COMPUTING – BASIC 9

THIRD TERM SCHEME OF LEARNING

WEEKS	STRAND	SUB STRAND	INDICATORS	RESOURCES
1	Communication Networks	**Information Security** • B9.3.3.1. Recognise data threats and the means of protection	B9.3.3.1.1 Discuss cyberbullying, cyberstalking, digital footprint anddigital shadow on the Internet	Charts & Pictures
2	Communication Networks	**Information Security** • B9.3.3.1. Recognise data threats and the means of protection	B9.3.3.1.2 Explain ten (10) information hacking techniques on the Internet environment.	Charts & Pictures
3	Communication Networks	**Web Technologies** • B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	B9.3.4.1.1 Examine the importance of creating blogs	Charts & Pictures
4	Communication Networks	**Web Technologies** • B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	B9.3.4.1.2 Develop a blog for the school or a social club	Charts & Pictures
5	Communication Networks	**Web Technologies** • B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	B9.3.4.1.3 Explore the steps in publishing a blog	Charts & Pictures
6	Computational Thinking	**Introduction To Programming** • B9.4.1.1. Show an Understanding of the Concept of Programming	B9.4.1.1.1 Describe the conversion of decimal into binary data type for computer to recognise the meaning, process and store	Charts & Pictures

7	Computational Thinking	**Introduction To Programming** • B9.4.1.1. Show an Understanding of the Concept of Programming	B9.4.1.1.2 Identify the different tools which are accessible in Integrated Development Environment (IDE) to aid the development of codes	Charts & Pictures
8	Computational Thinking	**Algorithm** • B9.4.2.1. Analyse the Correct Step-by-step Procedure in Solving any Real-world Problem	B9.4.2.1.1 Write a programme using flowchart and Pseudocode algorithm that includes sequence, selection and iteration choices in problem-solving	Charts & Pictures
9	Computational Thinking	**Algorithm** • B9.4.2.1. Analyse the Correct Step-by-step Procedure in Solving any Real-world Problem	B9.4.2.1.2 Translate a Flowchart algorithm to Pseudocode format and vice versa	Charts & Pictures
10	Computational Thinking	**Robotics** • B9.4.3.1. Discuss Robot Intelligence Concepts	B9.4.3.1.1 Construct a robot artefact using available lab components and tools or emulator/simulator software pack.	Charts & Pictures
11	Computational Thinking	**Artificial Intelligence** • B9.4.4.1 Discuss Artificial intelligence Concepts	B9.4.4.1.1 Describe the knowledge-based systems (Expert systems) as the classical Artificial intelligence	Charts & Pictures
12	REVISION			
13	EXAMINATION AND VACATION			

Fayol Inc. 0547824419

THIRD TERM

WEEKLY LESSON NOTES – B9

WEEK 1

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Information Security	
Content Standard: B9.3.3.1. Recognise data threats and the means of protection	**Indicator:** B9.3.3.1.1 Discuss cyberbullying, cyberstalking, digital footprint and digital shadow on the Internet		**Lesson:** 1 of 2
Performance Indicator: Learners can discuss the nature of cyberbullying, cyberstalking, digital footprint and digital shadows		**Core Competencies:** CC8.2: CP6.1	
New words	Cyberbullying, Cyberstalking, Digital Footprint, Digital Shadows		
Reference: Computing Curriculum Pg. 51			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin by asking learners if they are familiar with terms like cyberbullying, cyberstalking, digital footprint, and digital shadows. Discuss briefly what they think these terms mean or how they may have encountered them online or in media. Share performance indicators and introduce the lesson. ***Main (35mins)*** Define cyberbullying as using digital devices and platforms to harm, intimidate, or harass others. Give examples of cyberbullying, such as spreading rumors online, posting hurtful comments, or sharing embarrassing photos without permission.	Pictures and charts	Discussing the nature of cyberbullying, cyberstalking, digital footprint and digital shadows

Define cyberstalking as using digital means to track, monitor, or harass someone repeatedly. Discuss examples, like unwanted emails, messages, or following someone's online activities without their consent. Define digital footprint as the trail of data left behind when using the internet, including posts, comments, likes, and online activities. Explain that digital footprints can be permanent and affect one's online reputation. Define digital shadows as the information collected about individuals through their digital footprints by online platforms and services. Discuss how digital shadows can be used for targeted advertising, profiling, or data mining. Assessment 1. Define cyberbullying and give an example. 2. What is cyberstalking, and how is it different from cyberbullying? 3. Explain what a digital footprint is and why it's important to manage it. 4. Define digital shadows and how they can impact online privacy. ***Reflection** (10mins)* Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		

