SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 1

Week Ending: 06-04-2023	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Productivity Software	
Class: B8	**Class Size:**	**Sub Strand:** Introduction to Presentation	

Content Standard: B82.2.1 Demonstrate how to use Microsoft PowerPoint (Multimedia)	**Indicator:** B8.2.2.1.1. Demonstrate how to add pictures, screenshot and edit and format pictures	**Lesson:** 1 of 2
Performance Indicator: Learners can demonstrate how to add pictures, screenshot and edit and format pictures.	**Core Competencies:** CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 29		

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. ***Main (35mins)*** Revise with learners on the use of the PowerPoint presentation application. • *PowerPoint is easy to use and has a user-friendly interface that enables users to create engaging presentations quickly.* • *PowerPoint is versatile in that it can be used for various purposes, including business presentations, educational lectures, and personal projects.* • *PowerPoint presentations can help to enhance communication by presenting information in a clear and concise manner, and by incorporating visual aids that help to convey complex information more easily* Let learners identify and discuss the features of the PowerPoint presentation window. • *Title Bar: The title bar displays the name of the current presentation and allows you to minimize, maximize, or close the PowerPoint window.* • *Ribbon: The Ribbon is the main toolbar that contains various tabs, such as Home, Insert, Design, Transitions, Animations, etc., with each tab containing related groups of tools that allow you to perform various tasks in PowerPoint.* • *Quick Access Toolbar: The Quick Access Toolbar provides quick access to frequently used commands, such as Save, Undo, and Redo.* • *Slides Pane: The Slides pane displays all the slides in the current presentation, and allows you to add, delete, and rearrange slides as needed.* • *Notes Pane: The Notes pane allows you to add speaker notes that only you can see during a presentation.* • *Slide Area: The Slide Area is the main working area where you can create and edit your slides.* • *Status Bar: The Status Bar displays information about the current slide, such as the slide number and the view that you are currently using.*	Pictures and videos	
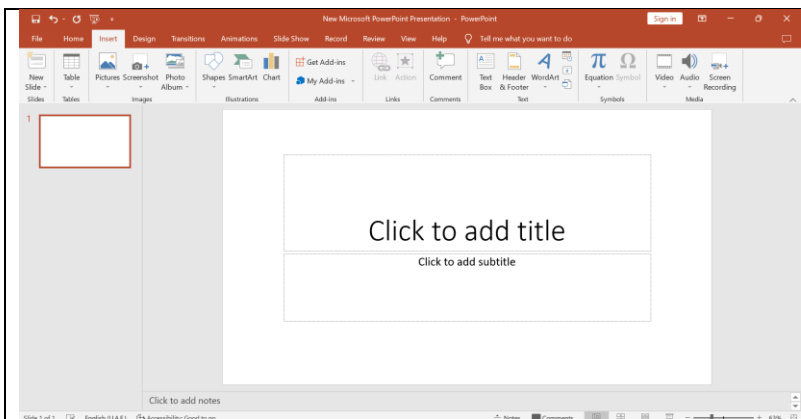
Guide learners to explore the use of the Images Group under the Insert tab.
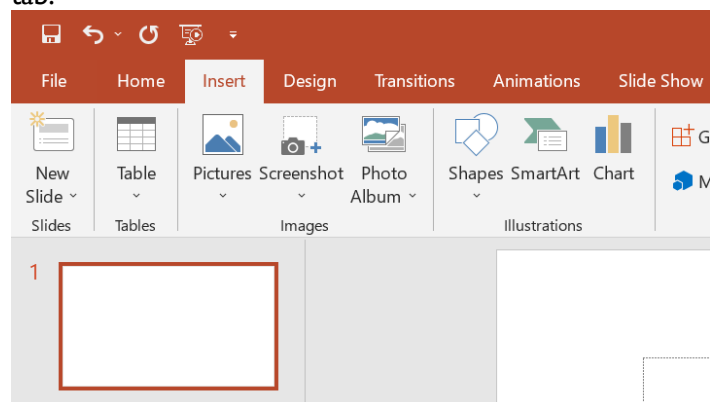
- *Pictures: this allows you to add pictures from your computer, stock image library or from online source.*
- *Screenshot: allows you to add a snapshot of any window that's open on the desktop to your document.*
- *Photo Album: It allows you to create a beautiful presentation for your favorite photo collection.*

Learners in groups demonstrate the use of ClipArt, Photo Album and Screenshot.

Project examples of the PowerPoint interface to learners with the aid of a projector or pictures.

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.

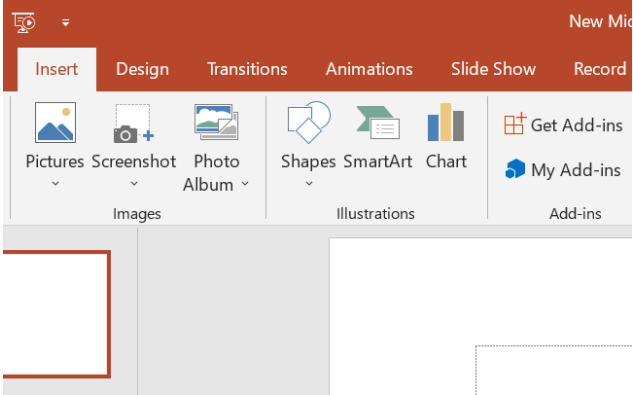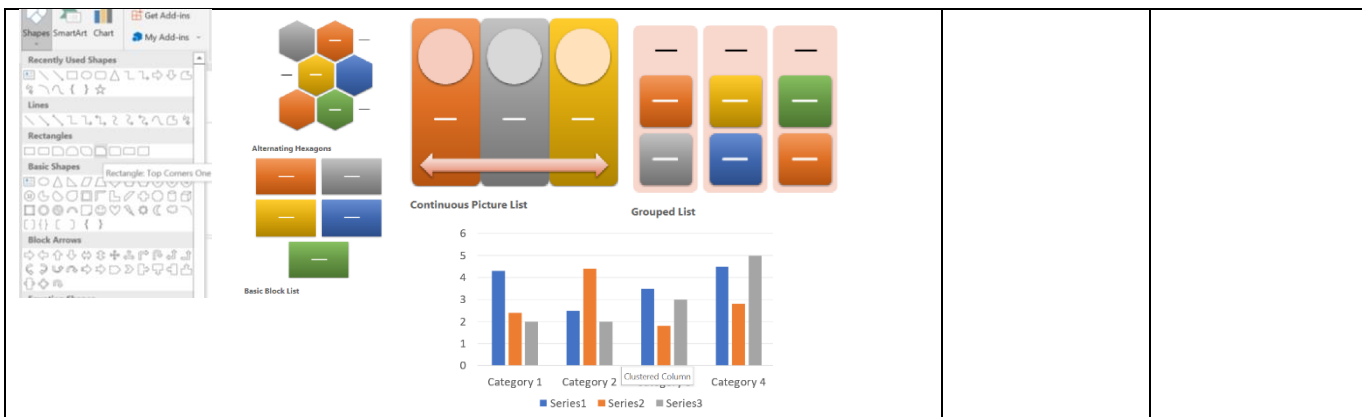| **Homework/Project Work/Community Engagement Suggestions** |
| State and explain the uses of five features of the PowerPoint presentation window |
| **Cross-Curriculum Links/Cross-Cutting Issues** |
| None |
| **Potential Misconceptions/Student Learning Difficulties** |
| None |

Week Ending: 06-04-2023	DAY:	Subject: Computing	
Duration: 60mins		Strand: Productivity Software	
Class: B8	Class Size:	Sub Strand: Introduction to Presentation	
Content Standard: B82.2.1 Demonstrate how to use Microsoft PowerPoint (Multimedia)	Indicator: B8.2.2.1.2. Demonstrate how to add a drawing canvas, shapes, and also edit, format and add text to shapes		Lesson: 1 of 2
Performance Indicator: Learners can demonstrate how to add a drawing canvas, shapes, and also edit, format and add text to shapes		Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 29			

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Explore the use of the Illustrations group under the Insert tab. • *Shapes: this allows you to insert ready made shapes, such as circles, squares and arrows.* • *SmartArt: this allows to insert SmartArt graphics to visually communicate information.* • *Chart: this allows you to insert graphs that makes easy to spot patterns and trends in your data.*	Pictures and videos	

Engage learners to demonstrate the use of Shapes and SmartArt.

