Essential Computing

Primary 4

Teacher's Guide

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ESSENTIAL Computing
Primary 4
Teacher's Guide

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CONTENTS

How to use this Teacher's Guide

This Teacher's Guide provides basic and practical ways to teach key tasks required by the Computing Curriculum for Primary Schools. It closely follows the curriculum requirements and outcomes, tying to the Strands, Sub-strands and Performance Indicators. A FREE CD is provided with additional printable worksheets and PowerPoint presentations that can be used on a projector in your classroom or printed out. Also included is additional content specifically for the teacher – an e-book providing guidance on how to Integrate ICT in the classroom and a handy reference of key concepts in Computing and the 4th Industrial Revolution.

In this Teacher's Guide for Basic 4, you can expect to find teaching skills that focus on high levels of engagement for learners through active learning styles, such as teach-backs learner group presentations, learner's self-assessment and peer-assessment activities, including many opportunities for small group or pair discussions and evaluations with constructive feedback to each other. Many of these pedagogical approaches require the teacher to act as a facilitator who skilfully guides the learning process by employing targeted questions at appropriate times to encourage learners to think deeply on the more difficult or complex concepts and content. The scaffolding provided in the worksheets and activities are underpinned by Bloom's taxonomy. Additional 21st-century pedagogical approaches, such as the 'Flipped Classroom', 'CLIL' and 'Task Study', have not been explored as methodologies in this book, but are ideas that teachers might wish to explore to enhance learner engagement and understanding of the concepts and content provided in the Learner's Book.

In the Learner's Book, the 'Contents page' section indicates the number of Strands and the main topics in each Strand. The 'Introduction' at the beginning of each Strand provides information covered in that Strand. The 'Revision' section at the end of each Strand comprises a 'Check your Progress' section that covers questions relating to the whole Strand. These could be used in a variety of ways that might assist in task preparation.

Tasks

Tasks provide a guide to teachers on how a concept or activity required by the curriculum could be taught. These will prove invaluable for teachers new to the subject. Tasks are numbered for each Strand, starting from number 1. Teachers will need to adjust the amount of time they could spend on each Strand based on the number of tasks per academic year. Some content, concepts or practical tasks may require slightly more time than might be available in a task and it is left to the discretion and professionalism of the teacher to allocate how much time they believe learners of different abilities may require to master the more difficult content and concepts.

The Content standard states the specific skills that learners should master and are linked to the corresponding Sub-strand. Each Sub-strand and its related Content standard will be accompanied by a set of Indicators, which are different for each task.

Each Indicator is linked to Performance indicators for all the ability groups that teachers may have to cater for in each teaching group. Differentiation is considered at the level of the expected outcomes expressed in the Performance indicators for each task as follows:

- '**ALL**' refers to the majority of learners, and the expected skills will be commensurate with the lower levels in Bloom's taxonomy, such as recall and comprehension.
- '**SOME**' refers to the more able learners or, in some cases, the less able learners depending on what the performance indicator stipulates. Learners in this group should be able to do slightly more or less than the majority of learners and be able to analyse or interpret the more difficult concepts and content.
- '**FEW**' refers to the most able learners who could be expected to do the higher-order thinking skills according to Bloom's taxonomy, such as evaluating and synthesis.

The **Core competencies:** indicate the broad areas of the curriculum that are considered in each task. They lend themselves to broad interpretation in the way teachers facilitate the learning and the way learners engage in their learning process. Tasks tend to incorporate high levels of creativity, innovativeness, communication and collaboration from learners. It includes content that fosters a healthy cultural identity yet highlights the importance of subscribing to a global citizenship. The 21st-century pedagogies prescribed encourage learners to be confident leaders and focus on personal development within the context of digital literacy.

The key words are a very important component for learners who are not mother tongue speakers of English. The methodology uses a variety of creative ways to familiarise learners with the key words for each task, mostly in the '**Phase 1:** Start of task' section.

Resources for use during a task can be found in the section 'On CD'. Resources may include worksheets, presentations to be used, self-assessment criteria or peer-assessment criteria, evaluation criteria, etc.

The '**Phase 1:** Start of task' section should not last longer than 5–8 minutes. There are many creative ways to start a task, and this section is merely a guide for teachers to introduce their learners to each new topic.

The '**Phase 2:** Main' section is merely a guide for teachers to use in their tasks. Teachers might have to adjust some aspects because much will depend on the ability of the learners in each class and their pace of learning. This section of a task should last approximately 20 minutes in a 30 minute task.