Homework/Project Work/Community Engagement Suggestions
Explain briefly the following ● cyberbullying, cyberstalking, digital footprint and digital shadows
Cross-Curriculum Links/Cross-Cutting Issues
None
Potential Misconceptions/Student Learning Difficulties
None

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Information Security	
Content Standard: B9.3.3.1. Recognise data threats and the means of protection	**Indicator:** B9.3.3.1.1 Discuss cyberbullying, cyberstalking, digital footprint and digital shadow on the Internet		**Lesson:** 1 of 2
Performance Indicator: Learners can discuss the effects on cyberbullying on individual		**Core Competencies:** CC8.2: CP6.1	
New words	Cyberbullying, Cyberstalking, Digital Footprint, Digital Shadows		
Reference: Computing Curriculum Pg. 51			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin by asking learners if they have heard about cyberbullying, cyberstalking, digital footprint, and digital shadows. Share performance indicators and introduce the lesson. ***Main (35mins)*** Introduce the lesson by explaining that today they will learn about these terms and their impact on individuals. Define cyberbullying as using digital devices and platforms to harm, intimidate, or harass others. Provide examples of cyberbullying, such as sending mean messages, spreading rumors, or sharing embarrassing photos online. Define cyberstalking as using digital means to track, monitor, or harass someone repeatedly without their consent. Give examples of cyberstalking, like sending threatening messages, following someone's online activities without permission, or using GPS to track someone's location.	Pictures and charts	Discussing the effects on cyberbullying on individual

Define digital footprint as the trail of data left behind when using the internet, including posts, comments, likes, and online activities. Discuss how digital footprints can affect one's online reputation and privacy. Define digital shadows as the information collected about individuals through their digital footprints by online platforms and services. Explain how digital shadows can lead to targeted advertising, data profiling, and privacy concerns. Discuss the effects of cyberbullying on individuals, such as emotional distress, low self-esteem, social isolation, and even mental health issues. Encourage learners to share their thoughts or experiences related to cyberbullying. <u>Assessment</u> 1. Provide an example of cyberbullying. 2. Describe what cyberstalking is and give an example. 3. Explain what a digital footprint is and why it's important. 4. Discuss the effects of cyberbullying on individuals. ***Reflection** (10mins)* Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
• State four (4) effects on cyberbullying on individual		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

THIRD TERM

WEEKLY LESSON NOTES – B9

WEEK 2

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Information Security	
Content Standard: B9.3.3.1. Recognize data threats and the means of protection	**Indicator:** B9.3.3.1.2 Explain ten (10) information hacking techniques on the Internet environment.		**Lesson:** 1 of 2
Performance Indicator: Learners can identify the hacking techniques used on the internet environment		**Core Competencies:** CC8.2: CP6.1	
New words	Information, Hacking, Phishing, Keyloggers, Denial, Service		
Reference: Computing Curriculum Pg. 51			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin by asking learners if they have heard about hacking and what they think it means. Share performance indicators and introduce the lesson. ***Main (35mins)*** Introduce the lesson by explaining that today they will learn about hacking techniques used in the internet environment. Define hacking as the unauthorized access, modification, or disruption of computer systems or networks. Introduce and discuss common hacking techniques: ● Phishing: Trickery to obtain sensitive information like passwords or credit card details. ● Keyloggers: Software that records keystrokes to steal login credentials. ● Denial of Service (DoS) Attack: Flooding a system to make it unavailable to users. ● Eavesdropping: Intercepting and listening to communications without authorization.	Pictures and charts	Identifying the hacking techniques used on the internet environment

Provide examples of each hacking technique and discuss their potential effects on individuals and organizations. <u>Assessment</u> 1. Define phishing and provide an example. 2. Explain what keyloggers are used for. 3. Describe a Denial of Service (DoS) attack and its impact. 4. Discuss why eavesdropping is considered a hacking technique. ***Reflection** (10mins)* Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
•		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Information Security	
Content Standard: B9.3.3.1. Recognise data threats and the means of protection	**Indicator:** B9.3.3.1.2 Explain ten (10) information hacking techniques on the Internet environment.		**Lesson:** 1 of 2
Performance Indicator: Learners can explain ten (10) information hacking techniques		**Core Competencies:** CC8.2: CP6.1	
New words	Information, Hacking, Phishing, Keyloggers, Denial, Service		
Reference: Computing Curriculum Pg. 51			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin by asking learners if they have heard about hacking and what they think it means. Share performance indicators and introduce the lesson. ***Main (35mins)*** Introduce the lesson by explaining that today they will learn about information hacking techniques used in the internet environment. Define information hacking as unauthorized access or manipulation of digital data for malicious purposes. Present and discuss ten information hacking techniques in simple words: ● Phishing: Deceptive emails or websites to obtain sensitive information. ● Keyloggers: Software that records keystrokes to steal login credentials. ● Denial of Service (DoS) Attack: Flooding a system to make it unavailable. ● Eavesdropping: Intercepting and listening to digital communications. ● Man-in-the-Middle (MitM) Attack: Intercepting and altering data between parties.	Pictures and charts	Explaining ten (10) information hacking techniques