Explore the use of the drawing canvas to group shapes.

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 uses of five features of the PowerPoint presentation window

Cross-Curriculum Links/Cross-Cutting Issues
None

Potential Misconceptions/Student Learning Difficulties
None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 2

Week Ending: 14-04-2023	DAY:		Subject: Computing	
Duration: 60mins			Strand: Productivity Software	
Class: B8	Class Size:		Sub Strand: Introduction to Presentation	
Content Standard: B82.2.1 Demonstrate how to use Microsoft PowerPoint (Multimedia)		Indicator: B8.2.2.1.3 Demonstrate how to add text to shapes and arrange shapes		Lesson: 1 of 2
Performance Indicator: Learners can demonstrate how to add text to shapes and arrange shapes			Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 29				

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Guide learners to explore the use of the Format Ribbon once a shape is selected Have learners to explore the editing features of the Insert Shapes and Shape Styles. Present a prepared project or exercise using what has been studied in Indicator 1 and 2. This is to help the learners with software knowledge in MS PowerPoint, Office Applications to grasp the concept well **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.	Pictures and videos	
Homework/Project Work/Community Engagement Suggestions		
State and explain the uses of five features of the PowerPoint presentation window		
Cross-Curriculum Links/Cross-Cutting Issues		
None		
Potential Misconceptions/Student Learning Difficulties		
None		

Week Ending: 14-04-2023	**DAY:**	**Subject:** Computing	
Duration: 60mins		**Strand:** Productivity Software	
Class: B8	**Class Size:**	**Sub Strand:** Introduction to Presentation	
Content Standard: B82.2.1 Demonstrate how to use Microsoft PowerPoint (Multimedia)	**Indicator:** B8.2.2.1.3 Demonstrate how to add text to shapes and arrange shapes		**Lesson:** 2 of 2
Performance Indicator: Learners can demonstrate how to add text to shapes and arrange shapes		**Core Competencies:** CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 29			

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **_Main (35mins)_** Guide learners to explore the use of the Format Ribbon once a shape is selected Have learners to explore the editing features of the Insert Shapes and Shape Styles. Present a prepared project or exercise using what has been studied in Indicator 1 and 2. This is to help the learners with software knowledge in MS PowerPoint, Office Applications to grasp the concept well _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.	Pictures and videos	

Homework/Project Work/Community Engagement Suggestions
State and explain the uses of five features of the PowerPoint presentation window

Cross-Curriculum Links/Cross-Cutting Issues
None

Potential Misconceptions/Student Learning Difficulties
None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 3

Week Ending: 21-04-2023	DAY:		Subject: Computing
Duration: 60mins			Strand: Productivity Software
Class: B8	Class Size:		Sub Strand: Introduction to Desktop Publishing
Content Standard: B8.2.3.1. Demonstrate how to use MS-Publisher	Indicator: B8.2.3.1.1. Explain the importance of desktop publishing software (DTP		Lesson: 1 of 2
Performance Indicator: Learners can explain the importance of desktop publishing software		Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 29			

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. ***Main (35mins)*** Guide learners to discuss the meaning of desktop publishing software. *Desktop publishing (DTP) is the process of using specialized software to create documents and publications that incorporate text, images, and other visual elements* Guide learners to identify some examples of desktop publishing softwares. • *Adobe InDesign: This is one of the most popular DTP software used by professionals in the graphic design and publishing industry.* • *QuarkXPress: Another popular DTP software, QuarkXPress offers a comprehensive set of tools for layout and design, as well as for creating interactive digital publications.* • *Serif PagePlus: This is a comprehensive DTP software that is aimed at both home users and professionals.* • *Scribus: This is a free and open-source DTP software that is available for Windows, Mac, and Linux.* Introduce learners to the Microsoft desktop publisher. *Microsoft Publisher is a DTP software from Microsoft that is aimed at home and small business users. It offers a user-friendly interface and a variety of pre-designed templates for creating flyers, brochures, newsletters, and other types of publications.*	Pictures and videos	Learners are able to explain the importance of desktop publishing software

Using the charts and pictures, guide learners to identify and discuss the features of the Microsoft Publisher.

- *Ribbon: The ribbon is located at the top of the window and contains tabs that group related commands together. The tabs include File, Home, Insert, Page Design, Layout, Review, and View.*
- *Quick Access Toolbar: The Quick Access Toolbar is located above the ribbon and contains frequently used commands, such as Save, Undo, and Redo.*
- *Pages Navigation Pane: The Pages Navigation Pane is located on the left side of the window and displays all the pages in the publication.*
- *Publication Types: When users create a new publication, they can choose from a variety of publication types, such as Brochures, Newsletters, Flyers, and more.*
- *Objects: The Objects section of the ribbon contains tools for adding and manipulating various objects in the publication, such as text boxes, pictures, shapes, and tables.*
- *Design Themes: The Design Themes section of the ribbon contains a variety of pre-designed themes that users can apply to their publications.*
- *Page Setup: The Page Setup section of the ribbon contains tools for setting up the page layout, such as page size, margins, and orientation.*

Brainstorm to elicit the importance of DTP.

- *DTP software allows users to create professional-looking publications that are visually appealing and well-organized.*
- *It provides tools for designing layouts, adding graphics, and formatting text, which makes it easier to create high-quality publications that look polished and professional.*
- *DTP software allows users to create publications in-house, reducing the need to outsource this work to graphic designers and printers.*
- *DTP software allows users to create customized publications that are tailored to their specific needs.*
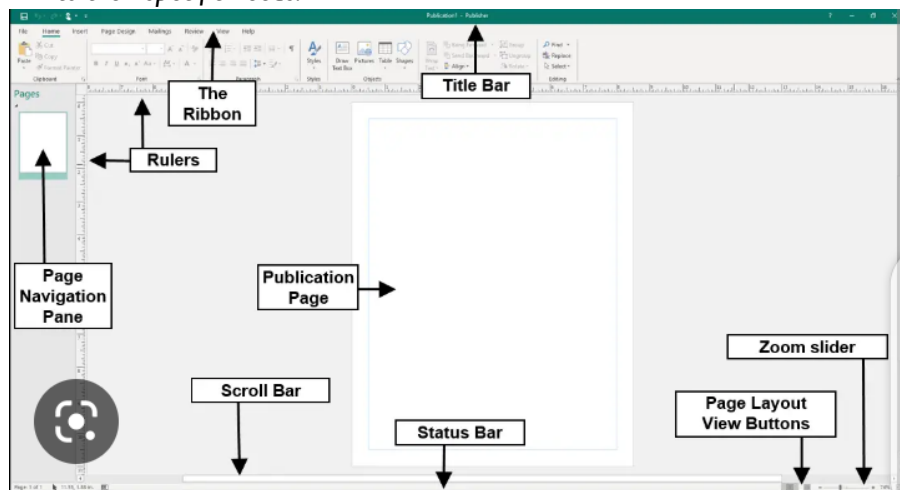
Assessment
What is a DTP?
Mention any five features of the Microsoft Publisher. State one use of the features identified.
State three examples of DTP.