The '**Phase 3:** End of task' section can be used to reflect on the learning in each task or for consolidation of key concepts learned. Teachers may wish to try some of their own creative 'End of task' ideas and use the suggested ideas as a guide. This section should typically last approximately 5–8 minutes.

Low-resource schools

The 'Low-resource school' section caters for schools or tasks where electronic devices are not available. Teachers in such situations should prepare in an entirely different way from the ways suggested in most of the tasks in this book. However, there are numerous parts of tasks that do not require learners to be working on a computer. Teachers might be able to use the following ideas:

- Prepare flashcards with key words by placing a picture on one card and its definition on another card. Hand one card to each learner randomly and ask learners to find their match.
- Ask learners to explain or describe in their own words their understanding of their key word.
- Create or provide classroom posters for your display boards. Use these for reference during explanations.
- Create 'find the matching words' activities by using the key words lists.
- Create 'fill in the missing words' worksheets.
- Draw information-rich sketches on a writing board, developing a discussion or explanation as the drawing is being developed and using the Learner's Book as a point of reference.
- Ask learners to do the activities in the Learner's Book or the Teacher's Guide that do not require the use of a computer.
- Arrange learners in groups to work through questions in the Learner's Book or Teacher's Guide.

Extension activities

The 'Extension activity' section serve as differentiation materials to challenge the more able learners in a class. Teachers might wish to use the extension activities as follows:

- with the moreable learners only
- in pairs where a more able learner works together with a less able learner
- in mixed ability groups who might present their answers as a group to the rest of the class for all ability learners individually, at the discretion of the teacher.

Answers

The 'Answers' section provides possible answers to the activities and questions in the Learner's Book, and to the worksheets available on the CD. These are by no means exhaustive and any other reasonable answers should be considered by the teacher.

There are several links to websites and YouTube videos, and learners are encouraged to create their own digital resources as a means to prepare our 'digital natives' for their future world of work. It would be wise to adopt an open mind to the use of mobile phones and electronic devices to enhance the learning process.

We hope you enjoy using this Teacher's Guide as much as we did in producing it.

Introduction

In Strand 1 – Introduction to computing, teachers can expect to explore a range of topics in four sub-strands:

- Generation of computers and the parts of a computer and other gadgets – parts of a computer, types of input devices, storage devices and a brief summary of the first generation of computers.
- Introduction to the MS Windows interface –personalising desktop background and accessing different locations on the computer.
- Data, sources and usage – classifying data, sending and receiving data, carrying out calculations on data, data collection and surveying areas on online maps.
- Technology in the community (Communication) – explore how digital systems are used at home, school and the local community.

In order to ascertain the prior knowledge that learners should have encountered before learning about the topics in this strand, teachers could use the set of statements below. Read the statements to the learners and ask them to say if each statement is true or false. The questions could be used individually or in sets related to the sections being planned for learning.

Statements	True or False
These are all parts of a computer: keyboard, mouse, joystick, speakers, monitor, computer processing unit, RAM, pointing stick.	True
A computer system has input, output devices, storage and processing components.	True
A speaker, printer and microphone are input devices	False
Laptops are examples of first-generation computers	False
The MS Windows interface allows you to change the desktop background and access different locations on a computer.	True
Once you've logged in to your computer, you must always use the START button to go to any other location on your computer.	False
Desktop icons allow you to access files and folders on your computer	True
There is no difference between data and information	False
A video recording is a primary source of information whereas if you told someone else what you saw on the video, your verbal version of what's on the video would be classified as secondary information.	True
You can use computer tools to sketch over online maps, such as Google Maps to survey an area.	True
All types of technology used in the community can only work if they are connected to the internet.	False

Sub-strand 1: Introduction to computing

Task 1 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.1 Identify parts of a computer and technology tools, the mouse, keyboard, monitor, system unit and its components, memory, hard disk drive, CD-ROM, speakers and peripherals.
Performance indicator: **ALL** learners will be able to identify some parts of a computer and technology tools. **SOME** learners will be able to identify most parts of a computer and technology tools. **FEW** learners will be able to identify all the parts of a computer and technology tools stipulated above.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: mouse, keyboard, monitor, central processing unit and its components, memory, hard disk drive, CD-ROM, speakers and peripherals

In this task:

Refer to pages 6–13 of the Learner's Book for pictures of computer parts. Use the presentation to explain what each computer part does.

Learners should watch your presentation, refer to pages 1–13 of the Learner's Book and use the worksheet to answer the questions about the computer parts.