• SQL Injection: Injecting malicious code into a database to access or modify data. • Social Engineering: Manipulating people to divulge confidential information. • Ransomware: Malware that encrypts files and demands payment for decryption. • Trojan Horse: Malware disguised as legitimate software to gain access. • Distributed Denial of Service (DDoS) Attack: Coordinated attack from multiple sources to overwhelm a system. Discuss the potential effects of each hacking technique and ways to prevent or mitigate them. <u>Assessment</u> 1. Define phishing and explain how it works. 2. Describe a Denial of Service (DoS) attack and its effects. 3. What is social engineering, and how can individuals protect themselves from it? 4. Discuss the difference between SQL Injection and Trojan Horse malware. ***Reflection** (10mins)* Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
• State and explain the ten (10) information hacking techniques		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

THIRD TERM

WEEKLY LESSON NOTES – B9

WEEK 3

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Web Technologies	
Content Standard: B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	**Indicator:** B9.3.4.1.1 Examine the importance of creating blogs		**Lesson:** 1 of 1
Performance Indicator: Learners can explain the concept of blogging		**Core Competencies:** CC8.2: CP6.1	
New words	Blogging, Content, Engagement, Categories/Tags		
Reference: Computing Curriculum Pg. 52			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Start by asking learners if they know what a blog is and if they have ever read one. Share performance indicators and introduce the lesson. ***Main (35mins)*** Introduce the lesson by explaining that they will learn about blogging and its significance in the digital world. Define blogging as a platform where individuals or groups share their thoughts, ideas, and experiences online through written content, images, or videos. Discuss the purpose of blogs, such as sharing knowledge, expressing creativity, or promoting businesses. Explain the key components of a blog: ● *Title: The name of the blog post or article.* ● *Content: The main body of text or media that conveys the message.* ● *Images/Videos: Visual elements that enhance the content.* ● *Comments Section: Allows readers to engage by leaving comments.*	Pictures and charts	Explaining the concept of blogging

• *Categories/Tags: Organize content for easy navigation and searchability.* Discuss the advantages of blogging, such as: • *Sharing knowledge and expertise.* • *Building an online presence or personal brand.* • *Connecting with like-minded individuals or communities.* • *Generating income through advertising or sponsored content.* Briefly explain the process of creating a blog post: • *Choose a topic of interest.* • *Write engaging content with a clear structure (introduction, body, conclusion).* • *Add relevant images or videos.* • *Proofread and edit before publishing.* • *Share the post on social media or other platforms for visibility* <u>Assessment</u> 1. Define blogging in your own words. 2. List three benefits of blogging. 3. Describe the key elements of a blog post. 4. Explain the steps involved in creating a blog post. ***Reflection** **(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		

Homework/Project Work/Community Engagement Suggestions
• What is blogging? • Write three importance of blogging
Cross-Curriculum Links/Cross-Cutting Issues
None
Potential Misconceptions/Student Learning Difficulties
None

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Web Technologies	
Content Standard: B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	**Indicator:** B9.3.4.1.1 Examine the importance of creating blogs		**Lesson:** 1 of 1
Performance Indicator: Learners can describe the importance of creating blogs		**Core Competencies:** CC8.2: CP6.1	
New words	Blogging, Creativity, Knowledge, Sharing, online.		
Reference: Computing Curriculum Pg. 52			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin by asking learners if they have ever read a blog or know someone who has a blog. Share performance indicators and introduce the lesson. ***Main (35mins)*** Introduce the lesson by explaining that they will learn about the importance of creating blogs and how it can benefit individuals and businesses. Define blogging as a platform for sharing ideas, knowledge, and experiences online. Discuss the significance of blogs in today's digital world. Explain the importance of creating blogs with the following key points: ● Express Creativity: Blogs allow individuals to showcase their creativity through writing, photography, or videos. ● Share Knowledge: Blogging provides a platform to share valuable information, expertise, and insights on various topics. ● Build Online Presence: Creating a blog helps in establishing an online presence and personal brand. ● Connect with Others: Blogs facilitate connections with like-minded individuals, communities, or potential customers.	Pictures and charts	Describing the importance of creating blogs