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 desktop publishing?

State and explain four importance of desktop publishing software.

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

Week Ending: 21-04-2023	DAY:	Subject: Computing	
Duration: 60mins		Strand: Productivity Software	
Class: B8	Class Size:	Sub Strand: Introduction to Desktop Publishing	
Content Standard: B8.2.3.1. Demonstrate how to use MS-Publisher	Indicator: B8.2.3.1.2 Create and save a new document from a blank or pre- designed template		Lesson: 1 of 2
Performance Indicator: Learners can create and save a new document from a blank or pre-designed template		Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 30			

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. *Main (35mins)* Engage learners to open a desktop publishing software (e.g. MS-Publisher). Guide them to create a new document from a blank publication Have learners create a new document from a pre-designed template. Save the document with the appropriate name *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.	Pictures and videos	Learners can create and save a new document from a blank or pre-designed template

Homework/Project Work/Community Engagement Suggestions
Learners in groups, create and save a new document from a blank or pre- designed template

Cross-Curriculum Links/Cross-Cutting Issues
None

Potential Misconceptions/Student Learning Difficulties
None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 4

Week Ending: 28-04-2023		DAY:		Subject: Computing
Duration: 60mins				Strand: Productivity Software
Class: B8		Class Size:		Sub Strand: Introduction to Desktop Publishing

Content Standard: B8.2.3.1. Demonstrate how to use MS-Publisher	Indicator: B8.2.3.1.3 Demonstrate the use of the commands in MS-Publisher ribbons under each tab (Home, Page Design, Mailings, Review, View)	Lesson: 1 of 2
Performance Indicator: Learners can demonstrate the use of the commands in MS-Publisher ribbons under each tab	Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 29		

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Revise with learners on the features of the MS-Publisher window. Working in pairs, explore the use of the commands in a desktop publishing software (e.g. MS-Publisher ribbons: Home, Page Design, Mailings, Review, Commands in the home Ribbon • *New: Allows you to create a new publication from scratch or use a pre-designed template.* • *Open: Allows you to open an existing publication.* • *Save: Allows you to save your publication.* • *Undo/Redo: Allows you to undo or redo your last action.* • *Cut/Copy/Paste: Allows you to cut, copy, or paste text and images.* • *Font: Allows you to choose a font and modify the font style and size.* • *Paragraph: Allows you to modify paragraph settings such as alignment, indentation, and spacing.* • *Bullets/Numbering: Allows you to add bullets or numbering to a list.* • *Styles: Allows you to apply a style to text, such as a heading or subheading.* • *Borders: Allows you to add a border around a text box or image.* • *Tables: Allows you to create and customize tables.* • *Pictures: Allows you to insert and modify images.* • *Shapes: Allows you to insert and modify shapes, such as rectangles or circles.*	Pictures and videos	Demonstrating the use of the commands in MS-Publisher ribbons under each tab

- *Arrange: Allows you to arrange objects on the page, such as moving them forward or backward.*
- *Design: Allows you to change the design or layout of the publication, such as choosing a different color scheme or adding a background.*
- *View: Allows you to change the view of the publication, such as zooming in or out or switching to a different page.*

Commands in the Insert Ribbon

- *Pages: Allows you to add or delete pages in your publication, or duplicate a page.*
- *Table: Allows you to insert a table and customize the table's size and design.*
- *Picture: Allows you to insert a picture from a file, online source, or your own collection. You can also customize the picture's size and appearance.*
- *Clip Art: Allows you to insert clip art images from a collection of pre-designed images.*
- *Shapes: Allows you to insert and customize shapes, such as lines, rectangles, and circles.*
- *Building Blocks: Allows you to insert pre-designed building blocks, such as calendars or borders, into your publication.*
- *Text Box: Allows you to insert a text box and customize its size and appearance.*
- *WordArt: Allows you to insert decorative text elements that can be customized with various font styles and effects.*
- *Drop Cap: Allows you to create a large capital letter at the beginning of a paragraph.*
- *Header & Footer: Allows you to add headers and footers to your publication, which can contain text or images.*
- *Page Parts: Allows you to add pre-designed page elements, such as a sidebar or pull quote, to your publication.*
- *Hyperlinks: Allows you to insert hyperlinks to web pages, email addresses, or other files.*

Assessment
Identify and state one use of the commands in the Page Design and View ribbon.

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
Identify and state one use of the commands in the Mailings and Review ribbon.

Cross-Curriculum Links/Cross-Cutting Issues
None

Potential Misconceptions/Student Learning Difficulties
None

Week Ending: 28-04-2023	DAY:	Subject: Computing
Duration: 60mins		Strand: Productivity Software
Class: B8	Class Size:	Sub Strand: Introduction to Desktop Publishing

Content Standard: B8.2.3.1.Demonstrate how to use MS-Publisher	Indicator: B8.2.3.1.4 Change the orientation and margins of a document	Lesson: 1 of 2
Performance Indicator: Learners can change the orientation and margins of a document		Core Competencies: CC8.2: CP6.1
Reference: Computing Curriculum P.g. 30		

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Explore and change the orientation and margins of your document by working in pairs. To change the orientation and margins of a MS-Publisher document. *1. Open the MS-Publisher document you want to modify.* *2. Click on the "Page Design" tab in the ribbon at the top of the screen.* *3. To change the orientation, click on the "Orientation" button and select either "Portrait" or "Landscape" from the dropdown menu.* *4. To adjust the margins, click on the "Margins" button and select a preset margin option, such as "Narrow," "Moderate," or "Wide." Alternatively, you can click on "Custom Margins" at the bottom of the dropdown menu to set your own custom margins.* *5. If you selected "Custom Margins," a new window will open where you can set your margins. Adjust the values for top, bottom, left, and right margins as desired.* *6. Click "OK" to apply the new margins and close the window.* *7. Save your changes to the document by clicking on "File" in the ribbon, then "Save" or "Save As" if you want to save a new copy of the document with the new orientation and margin settings.* <u>Assessment</u>	Pictures and videos	Changing the orientation and margins of a document.

Explain how you would change the orientation and margins of a MS-Publisher document		
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

Learners in groups, create and save a new document from a blank or pre- designed template

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 5

Week Ending: 05-05-2023		DAY:		Subject: Computing	
Duration: 60mins				Strand: Productivity Software	
Class: B8		Class Size:		Sub Strand: Introduction to Desktop Publishing	
Content Standard: B8.2.3.1. Demonstrate how to use MS-Publisher		Indicator: B8.2.3.1.5 Add and modify pictures from different sources			Lesson: 1 of 2
Performance Indicator: Learners can add and modify pictures from different sources				Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 29					

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Ask learners to launch the MS Publisher. Revise with them some features of the publisher window. Learners in groups create documents by exploring the use of the commands in the various ribbons. Learners explore addition and modification of pictures from different sources to your document by working in pairs. To add and modify pictures from different sources in MS Publisher. *1. Open your Publisher document and click on the "Insert" tab in the ribbon menu.* *2. Click on "Picture" and select the source of the picture you want to insert. You can choose to insert a picture from your computer, from the web, or from a variety of other sources.* *3. Once you've selected the picture, it will be inserted into your document. You can then resize it, move it around, and modify it as needed.* <u>To modify the picture, follow these steps:</u> *1. Click on the picture to select it.* *2. Click on the "Format" tab in the ribbon menu.* *3. From here, you can adjust the brightness, contrast, color, and other properties of the picture. You can also crop the picture, add effects, and apply various styles.* *4. You can also add borders and frames to your picture by selecting the "Picture Border" option from the "Format" tab.*	Pictures and videos	Adding and modifying of pictures from different sources to MS Publisher document

<u>Assessment</u> Describe how you would replace an existing picture with a new one in MS Publisher? Describe how you would add a text to pictures in MS Publisher? *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

Identify and state one use of the commands in the Mailings and Review ribbon.