Resources required

On CD

- Worksheet Task 1_B4.1.1.1.1 Computer parts.pdf
- Presentation Task 1-5_B4.1.1.1.1 Computer parts.pptx

Phase 1: Start of task
- Create flash cards with all the key words. Write the key word on side of the card and the meaning on the back of the card.
- Divide the class into two groups and ask each group, in turn, to try to explain what each word might mean. If group A gets it wrong, then group B can try.
- If group A got it wrong and group B got their question right, then group B gets two points. If a group gets their own question right, then they get just 1 point. The group with the most points wins.

Phase 2: Main

(New learning, including assessment).
- Use **Worksheet Task 1_B4.1.1.1.1 Computer parts.pdf**.
- Learners must complete the worksheet as you go through the presentation with the class.

Phase 3: End of task

Select one of the best dream computers and discuss with the class.

Answers to worksheet: Computer parts
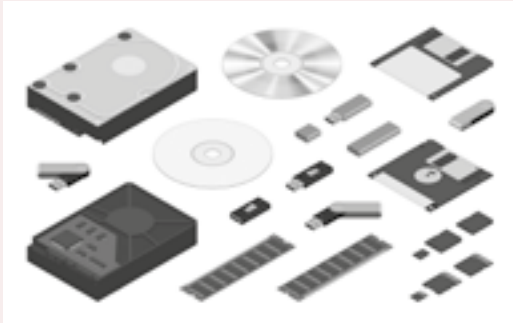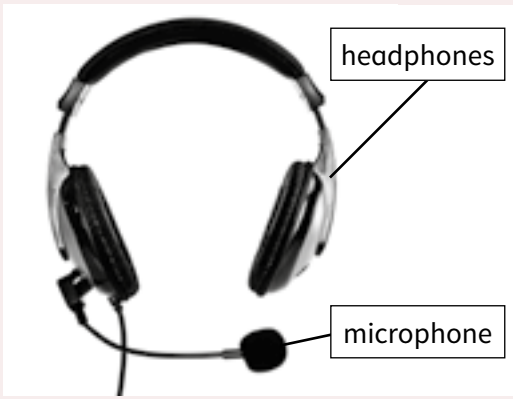
1. A computer system comprises a central processing unit (CPU), input devices, output devices and some peripherals and memory devices.

2.

3. The central processing unit is like the 'brains' of the computer system. It's where all the calculations and processing of all the inputted data and information is worked on so that it can be output as printed materials, sounds, or images and videos that can be seen on the monitor.

4.

Part	What it is used for	Picture of the computer part
Mouse	To move the cursor around on the screen	

Keyboard	To input data and information into the computer	
Monitor	To display the output from the computer	
Memory	To store all the information and data that is input into the computer system and save it so it can be transferred from one computer system to another.	
Speaker	To hear the output from a computer system	
Headphones	To listen to audio output from a computer system without disturbing others around us	headphones / microphone
Microphone	To input audio data into a computer system	Seen on the headphones above

5. Answers will vary. Make sure that the learners include all the essential parts of a computer system.
6. The learners draw a picture and label the parts. Make sure that they include all the essential parts and label them correctly.

Low-resource school
Use the worksheet and the answers together with the presentation as printed handouts.

Answers to Activity 1.1   Learner's Book pages 7–8

Keyboard	Microphone
Mouse	Digital camera
Touch pad	Touch screen
Joystick	Webcam
Scanner	

Task: 2 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1
Identify parts of a computer and technology tools.

Indicator: B4.1.1.1.1
Identify parts of a computer and technology tools, the mouse, keyboard, monitor, system unit and its components, memory, hard disk drive, CD-ROM, speakers and peripherals.

Performance indicator:
ALL learners will be able to identify some parts of a computer and technology tools.

SOME learners will be able to identify most parts of a computer and technology tools.

FEW learners will be able to identify all the parts of a computer and technology tools stipulated above.

Core competencies:
1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: mouse, keyboard, monitor, central processing unit and its components, memory, hard disk drive, CD-ROM, speakers and peripherals

In this task:
Refer to pages 4–6 of the Learner's Book for pictures of computer parts. Divide the class into groups of three to make posters of computer parts for the classroom displays.

Learners should refer to pages 4–6 of the Learner's Book and make a colourful poster about computer parts for the classroom displays.

Resources required

On CD

- Presentation Task 1-5_B4.1.1.1.1 Computer parts.pptx

Phase1: Start of task

Explain the task to the learners. Learners should be in groups of three to make colourful posters of computer parts. Each group should be given one computer part to make their poster on.

Phase 2: Main

(New learning, including assessment)
- Use the **Presentation Task 1-5_B4.1.1.1.1 Computer parts.pptx**.
- Refer to pages 1–13 of the Learner's Book for more information on computer parts. Posters should be placed on the classroom display board.