• Opportunities: Blogs can lead to opportunities such as collaborations, partnerships, or even monetization through ads or sponsored content. Share examples of successful blogs or bloggers who have leveraged their blogs for personal or professional growth. Discuss real-life case studies of individuals or businesses benefiting from blogging. Assessment 1. Explain in your own words why creating blogs is important. 2. List three benefits of creating a blog. 3. Describe how blogs can help individuals and businesses. 4. Explain whether you would consider starting your own blog and why. ***Reflection** (10mins)* Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
• Describe two importance of creating a blog.		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

THIRD TERM
WEEKLY LESSON NOTES – B9
WEEK 4

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Web Technologies	
Content Standard: B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	**Indicator:** B9.3.4.1.2 Develop a blog for the school or a social club		**Lesson:** 1 of 1
Performance Indicator: Learners can describe the process of creating a blog		**Core Competencies:** CC8.2: CP6.1	
New words	Blogging, Platform, Registration, Set Up, Customization, Content, Creation		
Reference: Computing Curriculum Pg. 52			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin by asking learners if they know what a blog is and if they have ever read one or considered creating one. Share performance indicators and introduce the lesson. ***Main (35mins)*** Introduce the lesson by explaining that they will learn about the step-by-step process of creating a blog and what each step involves. Define what a blog is and its purpose (sharing ideas, experiences, knowledge online). Explain that creating a blog involves several steps, from choosing a platform to publishing content. Discuss popular blogging platforms like WordPress, Blogger, or Wix. Explain the differences and features of each platform. Guide learners through the process of registering an account on the chosen platform. Show how to set up the basic elements such as blog name, theme, and layout. Explain how to customize the design by choosing colors, fonts, and adding widgets or plugins. Discuss how to create engaging and relevant content for the blog, including writing posts, adding images/videos, and formatting.	Computer setup	Describing the process of creating a blog

Teach learners how to publish their blog posts and share them on social media platforms for promotion. Have learners brainstorm ideas for their first blog post or discuss a topic they would like to write about on their blog. <u>Assessment</u> 1. List three popular blogging platforms and explain their key features. 2. Describe the process of customizing the design of a blog. 3. Explain how you would promote your blog posts after publishing them. 4. Plan your first blog post by choosing a topic and outlining key points to cover. ***Reflection** **(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
• Describe in your own words the process of creating a blog		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Web Technologies	
Content Standard: B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	**Indicator:** B9.3.4.1.2 Develop a blog for the school or a social club		**Lesson:** 1 of 1
Performance Indicator: Learners can develop a blog for the school or a social club		**Core Competencies:** CC8.2: CP6.1	
New words	Events, Calendar		
Reference: Computing Curriculum Pg. 52			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Ask learners if they are familiar with blogs and if they have ever read or followed a school or social club blog. Share performance indicators and introduce the lesson. ***Main (35mins)*** Introduce the lesson by explaining that they will learn about the key items to include in a school or social club blog and then work on developing a blog for their school or a fictional social club. Define what a school or social club blog is and its purpose (sharing news, events, achievements, and important information). Explain the importance of engaging content to attract readers. Discuss the importance of introducing the school or club, including its history, mission, and goals. Explain the need for regular updates on school events, achievements, and announcements. Discuss the inclusion of a calendar or schedule for upcoming events and activities. Explain how visuals enhance a blog and suggest adding a photo gallery for events and club activities. Discuss the importance of providing contact details for inquiries or feedback. Divide learners into groups and assign each group a role (content writer, editor, designer).	Computer setup	Developing a blog for the school or a social club

Guide them in brainstorming content ideas, writing blog posts, designing the layout, and adding visuals. Assessment 1. Create an "About Us" section for your school or social club blog, including its history, mission, and goals. 2. List three news or updates you would include in the blog. ***Reflection*** ***(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
• Plan an events calendar for the next month, including at least three events or activities. • Design a layout for the blog homepage, indicating where each key item (news, events, contact) will be placed.		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

THIRD TERM
WEEKLY LESSON NOTES
WEEK 5

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Web Technologies	
Content Standard: B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	**Indicator:** B9.3.4.1.3 Explore the steps in publishing a blog		**Lesson:** 1 of 1
Performance Indicator: Learners can identify steps in publishing a blog		**Core Competencies:** CC8.2: CP6.1	
New words	Blog, Publishing, Procedure, Content, Comment, Moderation		
Reference: Computing Curriculum Pg. 52			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin by asking learners if they have ever published a blog post or if they are familiar with the steps involved in publishing a blog. Introduce the lesson by explaining that they will learn about the key steps in publishing a blog and then practice publishing a sample blog post. Share performance indicators and introduce the lesson. ***Main (35mins)*** Define what blog publishing means and its importance in sharing content with an audience. Explain that publishing a blog involves several steps to ensure quality and reach. Discuss the importance of well-written and engaging content. Explain how images, videos, and other media enhance blog posts. Discuss the need for proper formatting, editing for grammar and style, and proofreading. Introduce the concept of adding internal and external links and optimizing content for search engines (SEO). Provide learners with a sample blog post or ask them to create one on a given topic.	Computer setup	Exploring the steps in publishing a blog