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

Week Ending: 05-05-2023	DAY:	Subject: Computing	
Duration: 60mins		Strand: Productivity Software	
Class: B8	Class Size:	Sub Strand: Introduction to Desktop Publishing	
Content Standard: B8.2.3.1.Demonstrate how to use MS-Publisher	Indicator: B8.2.3.1.6 Add and modify text using different font types		Lesson: 1 of 2
Performance Indicator: Learners can add and modify text using different font types		Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 31			

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. *Main (35mins)* Guide learners to explore addition and modification of text using different font types in your document. *1. Open your Publisher document and click on the "Home" tab in the ribbon menu.* *2. Click on the "Text Box" button in the "Objects" group to insert a new text box. Alternatively, you can click on an existing text box to edit the text within it.* *3. Type the text that you want to add to your document.* *4. To change the font of the text, select the text that you want to modify.* *5. Click on the "Font" dropdown menu in the "Font" group on the "Home" tab.* *6. Choose a font from the list of available fonts. You can also change the font size, style, and color from the same dropdown menu.* *7. If you want to use a font that is not available in the dropdown menu, click on the "More Fonts" option at the bottom of the dropdown list. This will open the "Font" dialog box, where you can choose from a wider variety of fonts.* *8. In the "Font" dialog box, you can also choose additional font options such as character spacing, text effects, and advanced typography settings.* To modify existing text, *1. Click on the text that you want to modify.* *2. Use the "Font" dropdown menu on the "Home" tab to change the font type, size, style, and color as desired.* *3. To format text as bold, italic, or underlined, use the "Bold," "Italic," and "Underline" buttons in the "Font" group.* *4. You can also adjust the spacing, alignment, and other formatting options from the "Paragraph" group on the "Home" tab.* Assessment Can you import custom fonts into MS Publisher?	Pictures and videos	Adding and modifying text using different font types to MS Publisher document

How can you apply the same font to multiple text boxes or objects in MS Publisher?		
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

Learners in groups, create and save a new document from a blank or pre- designed template

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 6

Week Ending: 12-05-2023	DAY:		Subject: Computing	
Duration: 60mins			Strand: Productivity Software	
Class: B8	Class Size:		Sub Strand: Introduction to Desktop Publishing	
Content Standard: B8.2.3.1.Demonstrate how to use MS-Publisher		Indicator: B8.2.3.1.6 Add and modify text using different font types		Lesson: 1 of 2
Performance Indicator: Learners can add and modify text using different font types			Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 31				

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Guide learners to explore addition and modification of text using different font types in your document. *1. Open your Publisher document and click on the "Home" tab in the ribbon menu.* *2. Click on the "Text Box" button in the "Objects" group to insert a new text box. Alternatively, you can click on an existing text box to edit the text within it.* *3. Type the text that you want to add to your document.* *4. To change the font of the text, select the text that you want to modify.* *5. Click on the "Font" dropdown menu in the "Font" group on the "Home" tab.* *6. Choose a font from the list of available fonts. You can also change the font size, style, and color from the same dropdown menu.* *7. If you want to use a font that is not available in the dropdown menu, click on the "More Fonts" option at the bottom of the dropdown list. This will open the "Font" dialog box, where you can choose from a wider variety of fonts.* *8. In the "Font" dialog box, you can also choose additional font options such as character spacing, text effects, and advanced typography settings.* <u>To modify existing text,</u> *1. Click on the text that you want to modify.* *2. Use the "Font" dropdown menu on the "Home" tab to change the font type, size, style, and color as desired.* *3. To format text as bold, italic, or underlined, use the "Bold," "Italic," and "Underline" buttons in the "Font" group.* *4. You can also adjust the spacing, alignment, and other formatting options from the "Paragraph" group on the "Home" tab.*	Pictures and videos	Adding and modifying text using different font types to MS Publisher document

<u>Assessment</u> Can you import custom fonts into MS Publisher? How can you apply the same font to multiple text boxes or objects in MS Publisher? *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
Learners in groups, create and save a new document from a blank or pre- designed template

Cross-Curriculum Links/Cross-Cutting Issues
None

Potential Misconceptions/Student Learning Difficulties
None

Week Ending: 12-05-2023	DAY:	Subject: Computing	
Duration: 60mins		Strand: Productivity Software	
Class: B8	Class Size:	Sub Strand: Introduction to Desktop Publishing	
Content Standard: B8.2.3.1. Demonstrate how to use MS-Publisher	Indicator: B9.2.3.1.7 Create and present a Publisher document (flyer, advertisement, invitation cards, business cards)		Lesson: 2 of 2
Performance Indicator: Learners can create and present a Publisher document		Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum P.g. 31			

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Ask learners to launch the MS Publisher. Revise with them some features of the publisher window. Learners in groups create documents by exploring the use of the commands in the various ribbons. Learners explore addition and modification of pictures from different sources to your document by working in pairs. Guide learners to create a one-page Publisher document E.g. flyer, advertisement, invitation cards, business cards, etc. Present documents to demonstrate creative abilities. Assessment Learners create and present a Publisher document **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.	Pictures and videos	Creating and presenting a Publisher document

Homework/Project Work/Community Engagement Suggestions
Learners create and present a Publisher document

Cross-Curriculum Links/Cross-Cutting Issues
None

Potential Misconceptions/Student Learning Difficulties
None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 7

Week Ending: 19-05-2023	DAY:		Subject: Computing	
Duration: 60mins			Strand: Productivity Software	
Class: B8	Class Size:		Sub Strand: Introduction to Electronic Spreadsheet	
Content Standard: B8.2.4.1. Demonstrate How to Use the Spreadsheet (using functions and complex formulas)		Indicator: B8.2.4.1.1. Perform operations using functions and Built-in functions.		Lesson: 1 of 2
Performance Indicator: Learners can perform operations using functions and Built-in functions			Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 32				

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Enumerate the difference between formulas and functions. Formulas: *1. Formulas are expressions or equations used to perform calculations or manipulate data within a software application or spreadsheet.* *2. They are typically written using mathematical operators, such as addition (+), subtraction (-), multiplication (*), and division (/), along with cell references, constants, and functions.* *3. Formulas are used to perform calculations on a single cell or a range of cells.* *4. They can incorporate logical operators, such as IF statements, to make decisions based on certain conditions.* *5. Formulas are often used in spreadsheet applications like Microsoft Excel or Google Sheets to perform calculations, create relationships between data, and generate dynamic results.* Functions: *1. Functions are pre-defined routines or procedures built into software applications or programming languages.* *2. They are designed to perform specific tasks or calculations and can accept input parameters, process them, and produce a result.* *3. Functions are written in a specific syntax, often with a function name followed by parentheses, and can take one or more arguments as input.* *4. They can be used to perform complex calculations, manipulate strings, handle dates and times, and perform various other operations.*	Pictures and videos	Adding and modifying text using different font types to MS Publisher document

5. Functions are reusable and can be called from different parts of a program or used within formulas in spreadsheet applications.