Phase 3: End of task

Learners should go around to all the displays and evaluate them by sticking a grade on each one using sticky notes with smiley faces. The posters with the most smiley faces should be discussed as to why they are so popular.

> ### Low-resource school
>
> **Use the worksheet and the answers together with the presentation as printed handouts.**

Task: 3 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.1 Identify parts of a computer and technology tools, the mouse, keyboard, monitor, system unit and its components, memory, hard disk drive, CD-ROM, speakers and peripherals.
Performance indicator: **ALL** learners will be able to identify some parts of a computer and technology tools. **SOME** learners will be able to identify most parts of a computer and technology tools. **FEW** learners will be able to identify all the parts of a computer and technology tools stipulated above.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: mouse, keyboard, monitor, central processing unit and its components, memory, hard disk drive, CD-ROM, speakers and peripherals

In this task:

Explain the different needs that different groups of people need when buying a computer system.

Learners should refer to pages 4–13 of the Learner's Book and use the worksheet to recommend different computer parts for different needs and budgets.

Resources required

On CD

- Presentation Task 1-5_B4.1.1.1.1 Computer parts.pptx
- Worksheet Task 3_B4.1.1.1.1 Computer parts recommendations.pdf

Phase 1: Start of task

Explain the task to the learners. Learners should work in pairs to decide on the best computer parts for each scenario.

Phase 2: Main

(New learning, including assessment)
- Use **Presentation Task 1-5_B4.1.1.1.1 Computer parts.pptx**.
- Refer to pages 1–13 of the Learner's Book for more information on computer parts. Allow learners to find solutions for the scenarios in the worksheet.

Phase 3: End of task

Allow learners to self-assess based on the answers on the answer sheet.

Low-resource school

Use the worksheet and the answers together with the presentation as printed handouts.

Task: 4 of 16	
Strand 1: Introduction to computing	
Sub-strand 1: First generation of computers and parts of a computer and other gadgets	
Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.2 Describe the types of input devices of a computer and their uses, e.g. joystick, light pen, mouse, pointing stick, etc.
Performance indicator: **ALL** learners will be able to describe some of the types of input devices of a computer. **SOME** learners will be able to describe the types of input devices of a computer and their uses. **FEW** learners will be able to describe most of the types of input devices of a computer and their uses.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: joystick, light pen, stylus, mouse, pointing stick, graphics tablet

In this task:
Give the learners opportunity to explore the uses of input devices.

Learners should refer to pages 6–13 of the Learner's Book and prepare for a teach-back about one type of input device based on the criteria set out in the worksheet.

Resources required
Learner's Book pages 6–13

On CD

- Presentation Task 1-5_B4.1.1.1.1 Computer parts.pptx
- Worksheet Task 4_B4.1.1.1.2 Input devices teach-back criteria.pdf

Phase 1: Start of task

Explain the task to the learners. Learners should work in groups of three or four to prepare and deliver a teach-back on one input device per group.

Phase 2: Main

(New learning, including assessment)
- Allow learners time during this task to prepare for the teach-back during the next task. Discuss the criteria stated in the worksheet and ensure that all groups have the resources they require to carry out successful teach-back. In the next task, they will do the teach-backs.

Phase 3: End of task

Check that all learners are prepared for the teach-backs in the next tasks, as there will not be any time to prepare during the next task.

Low-resource school

Use the resources on the CD as printouts.

Extension activity

Assign two more able learners the task of assisting the less able learners to make suggestions and support their peers for extra awards.

Answers to Activity 1.2
Learner's Book page 13

a) Touch screen
b) Bar code reader

Task: 5 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.2 Describe the types of input devices of a computer and their uses, e.g. joystick, light pen, mouse, pointing stick, etc.

Performance indicator:

ALL learners will be able to describe some of the types of input devices of a computer.

SOME learners will be able to describe the types of input devices of a computer and their uses.

FEW learners will be able to describe most of the types of input devices of a computer and their uses.

Core competencies:
1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: joystick, light pen, mouse, pointing stick, graphics tablet

In this task:

Let the learners present their teach-backs in their groups for no more than three minutes each.

Learners should present their teach-backs in their groups while the rest of the class must act like the learners and also evaluate each group using the evaluation section of the worksheet.

Resources required

On CD

- Presentation Task 1-5_B4.1.1.1.1 Computer parts.pptx
- Worksheet Task 4_B4.1.1.1.2 Input devices teach-back criteria.pdf

Phase 1: Start of task

Explain the task to the learners. Learners should work in groups of 3 or 4 to prepare and deliver a teach-back on one input device per group.