Guide them through the steps of publishing, including formatting, adding media, editing, and optimizing for SEO. Encourage them to preview their post before publishing to ensure it meets quality standards. <u>Assessment</u> 1. Write a short blog post (150-200 words) on a topic of your choice. 2. Add at least one image or video to your blog post. 3. Format your post using headings, bullet points, or other formatting techniques. 4. Edit your post for grammar and style, and proofread it for errors. ***Reflection*** ***(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
•		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Web Technologies	
Content Standard: B9.3.4.1 Demonstrate the Use of a Web Browser (Blogging)	**Indicator:** B9.3.4.1.3 Explore the steps in publishing a blog		**Lesson:** 1 of 1
Performance Indicator: Learners can demonstrate the procedure for publishing a blog and invite others to comment		**Core Competencies:** CC8.2: CP6.1	
New words	Blog, Publishing, Procedure, Content, Comment, Moderation		
Reference: Computing Curriculum Pg. 52			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin by reviewing the key steps in publishing a blog from the previous lesson. Ask learners if they have any questions or if there are steps they would like to revisit before proceeding. Share performance indicators and introduce the lesson. ***Main (35mins)*** Demonstrate the step-by-step procedure for publishing a blog post using a blogging platform (e.g., WordPress, Blogger). Show learners how to log in, create a new post, write content, add media, format the post, add links, and optimize for SEO. Explain how to preview the post and then publish it. Provide learners with a simple blog post template or ask them to create one on a given topic. Guide them through the process of publishing their blog post, following the steps demonstrated. Encourage learners to be creative with their content and media choices. Discuss the importance of engaging with readers by inviting comments on blog posts. Show learners how to enable comments and moderate them to ensure a	Computer setup	Demonstrating the procedure for publishing a blog and invite others to comment

positive and respectful discussion. Explain the etiquette of responding to comments and fostering interaction. <u>Assessment</u> 1. Write and publish a blog post (200-250 words) on a topic of your choice. 2. Include at least one image or video in your blog post. 3. Format your post using headings, bullet points, or other formatting techniques. ***Reflection** **(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
•		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

THIRD TERM
WEEKLY LESSON NOTES
WEEK 6

Week Ending:	**DAY:**	**Subject:** Computing
Duration: 60mins		**Strand:** Communication Networks
Class: B9	**Class Size:**	**Sub Strand:** Introduction To Programming

Content Standard: B9.4.1.1. Show an Understanding of the Concept of Programming	**Indicator:** B9.4.1.1.1 Describe the conversion of decimal into binary data type for computer to recognise the meaning, process and store	**Lesson:** 1 of 1

Performance Indicator: Learners can convert decimal, binary and hexadecimal data from one format to another.	**Core Competencies:** CC8.2: CP6.1
New words	Decimal, Binary, Hexadecimal, Data Conversion Techniques
Reference: Computing Curriculum Pg. 53	

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin with a brief discussion on different number systems: decimal, binary, and hexadecimal. Introduce the concept of data conversion and why it is important in programming. Show examples of how numbers are represented in each system. Share performance indicators and introduce the lesson. ***Main (35mins)*** Explain the process of converting decimal numbers to binary numbers. Demonstrate with examples and encourage learners to practice conversions on their own. Discuss the significance of each bit in binary representation. Reverse the process and teach learners how to convert binary numbers back to decimal. Use examples and allow learners to practice conversions to reinforce understanding. Introduce the hexadecimal number system and its use in programming. Explain how hexadecimal numbers are represented and their advantages in data storage.	Computer setup	Converting decimal, binary and hexadecimal data from one format to another

Assessment 1. Convert the following decimal numbers to binary: 25 42 78 2. Convert the following binary numbers to decimal: 10101 110110 1110010 3. Convert the following decimal numbers to hexadecimal: 150 255 500 4. Convert the following hexadecimal numbers to decimal: 2A FF 1A7 ***Reflection** **(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
•		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

Week Ending:	**DAY:**	**Subject:** Computing
Duration: 60mins		**Strand:** Communication Networks
Class: B9	**Class Size:**	**Sub Strand:** Introduction To Programming

Content Standard: B9.4.1.1. Show an Understanding of the Concept of Programming	**Indicator:** B9.4.1.1.1 Describe the conversion of decimal into binary data type for computer to recognise the meaning, process and store	**Lesson:** 1 of 1

Performance Indicator: Learners can calculate two or more binary numbers using the mathematical notation or operators in the number base two rule	**Core Competencies:** CC8.2: CP6.1