Guide learners to access built-in functions to perform operations on sample data.

1. Mathematical Functions:
   - SUM: Adds a range of numbers.
   - AVERAGE: Calculates the average of a range of numbers.
   - MAX: Finds the maximum value in a range.
   - MIN: Finds the minimum value in a range.
   - ROUND: Rounds a number to a specified number of decimal places.

2. Statistical Functions:
   - COUNT: Counts the number of cells in a range that contain numbers.
   - COUNTA: Counts the number of non-empty cells in a range.
   - COUNTIF: Counts the number of cells that meet a specified condition.
   - SUMIF: Adds the cells that meet a specified condition.
   - AVERAGEIF: Calculates the average of cells that meet a specified condition.

3. Text Functions:
   - CONCATENATE: Joins multiple text strings into one.
   - LEFT: Extracts a specified number of characters from the beginning of a text string.
   - RIGHT: Extracts a specified number of characters from the end of a text string.
   - LEN: Calculates the number of characters in a text string.
   - FIND: Searches for a text string within another text string and returns its position.

4. Logical Functions:
   - IF: Performs a logical test and returns one value if true and another value if false.
   - AND: Returns true if all arguments are true.
   - OR: Returns true if any argument is true.
   - NOT: Reverses the logical value of its argument.

5. Date and Time Functions:
   - TODAY: Returns the current date.
   - NOW: Returns the current date and time.
   - DATE: Creates a date value using specified year, month, and day.
   - DAY: Extracts the day value from a date.
   - MONTH: Extracts the month value from a date.

6. Lookup and Reference Functions:
   - VLOOKUP: Searches for a value in the leftmost column of a table and returns a value in the same row from a specified column.
   - HLOOKUP: Searches for a value in the top row of a table and returns a value in the same column from a specified row.
   - INDEX: Returns a value or reference of a cell at the intersection of a specified row and column in a range.
   - MATCH: Returns the relative position of a value within a range.

Demonstrate the use of common spreadsheet functions such as SUM, AVERAGE, COUNT, COUNTA, COUNTIF, MAX and MIN.

Assessment
- In a spreadsheet, how would you use the SUM function to add up the values in cells A1 to A10?
- You have a list of student scores in column C, and you want to count the number of students who scored above 80. Which function would you use, and what would be the formula?
- Suppose you have a range of values in cells B1 to B8, and you want to calculate the average of all the non-empty cells in that range. Which function would you use, and what would be the formula?

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

Suppose you have a column of dates in cells E1 to E10, and you want to extract the month value from each date. Which function would you use, and what would be the formula to achieve this?

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

Week Ending: 19-05-2023	DAY:		Subject: Computing	
Duration: 60mins			Strand: Productivity Software	
Class: B8	Class Size:		Sub Strand: Introduction to Electronic Spreadsheet	
Content Standard: B8.2.4.1. Demonstrate How to Use the Spreadsheet (using functions and complex formulas)		Indicator: B8.2.4.1.1. Perform operations using functions and Built-in functions.		Lesson: 1 of 2
Performance Indicator: Learners can add and modify text using different font types			Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 32				

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Enumerate the difference between formulas and functions. Formulas: *1. Formulas are expressions or equations used to perform calculations or manipulate data within a software application or spreadsheet.* *2. They are typically written using mathematical operators, such as addition (+), subtraction (-), multiplication (*), and division (/), along with cell references, constants, and functions.* *3. Formulas are used to perform calculations on a single cell or a range of cells.* *4. They can incorporate logical operators, such as IF statements, to make decisions based on certain conditions.* *5. Formulas are often used in spreadsheet applications like Microsoft Excel or Google Sheets to perform calculations, create relationships between data, and generate dynamic results.* Functions: *1. Functions are pre-defined routines or procedures built into software applications or programming languages.* *2. They are designed to perform specific tasks or calculations and can accept input parameters, process them, and produce a result.* *3. Functions are written in a specific syntax, often with a function name followed by parentheses, and can take one or more arguments as input.* *4. They can be used to perform complex calculations, manipulate strings, handle dates and times, and perform various other operations.* *5. Functions are reusable and can be called from different parts of a program or used within formulas in spreadsheet applications.*	Pictures and videos	Adding and modifying text using different font types to MS Publisher document

Guide learners to access built-in functions to perform operations on sample data.

1. Mathematical Functions:
   - SUM: Adds a range of numbers.
   - AVERAGE: Calculates the average of a range of numbers.
   - MAX: Finds the maximum value in a range.
   - MIN: Finds the minimum value in a range.
   - ROUND: Rounds a number to a specified number of decimal places.

2. Statistical Functions:
   - COUNT: Counts the number of cells in a range that contain numbers.
   - COUNTA: Counts the number of non-empty cells in a range.
   - COUNTIF: Counts the number of cells that meet a specified condition.
   - SUMIF: Adds the cells that meet a specified condition.
   - AVERAGEIF: Calculates the average of cells that meet a specified condition.

3. Text Functions:
   - CONCATENATE: Joins multiple text strings into one.
   - LEFT: Extracts a specified number of characters from the beginning of a text string.
   - RIGHT: Extracts a specified number of characters from the end of a text string.
   - LEN: Calculates the number of characters in a text string.
   - FIND: Searches for a text string within another text string and returns its position.

4. Logical Functions:
   - IF: Performs a logical test and returns one value if true and another value if false.
   - AND: Returns true if all arguments are true.
   - OR: Returns true if any argument is true.
   - NOT: Reverses the logical value of its argument.

5. Date and Time Functions:
   - TODAY: Returns the current date.
   - NOW: Returns the current date and time.
   - DATE: Creates a date value using specified year, month, and day.
   - DAY: Extracts the day value from a date.
   - MONTH: Extracts the month value from a date.

6. Lookup and Reference Functions:
   - VLOOKUP: Searches for a value in the leftmost column of a table and returns a value in the same row from a specified column.
   - HLOOKUP: Searches for a value in the top row of a table and returns a value in the same column from a specified row.
   - INDEX: Returns a value or reference of a cell at the intersection of a specified row and column in a range.
   - MATCH: Returns the relative position of a value within a range.

Demonstrate the use of common spreadsheet functions such as SUM, AVERAGE, COUNT, COUNTA, COUNTIF, MAX and MIN.

Assessment
- In a spreadsheet, how would you use the SUM function to add up the values in cells A1 to A10?
- You have a list of student scores in column C, and you want to count the number of students who scored above 80. Which function would you use, and what would be the formula?
- Suppose you have a range of values in cells B1 to B8, and you want to calculate the average of all the non-empty cells in that range. Which function would you use, and what would be the formula?

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

Suppose you have a column of dates in cells E1 to E10, and you want to extract the month value from each date. Which function would you use, and what would be the formula to achieve this?

