td><td>Speed and Accuracy test**</td><td colspan="2">End of year tasks</td></tr>
<tr><td>15%</td><td>45%</td><td>40%</td></tr>
<tr><td>5 tests
1 June exam</td><td>Online/offline certification</td><td>Practical Assessment Task (PAT)</td><td>Theory examination</td></tr>
</table>

***SBA Formal tasks**

Term	Term 1		Term 2		Term 3	
Assessment	**Test 1 Theory**	**Test 2 Practical**	**Test 3 Practical**	**Theory Exam**	**Test 4 Theory**	**Test 5 Practical**
Minimum Marks	20 - 30	25	25	60	30	25
Minimum Minutes	30 - 40	30	30	90	40	30
Term Weighting	40%	60%	60%	40%	40%	60%
SBA Weighting	10%	15%	15%	30%	15%	15%

****Speed and Accuracy test**

- Online/offline certification completed during teaching time (Refer to **Annexure 1**).

Component	Mark
Speed	10
Accuracy	10
Total	20
Converted to 15%	

Theory examinations – Written examination

Topics	June exam		November exam	
	Marks	**Weighting**	**Marks**	**Weighting**
Systems Technologies	±15	± 25%	-	-
Word Processing	±12	± 20%	±10	± 12.5%
Spreadsheets	±6	± 10%	±20	± 25%
Digital Citizenship	±15	± 25%	±10	± 12.5%
Computational Thinking Skills	±12	± 20%	±20	± 25%
Coding	-	-	±20	± 25%
TOTAL	**60**	**100%**	**80**	**100%**

Practical Assessment Task (PAT) – completed as an activity

- Use the **2 hours** class time allocated in **Term 4** to complete the activity.
- Skills assessed must include content covered throughout the year.

Topics	Marks	Weighting
Word Processing	±45	±45%
Spreadsheets	±35	±35%
Coding	±20	±20%
TOTAL	**100**	**100%**

- The weighting should be applied if a different total is used.

Grade 9 Programme of Assessment

Formal Assessment			
During the year	**End of year Assessment**		
60%	**40%** (15%+45%+40%=100% converted to 40%)		
SBA tasks*	**Speed and Accuracy** test**	**End of year tasks**	
	15%	**45%**	**40%**
5 tests **1 theory June exam**	Online/offline certification	Practical Assessment Task (PAT)	Theory examination

***SBA Formal tasks**

Term	**Term 1**		**Term 2**		**Term 3**	
Assessment	**Test 1 Theory**	**Test 2 Practical**	**Test 3 Practical**	**Theory Exam**	**Test 4 Theory**	**Test 5 Practical**
Minimum Marks	30 – 40	30 – 40	30 – 40	80	30 – 40	30 – 40
Minimum Minutes	40 - 50	45 – 60	45 – 60	120	40 - 50	45 – 60
Term Weighting	40%	60%	60%	40%	40%	60%
SBA Weighting	10%	15%	15%	30%	15%	15%

****Speed and Accuracy**

- Online/offline certification completed during teaching time (Refer to **Annexure 1**).

Component	**Mark**
Speed	10
Accuracy	10
Total	20
Converted to 15%	

Theory examinations – written examination

Topics	June exam		November exam	
	Marks	**Weighting**	**Marks**	**Weighting**
Systems Technologies	±16	± 20%	-	-
Word Processing	±8	± 10%	±15	± 15%
Spreadsheets	±8	± 10%	±15	± 15%
Digital Citizenship	±16	± 20%	±25	± 25%
Computational Thinking Skills	±16	± 20%	±20	± 20%
Coding	±16	± 20%	±25	± 25%
TOTAL	**80**	**100%**	**100**	**100%**

Practical Assessment Task (PAT)– completed as an activity

- Use the **4 hours** allocated in **Term 4** to complete the practical activity.
- Skills assessed must include content covered throughout the year.

Topics	Marks	Weighting
Word Processing	±25	±20%
Spreadsheets	±35	±30%
Coding	±60	±50%
TOTAL	**120**	**100%**

4.5 Recording and reporting

Recording is a process in which the teacher documents the level of a learner's performance in a specific assessment task. It indicates learner progress towards the achievement of the knowledge as prescribed in the Curriculum and Assessment Policy Statements. Records of learner performance should provide evidence of the learner's conceptual progression within a grade and her/his readiness to progress or promote to the next grade. Records of learner performance should also be used to verify the progress made by teachers and learners in the teaching and learning process.