New words	Binary Addition, Binary Subtraction, Binary Multiplication, Borrowing in Binary Operations

Reference: Computing Curriculum Pg. 53

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Recap the basics of binary numbers and how they are represented. Introduce the concept of performing mathematical operations (addition, subtraction, multiplication) with binary numbers. Share performance indicators and introduce the lesson. ***Main (35mins)*** Explain the rules of binary addition using examples. Demonstrate how to add two binary numbers step by step. *For this example, let's add 1011_2 and 110_2* *1. Write the two binary numbers one below the other, aligning them by their place values:* *1011* *+ 110* *——* *2. Begin adding the digits from the rightmost column, just like in decimal addition.* *1011* *+ 110* *——* *1* *3. Move to the next column to the left and add the digits along with any carry from the previous column:* *1011* *+ 110*	Computer setup	Calculating two or more binary numbers using the mathematical notation or operators in the number base two rule

```
  ----
   101
```

4. Repeat the process for the next column:

```
   1011
 + 110
 ----
  1111
```

5. If there's a carry in the leftmost column, write it down:

```
   1011
 + 110
 ----
  1111
```

So, $1011_2 + 110_2 = 1111_2$ in binary.

Provide practice problems for learners to solve independently or in groups.
Teach the method for binary subtraction, emphasizing borrowing.

Show examples and guide learners through subtraction exercises.
Discuss the concept of borrowing and its importance in binary subtraction.

Introduce binary multiplication and its similarity to decimal multiplication.
Use examples to demonstrate the multiplication process.

Encourage learners to practice multiplying binary numbers on their own.

Assessment

1. Perform the following binary additions:

101 + 110
1001 + 1010
1111 + 1

2. Perform the following binary subtractions:

1101 - 101
10101 - 1100
1110 – 10

3. Perform the following binary multiplications:

101 * 11
110 * 10
1110 * 101

Reflection ***(10mins)***

Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.

Take feedback from learners and summarize the lesson.

Homework/Project Work/Community Engagement Suggestions

-

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties
None

THIRD TERM
WEEKLY LESSON NOTES
WEEK 7

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Introduction To Programming	
Content Standard: B9.4.1.1. Show an Understanding of the Concept of Programming	**Indicator:** B9.4.1.1.2 Identify the different tools which are accessible in Integrated Development Environment (IDE) to aid the development of codes		**Lesson:** 1 of 1
Performance Indicator: Learners can explore programming languages such as Snap, Scratch and Python		**Core Competencies:** CC8.2: CP6.1	
New words	Variables, Operators, Controls, Events		
Reference: Computing Curriculum Pg. 53			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Brainstorm learners to explain the concept of programming languages and their importance in computer science. Mention popular programming languages like Snap, Scratch, and Python. Share performance indicators and introduce the lesson. ***Main (35mins)*** Explain what Snap is and its purpose in teaching programming concepts. Discuss key terminologies such as variables, operators, controls, events, etc., in Snap. Show examples of how these concepts are used in Snap programming. Introduce Scratch as another programming language for beginners. Cover essential terms like sprites, blocks, scripts, loops, and conditionals in Scratch. Demonstrate basic programming tasks using Scratch blocks. Introduce Python as a text-based programming language. Discuss key concepts in Python such as variables, data types, operators,	Computer Setup	Exploring programming languages such as Snap, Scratch and Python

conditionals, and loops. Show simple Python code snippets to illustrate these concepts. <u>Assessment</u> 1. Define variables, operators, controls, and events in the context of Snap, Scratch, and Python. 2. Identify examples of each concept in Snap, Scratch, and Python code snippets. 3. Write a simple program using Snap, Scratch, or Python that includes variables, operators, controls, and events. ***Reflection** **(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
•		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Introduction To Programming	
Content Standard: B9.4.1.1. Show an Understanding of the Concept of Programming	**Indicator:** B9.4.1.1.2 Identify the different tools which are accessible in Integrated Development Environment (IDE) to aid the development of codes		**Lesson:** 1 of 1
Performance Indicator: Learners can explore a web development programme to create a simple website		**Core Competencies:** CC8.2: CP6.1	
New words	HTML, CSS, JavaScript, Web Development		
Reference: Computing Curriculum Pg. 53			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Brainstorm learners to discuss the importance of web development and its role in creating websites. Introduce the concept of HTML, CSS, and JavaScript as essential languages for web development. Share performance indicators and introduce the lesson. ***Main (35mins)*** Explain what HTML is and its role in creating the structure of a webpage. Discuss basic HTML tags such as <html>, <head>, <body>, <h1>, <p>, <a>, etc. Demonstrate how to create a simple HTML webpage using a text editor. Introduce CSS as a language used for styling and formatting webpages. Cover basic CSS concepts like selectors, properties, and values. Show examples of applying CSS styles to HTML elements to change colors, fonts, and layout. Introduce JavaScript as a programming language for adding interactivity to webpages. Discuss basic JavaScript concepts such as variables, functions, and event handling.	Computer setup	Exploring a web development programme to create a simple website