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 8

Week Ending: 26-05-2023	DAY:		Subject: Computing
Duration: 60mins			Strand: Productivity Software
Class: B8	Class Size:		Sub Strand: Introduction to Electronic Spreadsheet
Content Standard: B8.2.4.1. Demonstrate How to Use the Spreadsheet (using functions and complex formulas)		Indicator: B8.2.4.1.2 Demonstrate how to create complex formulas	Lesson: 1 of 2
Performance Indicator: Learners can demonstrate how to create complex formulas			Core Competencies: CC8.2: CP6.1
Reference: Computing Curriculum Pg. 32			

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Guide learners to create complex formulas (e.g. Finding Percentages, To create a formula for finding a percentage in Excel, you can use the following steps: *1. Determine the numbers you want to calculate the percentage of. For example, if you want to find 20% of 100, you have a base number of 100 and a percentage of 20%.* *2. Decide where you want to display the result. Choose a cell where you want the percentage result to appear.* *3. In the selected cell, start typing the formula. Begin with an equals sign (=) to indicate that you're entering a formula.* *4. Enter the base number followed by the multiplication operator (*). In our example, the base number is 100, so you would enter "100*".* *5. Next, enter the percentage value divided by 100. Since percentages are represented as decimals in calculations, divide the percentage value by 100. In our example, the percentage is 20%, so you would enter "20/100".* *6. Close the formula with a closing parenthesis ")". The complete formula would look like "=100*(20/100)".*	Pictures and videos	Creating complex formulas

7. Press Enter to calculate the result. The cell will display the calculated percentage. In this case, the result would be 20, indicating 20% of 100.

Commissions
To create a formula for finding commissions in Excel, you can use the following steps as an example:

1. Determine the commission rate or percentage. This is the rate at which the commission is calculated. For instance, let's say the commission rate is 5%.

2. Identify the sales amount on which the commission is based. For example, if the sales amount is ₵1,000, you'll use this value in the formula.

3. Decide where you want to display the commission result. Choose a cell where you want the commission amount to appear.

4. In the selected cell, start typing the formula. Begin with an equals sign (=) to indicate that you're entering a formula.

5. Enter the sales amount followed by the multiplication operator (*). In our example, the sales amount is ₵1,000, so you would enter "1000*".

6. Next, enter the commission rate divided by 100 to convert it to a decimal. Since commission rates are typically represented as percentages, divide the commission rate by 100. In our example, the commission rate is 5%, so you would enter "5/100".

7. Close the formula with a closing parenthesis ")". The complete formula would look like "=1000*(5/100)".

8. Press Enter to calculate the result. The cell will display the commission amount. In this case, the result would be ₵50, indicating a 5% commission on a ₵1,000 sale.

Interest Rates
To create a formula for finding interest rates in Excel, you can follow these steps:

1. Determine the necessary information for calculating the interest rate. You will need the principal amount (the initial sum of money), the time period (in years), and the total amount (including the interest) at the end of the time period.

2. Decide where you want to display the interest rate result. Choose a cell where you want the interest rate to appear.

3. In the selected cell, start typing the formula. Begin with an equals sign (=) to indicate that you're entering a formula.

4. Enter the formula for calculating the interest rate. The formula for finding the interest rate is typically derived from the compound interest formula:
 =((Total Amount / Principal Amount)^(1/Time Period) - 1) * 100

5. Replace "Total Amount" with the cell reference containing the total amount at the end of the time period.

6. Replace "Principal Amount" with the cell reference containing the initial principal amount.

7. Replace "Time Period" with the cell reference containing the time period in years.

8. Close the formula with a closing parenthesis ")". The complete formula would look like:
  *=((B2/B1)^(1/B3) - 1) * 100*

9. Press Enter to calculate the result. The cell will display the interest rate as a percentage.

Have learners understand that creating complex formulas requires practice and experimentation.

Learners use Excel's help resources, tutorials, and community forums to enhance their understanding and proficiency in building complex formulas.

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
Let learners in groups create complex formulas

Cross-Curriculum Links/Cross-Cutting Issues
None

Potential Misconceptions/Student Learning Difficulties
None

Week Ending: 26-05-2023	DAY:		Subject: Computing	
Duration: 60mins			Strand: Productivity Software	
Class: B8	Class Size:		Sub Strand: Introduction to Electronic Spreadsheet	
Content Standard: B8.2.4.1. Demonstrate How to Use the Spreadsheet (using functions and complex formulas)		Indicator: B8.2.4.1.3. Demonstrate how to copy formulas and references		Lesson: 2 of 2
Performance Indicator: Learners can demonstrate how to copy formulas and references			Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 32				

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. **Main (35mins)** Demonstrate the procedure for copying and pasting formulas in a worksheet. Explore how to reference cells and ranges in a worksheet. 3. Demonstrate the use of relative and absolute cell referencing in creating formulas. Explore how to correct common formula errors. Complete a project that involves creating a set of formulas with common functions (e.g. simple interest formula) **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.	Pictures and videos	Copying formulas and references

Homework/Project Work/Community Engagement Suggestions
Let learners in groups demonstrate how to copy formulas and references
Cross-Curriculum Links/Cross-Cutting Issues
None
Potential Misconceptions/Student Learning Difficulties
None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 9

Week Ending: 02-06-2023	DAY:		Subject: Computing	
Duration: 60mins			Strand: Communication Networks	
Class: B8	Class Size:		Sub Strand: Computer Networks	
Content Standard: B8.3.1.1. Identify the concept of computer networking for global communication		Indicator: B8.3.1.1.1 Describe the data communication models for networks.		Lesson: 1 of 2
Performance Indicator: Learners can describe the data communication models for networks			Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 32				

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. ***Main (35mins)*** Brainstorm learners to explain data communication models. *Data communication models refer to the conceptual frameworks that describe how data is transmitted and received between communication entities.* Engage learners to give some examples of data communication models. *1. Simplex Model* *2. Half-Duplex Model* *3. Full-Duplex Model* *4. Simplex Stop-and-Wait Model* *5. Pipelining Model* *6. OSI Model* Guide learners to explain the Open System Interconnection (OSI) model. *The Open System Interconnection (OSI) model is a conceptual framework that standardizes the functions of a communication system into seven different layers. Each layer in the OSI model has specific tasks and responsibilities, and they work together to facilitate communication between devices and networks.* Learners to Identify the different layers in the OSI model. *1. Physical Layer: The Physical layer is the lowest layer of the OSI model. It deals with the physical transmission of data, including the electrical, mechanical, and procedural aspects of communication. It defines the physical characteristics of the network, such as cables, connectors, and signaling.*	Pictures and videos	Describing the data communication models for networks

2. Data Link Layer: The Data Link layer provides a reliable and error-free transfer of data between adjacent network nodes. It handles the framing of data into frames, error detection and correction, flow control, and access to the physical medium.

3. Network Layer: The Network layer is responsible for addressing, routing, and forwarding data packets across different networks. It determines the best path for data transmission, handles logical addressing, and manages network congestion.

4. Transport Layer: The Transport layer ensures reliable delivery of data between end-to-end connections. It breaks down data into smaller segments, manages data sequencing, and provides error detection and recovery mechanisms.

5. Session Layer: The Session layer establishes, manages, and terminates sessions between communicating devices. It allows for synchronization, checkpointing, and recovery of data in case of failures.

6. Presentation Layer: The Presentation layer is responsible for data representation, encryption, compression, and formatting. It ensures that data from different systems can be understood by the receiving system.

7. Application Layer: The Application layer is the highest layer in the OSI model. It provides services directly to the end-user applications. It includes protocols for tasks such as file transfer, email, web browsing, and remote access.

Assessment
Fill in the blanks with the appropriate layer of the OSI model.

1. The _____ layer is responsible for addressing and routing data packets across different networks.

2. The _____ layer ensures reliable delivery of data between end-to-end connections.

3. The _____ layer provides a reliable and error-free transfer of data between adjacent network nodes.

4. The _____ layer handles the framing of data into frames, error detection and correction, and flow control.

5. The _____ layer establishes, manages, and terminates sessions between communicating devices.

6. The _____ layer is responsible for data representation, encryption, compression, and formatting.

7. The _____ layer is the lowest layer of the OSI model, dealing with the physical transmission of data.

8. The _____ layer provides services directly to end-user applications.

9. The _____ layer allows for synchronization, checkpointing, and recovery of data in case of failures.

10. The _____ layer handles the physical characteristics of the network, such as cables and connectors.

11. The _____ layer is responsible for breaking down data into smaller segments, managing data sequencing, and providing error detection and recovery.