Reporting is a process of communicating learner performance to learners, parents, schools, and other stakeholders. Learner performance can be reported in a number of ways. These include report cards, parents' meetings, school visitation days, parent-teacher conferences, phone calls, letters, class or school newsletters, etc. Teachers in all grades report in percentages against the subject. Seven levels of competence have been described for each subject listed for Grades R - 12. The various achievement levels and their corresponding percentage bands are as shown in the Table below.

Codes and Percentages for Recording and Reporting

Rating code	Description of competence	Percentage
7	Outstanding achievement	80 - 100
6	Meritorious achievement	70 - 79
5	Substantial achievement	60 - 69
4	Adequate achievement	50 - 59
3	Moderate achievement	40 - 49
2	Elementary achievement	30 - 39
1	Not achieved	0 - 29

Note: The seven-point scale should have clear descriptors that give detailed information for each level.

Teachers will record actual marks against the task by using a record sheet; and report percentages against the subject on the learners' report cards.

4.6 Moderation of assessment

Moderation refers to the process that ensures that the assessment tasks are fair, valid and reliable. Moderation should be implemented at school, district, provincial and national levels. Comprehensive and appropriate moderation practices must be in place for the quality assurance of all subject assessments.

Formal assessment (SBA)

Moderation at the school will be carried out at least once each school term by the Head of Department responsible for the subject. This moderation needs to take place before cluster, district, regional or provincial moderation. Teachers' portfolios and evidence of learner performance must be moderated to ensure that a variety of assessment tasks have been used to address various topics and that assessment covered a range of cognitive levels.

4.7 General

This document should be read in conjunction with:

4.7.1 *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12*; and

4.7.2 *National Protocol for Assessment Grades R-12.*

4.8 Annexures

Annexure 1: Speed and Accuracy Certification

Annexure 1

Speed and Accuracy Certification

Typing Tutors to consider:

- Typing Master 10 (highly recommended) http://www.typingmaster.com/
- Typing.com (highly recommended) https://www.typing.com/
- Tipp10.com
- Klavaro https://sourceforge.net/projects/klavaro/
- RapidTyping http://www.rapidtyping.com/
- www.mrkent.com
- www.learn2type.com

Suggested Typing Tutor: Typing Master

Acceptable Speed intervals for Grade 8: 10 wpm, 15 wpm and 20 wpm

Acceptable Speed intervals for Grade 9: 20 wpm, 25 wpm and 30 wpm

Most good typing tutors would allow the user to select the duration of the speed test: i.e. 5 minutes. They will give immediate results such as the Gross speed, the Accuracy % and the Net Speed.

Learners should 'warm-up' by typing 2-minute drills or a 2-minute pre-test to before their formal 5-minute speed test.

A mark out of 20 is allocated for each 5-minute speed test as follows:

- Speed: 10 marks
- Accuracy: 10 marks

Use the following table to allocate a mark out of 10 for the net Speed:

Grade 8		**Grade 9**	
Net WPM (Words per minute)	**Mark**	**Net WPM (Words per minute)**	**Mark**
20 or more wpm	10	**30 or more wpm**	10
19 wpm	9	**29 wpm**	9
17 to 18 wpm	8	**27 to 28 wpm**	8
15 to 16 wpm	7	**25 to 26 wpm**	7
13 to 14 wpm	6	**23 to 24 wpm**	6
11 to 12 wpm	5	**21 to 22 wpm**	5
10 wpm	4	**20 wpm**	4
Less than 10 wpm	0	**Less than 20 wpm**	0

The Accuracy mark out of 10 will be rounded up or down based on the Accuracy of the Gross speed, i.e. 81% will rounded down to a mark of 8/10 and 86% will be rounded up to mark of 9/10, etc.

Example:

Results received from the typing tutor:

has today successfully completed a computer based Typing Master typing test with the following results:

Test name:	Aesop's fables
Date:	2018/09/11 9:55 AM
Duration:	2:00 min.
Done:	2:00 min.
Gross speed:	53 wpm
Accuracy:	81%
Net speed:	43 wpm

According to the results above a Grade 8 learner would be allocated marks as follows:

Net Speed:	10/10
Accuracy:	8/10
Total:	18/20

Schools may issue Certificates of Accomplishment for speed and accuracy, for example:

Certificates could be graded as Gold, Silver and Bronze or Three Stars, Two Stars and One Star being 20 wpm, 15 wpm and 10 wpm respectively for Grade 8 and 30 wpm, 25 wpm and 20 wpm respectively for Grade 9.