Show how to write a simple JavaScript code snippet to create interactive elements on a webpage. <u>Assessment</u> 1. Create a simple HTML webpage with headings, paragraphs, links, and images. 2. Apply CSS styles to the HTML elements to change colors, fonts, and layout. 3. Write a JavaScript function to display an alert message when a button is clicked on the webpage ***Reflection** (10mins)* Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
•		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

THIRD TERM
WEEKLY LESSON NOTES
WEEK 8

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Algorithm	
Content Standard: B9.4.2.1. Analyze the Correct Step-by-step Procedure in Solving any Real-world Problem	**Indicator:** B9.4.2.1.1 Write a programme using flowchart and Pseudocode algorithm that includes sequence, selection and iteration choices in problem-solving		**Lesson:** 1 of 1
Performance Indicator: Learners can discuss at least three ways to do proper hand-washing and prepare beverages with or without sugar and/or milk		**Core Competencies:** CC8.2: CP6.1	
New words	Hand-Washing, Techniques, Beverage, Preparation, Hygiene, Ingredients		
Reference: Computing Curriculum Pg. 54			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Introduce the importance of proper hand-washing techniques for personal hygiene and health. Discuss common methods of preparing beverages such as tea, coffee, and fruit juices. Share performance indicators and introduce the lesson. ***Main (35mins)*** Demonstrate and explain the steps of proper hand-washing, including wetting hands, applying soap, scrubbing thoroughly, rinsing, and drying. Emphasize key areas like fingertips, nails, between fingers, and wrists during hand-washing. Discuss the importance of hand-washing in preventing the spread of germs and diseases. Choose a beverage (e.g., tea, coffee, fruit juice) and discuss the ingredients and equipment needed. Demonstrate the preparation of the chosen beverage with or without sugar and/or milk, highlighting different variations.	Visual aids or videos demonstrating proper hand-washing techniques	Discussing at least three ways to do proper hand-washing and prepare beverages with or without sugar and/or milk

Explain the importance of hygiene during beverage preparation, including using clean utensils and washing fruits before use. Divide learners into small groups and assign each group a beverage preparation task. Learners practice proper hand-washing techniques before and after preparing the beverage. Encourage learners to discuss the steps they followed and share their experiences. <u>Assessment</u> 1. Describe the steps of proper hand-washing techniques in your own words. 2. Choose a beverage and write down the ingredients and equipment needed for its preparation. 3. Prepare the chosen beverage following the correct steps and note any variations (e.g., with sugar/milk, without sugar/milk). ***Reflection** **(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
•		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Algorithm	
Content Standard: B9.4.2.1. Analyze the Correct Step-by-step Procedure in Solving any Real-world Problem	**Indicator:** B9.4.2.1.1 Write a programme using flowchart and Pseudocode algorithm that includes sequence, selection and iteration choices in problem-solving		**Lesson:** 1 of 1
Performance Indicator: Learners can write an algorithm for Exemplar(s): 1 that focuses on procedure correctness and shortest time to execute		**Core Competencies:** CC8.2: CP6.1	
New words	Algorithm, Procedure, Efficiency, Testing		
Reference: Computing Curriculum Pg. 54			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Recap the importance of proper hand-washing and hygiene in beverage preparation. Introduce the concept of algorithms and their role in organizing step-by-step instructions. Share performance indicators and introduce the lesson. ***Main (35mins)*** Explain what an algorithm is: a sequence of steps or instructions to solve a problem or perform a task. Discuss the importance of algorithms in computer programming and everyday tasks. Divide the class into small groups and assign each group the task of creating an algorithm. Groups will develop algorithms for: • Proper Hand-Washing Techniques • Beverage Preparation with or without sugar and/or milk <u>Algorithm Execution</u>: ➢ Start with wet hands under running water. ➢ Apply soap and lather, scrubbing hands thoroughly for 20 seconds. ➢ Rinse hands under clean water. ➢ Dry hands with a towel. ➢ Gather ingredients and equipment for chosen beverage. ➢ Boil water if necessary.	Visual aids or videos demonstrating proper hand-washing techniques	Writing a programme using flowchart and Pseudocode algorithm