12. The _____ layer includes protocols for tasks such as file transfer, email, web browsing, and remote access.

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 the purpose of the OSI model?
- Why is it important to divide the communication process into layers?
- How does the OSI model help troubleshoot network issues?
- Give an example of a protocol that operates at each layer of the OSI model.
- Describe a real-world scenario where the OSI model is used in networking.

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

Week Ending: 02-06-2023	DAY:		Subject: Computing	
Duration: 60mins			Strand: Communication Networks	
Class: B8	Class Size:		Sub Strand: Computer Networks	
Content Standard: B8.3.1.1. Identify the concept of computer networking for global communication		Indicator: B8.3.1.1.1 Describe the data communication models for networks.		Lesson: 2 of 2
Performance Indicator: Learners can describe the data communication models for networks			Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 32				

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. *Main (35mins)* Discuss the purpose or benefits of the layers in ensuring interoperability of different hardware devices. *1. Modularity: The layered approach allows for modularity in design. Each layer has a specific set of functions and responsibilities, which can be developed and implemented independently. This modularity simplifies the design process and enables the use of different hardware devices from multiple vendors.* *2. Interoperability: The layers ensure interoperability between different hardware devices by providing standardized interfaces and protocols. Each layer communicates with the corresponding layer in another device using well-defined protocols, enabling devices from different manufacturers to communicate seamlessly.* *3. Abstraction: The layers provide a level of abstraction, hiding the complexities of lower layers from the higher layers. Each layer can focus on its specific tasks without needing to understand the intricacies of other layers. This abstraction simplifies development and maintenance and allows for easier upgrades or replacements of specific layers without affecting the overall system.* *4. Flexibility: The layered approach allows for flexibility in adapting to changing technologies and requirements. As long as the interfaces and protocols between layers remain consistent, new hardware devices can be introduced or existing devices can be upgraded without affecting the compatibility with other devices. This flexibility promotes innovation and scalability in communication systems.* *5. Troubleshooting and Maintenance: The layered structure simplifies troubleshooting and maintenance. If an issue occurs, it can be localized to a*	Pictures and videos	Discussing the purpose or benefits of the layers in ensuring interoperability of different hardware devices

specific layer, making it easier to identify and resolve the problem. Network administrators can focus on the affected layer without disrupting the functionality of other layers.

6. Standardization: The layers facilitate standardization of protocols and interfaces, ensuring compatibility and interoperability among different hardware devices. Standards are crucial for creating a common language for communication, allowing devices from various manufacturers to work together seamlessly.

Assessment
Fill in the blanks with the appropriate terms related to the benefits of layered communication in ensuring interoperability of different hardware devices.

1. The _____ approach in communication allows for modularity and independent development of each layer.

2. _____ refers to the seamless communication between devices from different manufacturers.

3. Layers provide a level of _____, hiding the complexities of lower layers from the higher ones.

4. The layered structure enables flexibility in adapting to _____ technologies and requirements.

5. _____ simplifies troubleshooting by localizing issues to specific layers.

6. _____ of protocols and interfaces promotes compatibility and interoperability.

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

- Why is modularity important in the design of communication systems?
- How does interoperability benefit users in a networked environment?
- Explain the concept of abstraction in the context of layered communication.
- Give an example of how the layered approach allows for flexibility in a communication system.
- Why is standardization crucial for ensuring compatibility among different hardware devices?
- How does the layered structure simplify troubleshooting and maintenance?

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

SECOND TERM
WEEKLY LESSON NOTES – B8
WEEK 10

Week Ending: 09-06-2023	DAY:		Subject: Computing
Duration: 60mins			Strand: Communication Networks
Class: B8	Class Size:		Sub Strand: Computer Networks
Content Standard: B8.3.1.1. Identify the concept of computer networking for global communication	Indicator: B8.3.1.1.2 Describe the Internet, world wide web (www) and Internet Protocol (IP) addresses		Lesson: 1 of 2
Performance Indicator: Learners can describe the Internet, world wide web (www) and Internet Protocol (IP) addresses		Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 32			

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. ***Main (35mins)*** Brainstorm learners to explain internet addresses. *Internet addresses, also known as IP addresses, are unique numeric identifiers assigned to devices connected to the Internet. They serve as the "address" for each device, allowing them to send and receive data over the Internet.* Describe the Internet and the classes of internet addresses. *The Internet is a global network of interconnected computers and devices that enables communication and the sharing of information worldwide. It is a vast network that connects millions of computers, servers, and other devices through various communication protocols.* Internet Addresses: 1. IP version 4 (IPv4) Addresses: • *IPv4 addresses are 32-bit numeric addresses expressed in four sets of decimal numbers separated by periods (e.g., 192.168.0.1).* • *IPv4 addresses are divided into classes:* • *Class A: Used for large networks, with the first octet indicating the network portion and the remaining three octets for hosts.* • *Class B: Used for medium-sized networks, with the first two octets indicating the network portion and the remaining two octets for hosts.* • *Class C: Used for small networks, with the first three octets indicating the network portion and the last octet for hosts.*	Pictures and videos	Describing the Internet, world wide web (www) and Internet Protocol (IP) addresses

- *Class D: Reserved for multicasting.*
- *Class E: Reserved for experimental purposes.*

2. IP version 6 (IPv6) Addresses:
- *IPv6 addresses are 128-bit hexadecimal addresses expressed in eight groups of four hexadecimal digits separated by colons (e.g., 2001:0db8:85a3:0000:0000:8a2e:0370:7334).*
- *IPv6 addresses provide a much larger address space compared to IPv4, allowing for the growth of internet-connected devices.*

3. Domain Names:
- *Domain names are user-friendly, alphanumeric names used to identify websites and other internet resources.*
- *They provide a more human-readable format for accessing websites instead of using IP addresses directly.*
- *Domain names are mapped to IP addresses through the Domain Name System (DNS) to enable browsing the internet using familiar names.*

4. Subnetting:
- *Subnetting is a technique used to divide a large network into smaller subnetworks, allowing for more efficient allocation of IP addresses.*
- *Subnetting helps manage network resources, improve security, and optimize network performance.*

Explain the internet Domain Name Server (DNS), which is equivalent to the function of a phonebook.

The Internet Domain Name Server (DNS) is a critical component of the Internet infrastructure. It functions as a decentralized directory or "phonebook" that translates human-readable domain names into their corresponding IP addresses. Just as a phonebook helps us find the phone numbers of individuals or businesses, the DNS enables the translation of domain names (e.g., www.example.com) into IP addresses (e.g., 192.0.2.1) that computers and servers can understand.

When a user enters a domain name in a web browser, such as requesting to visit a website, the browser initiates a DNS lookup. The DNS system then goes through a process to locate and retrieve the IP address associated with that domain name. This process involves querying multiple DNS servers until it finds the authoritative DNS server for the requested domain.

The DNS system is hierarchical, with multiple levels of DNS servers. At the top level are the root DNS servers that maintain information about the top-level domains (.com, .org, .net, etc.). Below the root servers are the top-level domain (TLD) servers, which store information about specific domain extensions (e.g., .com, .org). Further down are the authoritative DNS servers for individual domains, which hold the specific IP address records for corresponding domain names.