➢ Prepare beverage according to chosen method (tea, coffee, fruit juice). ➢ Serve prepared beverage. Emphasize the need for clarity, correctness, and efficiency in the algorithms. Each group will test their algorithm by following the step-by-step instructions. Evaluate the algorithms based on their effectiveness in achieving the desired outcome (clean hands, well-prepared beverage). <u>Assessment</u> 1. Write down the algorithm for proper hand-washing techniques. 2. Develop an algorithm for preparing a beverage with or without sugar and/or milk. 3. Test the algorithms by following the steps and note any improvements or changes needed. 4. Reflect on the role of algorithms in everyday tasks and problem-solving. ***Reflection** **(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
•		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

THIRD TERM
WEEKLY LESSON NOTES
WEEK 9

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Algorithm	
Content Standard: B9.4.2.1. Analyze the Correct Step-by-step Procedure in Solving any Real-world Problem	**Indicator:** B9.4.2.1.2 Translate a Flowchart algorithm to Pseudocode format and vice versa		**Lesson:** 1 of 1
Performance Indicator: Learners can write an algorithm using flowchart format		**Core Competencies:** CC8.2: CP6.1	
New words	Algorithm, Flowchart, Decision Point, Procedure		
Reference: Computing Curriculum Pg. 54			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Begin with a discussion on what an algorithm is. Define it as a step-by-step procedure or set of rules to solve a problem or perform a task. Share performance indicators and introduce the lesson. ***Main (35mins)*** Introduce the concept of flowcharts as visual representations of algorithms. Explain that flowcharts use different shapes to represent different actions or decisions. Explain three ways to do proper hand-washing, such as wetting hands, applying soap, rubbing hands together, rinsing, and drying. Use a flowchart to visually represent the steps of proper hand-washing. Include decision points like "Is soap available?" to make the algorithm interactive. Discuss the steps to prepare beverages with or without sugar and/or milk. For example, boiling water, adding tea leaves or coffee powder, adding sugar or milk as desired. Use another flowchart to represent the beverage preparation steps. Include options like "Add sugar?" or "Add milk?" to show decision-making in the algorithm. <u>Assessment</u> 1. Draw a flowchart showing the steps of proper hand-washing.	Paper or digital platform for creating the flowchart (e.g., whiteboard, flowchart software like Lucidchart or Microsoft Visio).	Writing an algorithm using flowchart format

2. Fill in the blanks for decision points like "Is soap available?" 3. Answer questions about the algorithm's steps. ***Reflection*** ***(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
• Draw a flowchart for preparing a beverage with or without sugar and/or milk. • Complete decision points like "Add sugar?" or "Add milk?" • Describe the steps in writing using pseudocode format.		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

Week Ending:	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Communication Networks	
Class: B9	**Class Size:**	**Sub Strand:** Algorithm	
Content Standard: B9.4.2.1. Analyze the Correct Step-by-step Procedure in Solving any Real-world Problem	**Indicator:** B9.4.2.1.2 Translate a Flowchart algorithm to Pseudocode format and vice versa		**Lesson:** 1 of 1
Performance Indicator: Learners can write an algorithm using flowchart format		**Core Competencies:** CC8.2: CP6.1	
New words	Algorithm, Flowchart, Decision Point, Procedure		
Reference: Computing Curriculum Pg. 54			

Activities For Learning & Assessment	**Resources**	**Progression**
Starter (5mins) Recap the previous lesson on algorithms and flowcharts. Engage learners in a discussion about the importance of algorithms in daily tasks like hand-washing and beverage preparation. Share performance indicators and introduce the lesson. ***Main (35mins)*** Write an algorithm using flowchart format. Convert or translate the same flowchart algorithm into a Pseudocode format. (do a vice versa translation example to reinforce critical thinking) Briefly go over the steps of proper hand-washing discussed in the previous lesson. Show the flowchart created earlier and explain each step in detail. Ask learners to identify decision points and explain their significance. Explain the steps involved in preparing a beverage (tea, coffee, or fruit juice) with or without sugar and/or milk. Discuss variations in beverage preparation based on individual preferences. Use a blank flowchart template on the board or screen to start creating the algorithm together as a class. Divide learners into small groups. Assign each group a specific beverage (e.g., tea with milk and sugar, black coffee, orange juice).	Paper or digital platform for creating the flowchart (e.g., whiteboard, flowchart software like Lucidchart or Microsoft Visio).	Writing an algorithm using flowchart format

Instruct groups to brainstorm and create a flowchart for their assigned beverage preparation process. Encourage creativity and inclusion of decision points in the flowcharts ***Reflection*** ***(10mins)*** Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		
Homework/Project Work/Community Engagement Suggestions		
• Draw a flowchart for preparing a beverage with or without sugar and/or milk. • Complete decision points like "Add sugar?" or "Add milk?" • Describe the steps in writing using pseudocode format.		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		