Assessment
Fill in the blanks with the appropriate words to complete the sentences.

1. IPv4 addresses are expressed in _____ sets of decimal numbers separated by periods.
2. Class A addresses are used for _____ networks.

3. Class B addresses are used for _____ networks.
4. Class C addresses are used for _____ networks.
5. The DNS system is _____ and consists of multiple levels of DNS servers.
6. The _____ _____ servers maintain information about the top-level domains.
7. The authoritative DNS servers hold the _____ _____ records for specific domain names.
8. The DNS system ensures seamless and transparent translation between _____ names and IP addresses.
9. The DNS allows users to access websites, send emails, and perform other online activities without needing to remember _____ _____.
10. The DNS plays a crucial role in the functioning of the _____ by providing a mapping between domain names and IP addresses.

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

- The DNS stands for _____ _____ _____ _____.
- The DNS acts as a _____ _____, translating domain names into IP addresses.
- The DNS helps computers and servers understand the _____ _____ associated with a domain name.
- A DNS lookup is initiated when a user enters a _____ _____ in a web browser.
- IPv6 addresses are expressed in _____ groups of four hexadecimal digits separated by colons.
- Domain names provide a _____ format for accessing websites.
- Domain names are mapped to IP addresses through the _____.
- Subnetting is a technique used to divide a large network into _____ subnetworks.

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

Week Ending: 09-06-2023		DAY:		Subject: Computing	
Duration: 60mins				Strand: Communication Networks	
Class: B8		Class Size:		Sub Strand: Computer Networks	
Content Standard: B8.3.1.1. Identify the concept of computer networking for global communication		Indicator: B8.3.1.1.2 Describe the Internet, world wide web (www) and Internet Protocol (IP) addresses			Lesson: 2 of 2
Performance Indicator: Learners can describe the Internet, world wide web (www) and Internet Protocol (IP) addresses				Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 32					

Activities For Learning & Assessment	Resources	Progression
Starter (5mins) Revise with learners to review their understanding in the previous lesson. Share performance indicators and introduce the lesson. *Main (35mins)* Distinguish between IPv4 and IPv6 addresses. 1. Address Length: • *IPv4: IPv4 addresses are 32 bits long and expressed in four sets of decimal numbers (ranging from 0 to 255) separated by periods. For example, 192.168.0.1.* • *IPv6: IPv6 addresses are 128 bits long and expressed in eight groups of four hexadecimal digits separated by colons. For example, 2001:0db8:85a3:0000:0000:8a2e:0370:7334.* 2. Address Space: • *IPv4: IPv4 addresses provide a limited address space, allowing approximately 4.3 billion unique addresses.* • *IPv6: IPv6 addresses offer an extensively larger address space, allowing for approximately 340 undecillion unique addresses. This vast address space was designed to accommodate the growing number of internet-connected devices.* 3. Address Notation: • *IPv4: IPv4 addresses are typically represented in decimal notation, such as 192.168.0.1, making them easier for humans to read and remember.* • *IPv6: IPv6 addresses are represented in hexadecimal notation, such as 2001:0db8:85a3:0000:0000:8a2e:0370:7334, which is more complex but necessary due to the larger address space.* 4. Address Configuration:	Pictures and videos	Describing the Internet, world wide web (www) and Internet Protocol (IP) addresses

- *IPv4: IPv4 addresses can be configured statically (manually assigned) or dynamically assigned through protocols like Dynamic Host Configuration Protocol (DHCP).*
- *IPv6: IPv6 addresses can also be configured statically or dynamically assigned, but they can also be automatically assigned through the stateless address auto configuration (SLAAC) process.*

5. Address Transition:
- *IPv4: Due to the limited address space, IPv4 addresses are gradually being exhausted. To cope with this, techniques like Network Address Translation (NAT) are used to share a single public IP address among multiple devices.*
- *IPv6: IPv6 was developed to address the address exhaustion issue of IPv4 and provide ample address space for future growth. However, IPv6 adoption is still ongoing, and many networks operate with dual-stack configurations, supporting both IPv4 and IPv6.*

Explore the difference between internet and world wide web (www).

1. Definition:
- *Internet: The Internet is a global network of interconnected computers and networks. It is a vast infrastructure that enables the exchange of data and communication between devices across the globe.*
- *World Wide Web: The World Wide Web, often referred to as the Web, is an information system within the broader Internet. It consists of a collection of interconnected documents and resources that are accessible through the use of hyperlinks.*

2. Function:
- *Internet: The Internet serves as the underlying infrastructure that connects devices worldwide, allowing them to communicate and share information. It provides various services such as email, file transfer, remote access, and more.*
- *World Wide Web: The World Wide Web is a subset of the Internet that facilitates the retrieval and display of web pages and multimedia content. It is a way to access and navigate through interconnected websites and web-based applications using web browsers.*

3. Structure:
- *Internet: The Internet is a decentralized network comprised of interconnected networks and devices. It operates on a set of protocols, such as TCP/IP (Transmission Control Protocol/Internet Protocol), which enable the routing and transmission of data packets across different networks.*
- *World Wide Web: The World Wide Web is a system built on top of the Internet that uses protocols like HTTP (Hypertext Transfer Protocol) to facilitate the retrieval and display of web pages. It relies on the infrastructure provided by the Internet to deliver content to users.*

4. Scope:
- *Internet: The Internet encompasses a wide range of services beyond the World Wide Web. It includes technologies like email, instant messaging, online gaming, streaming media, cloud computing, and more.*
- *World Wide Web: The World Wide Web specifically refers to the collection of interconnected websites and web-based resources that can be accessed*

through web browsers. It primarily focuses on the delivery of hypertext documents, multimedia content, and interactive applications.

Assessment

1. The _____ is a global network of interconnected computers and networks.
2. The _____ is an information system within the broader Internet.
3. The Internet serves as the underlying infrastructure that connects devices worldwide, while the _____ facilitates the retrieval and display of web pages and multimedia content.
4. The Internet is a decentralized network comprised of interconnected networks and devices, while the World Wide Web is a system built on top of the _____.
5. IPv4 addresses are typically represented in _____ notation, such as 192.168.0.1.
6. IPv6 addresses are represented in _____ notation, such as 2001:0db8:85a3:0000:0000:8a2e:0370:7334.
7. IPv4 addresses can be configured statically or dynamically assigned through protocols like _____.
8. IPv6 addresses can be configured statically or dynamically assigned, and they can also be automatically assigned through the _____ process.
9. IPv4 addresses are gradually being exhausted, and techniques like _____ are used to share a single public IP address among multiple devices.
10. IPv6 was developed to address the address exhaustion issue of IPv4 and provide ample address space for future growth, but many networks operate with _____ configurations, supporting both IPv4 and IPv6.

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

- IPv4 addresses are expressed in _____ sets of decimal numbers separated by periods.
- IPv6 addresses are expressed in _____ groups of four hexadecimal digits separated by colons.
- IPv4 addresses provide a _____ address space, allowing approximately 4.3 billion unique addresses.
- IPv6 addresses offer an extensively larger address space, allowing for approximately _____ unique addresses.
- The Internet provides various services such as email, file transfer, remote access, and more, while the World Wide Web primarily focuses on the delivery of _____.
- The Internet operates on protocols like _____, which enable the routing and transmission of data packets, while the World Wide Web uses protocols like _____ for the retrieval and display of web pages.
- The Internet is the broader infrastructure, while the World Wide Web is a _____ within it.

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None