Phase 2: Main

(New learning, including assessment)
- Allow learners to present their teach-backs in their groups for no more than three minutes each.
- Learners must present their teach-backs in their groups while the rest of the class must act like the learners and also evaluate each group using the Evaluation section on the worksheet.

Phase 3: End of task

Praise all groups for their efforts and go over the highlights. Ask the learners to discuss how effective they felt this way of learning was for them.

> ## Low-resource school
>
> **Use the resources found on the CD as printouts.**

Extension activity

Assign two more able learners the task of assisting the less able learners to make suggestions and support their peers for extra awards.

Task: 6 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.2 Describe the types of input devices of a computer and their uses, e.g. joystick, light pen, mouse, pointing stick, etc.
Performance indicator: **ALL** learners will be able to describe some of the types of input devices of a computer. **SOME** learners will be able to describe the types of input devices of a computer and their uses. **FEW** learners will be able to describe most of the types of input devices of a computer and their uses.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: joystick, light pen, mouse, pointing stick, graphics tablet

In this task:

Let the learners do the assessment.

Learners should complete the assessment task.

Resources required

On CD

- Worksheet Task 6_B4.1.1.1.2 Input devices assessment.pdf

Phase 1: Start of task
Explain the assessment for this task.

Phase 2: Main
(New learning, including assessment)
Allow learners to use the assessment worksheet under test conditions.

Phase 3: End of task
Let the learners complete the assessment worksheet for this task.

Answers to worksheet: Input devices assessment

1.

What input devices do they need	Input device
A 10-year old girl loves playing Lego games on her Xbox One.	Joystick, games console, Xbox, headphones (any one answer)
An architect is drawing precision drawings on his/her graphics tablet.	Light pen, graphics tablet
A busy person carries their computer laptop around the factory floor and needs to input a lot of data into the laptop.	Touchpad, pointing stick
A busy mother enjoys going on social media sites to upload pictures of her family from her tablet.	Touchpad
The office receptionist uses the desktop computer to move the cursor onscreen to answer company emails.	Mouse

(5)

2. **a)** A mouse moves the cursor around on the screen (1)
 b) A joystick moves the characters on the screen in computer games (1)
 c) A light pen enables precision drawing on a graphics tablet or monitor (1)
 d) Similar to a mouse that moves the cursor around the screen but it stays in one spot and has to be moved from one spot. (1)
 e) inputs audio data into a computer (1)

3. Input devices are used to enter data and information into a computer, whereas output devices send the results of the data or information that was inputted after being processes by the computer out of the computer. (2)

4. printer, monitor, speakers (3)

5. Input devices, output devices, central processing unit, memory, peripherals (5)

6. Accept drawings of a mouse, light pen or joystick connected to a desktop computer connected to a monitor and a printer and speakers. (5)

Low-resource school

Use the resources found on the CD as printouts.

Extension activity

Assign two more able learners the task of assisting the less able learners to discuss corrections they could make after doing their assessment tasks. Learners who support their peers should be given special recognition according to class/school arrangements.

11

Task: 7 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.3 Differentiate between ROM and RAM.

Performance indicator: **ALL** learners will be able to explain what ROM and RAM are. **SOME** learners will be able to differentiate between ROM and RAM. **FEW** learners will be able to differentiate between ROM and RAM and explain what they are.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: random access memory, RAM, read-only memory, ROM, permanent, temporary.

In this task:

Read the excerpt out loud to the learners and then ask a volunteer learner to read the passage again. Answer any questions from learners and allow them to complete the worksheet questions.

Learners should complete the worksheet.

Resources required

On CD

- Worksheet Task 7_B4.1.1.1.3 Difference between ROM and RAM.pdf

Phase 1: Start of task

Use the video from this link to introduce what ROM and RAM are.
https://www.bbc.co.uk/bitesize/guides/z7rk7ty/revision/1
https://www.youtube.com/watch?v=HFOijddtz70

Phase 2: Main

(New learning, including assessment)
- Read the text on the worksheet out loud to the class.
- Ask the learners pertinent questions to check their understanding. Read the extract again if the learners struggle to understand it.
- Ask the learners to complete questions 1–5 on the worksheet.

Phase 3: End of task

- Check the learners' answers against the answers given below.
- Ask the learners to complete question 6 (rap song or poem) for the next task, when they will have to present their songs or poems to the class.

Answers to worksheet: Differences between ROM and RAM

1. read-only memory

2. ROM is memory that cannot be changed by a program or user. ROM retains its memory even after the computer is turned off. For example, ROM stores the instructions for the computer to start up when it is turned on again.

3. random access memory

4. RAM is a fast, temporary type of memory in which programs, applications and data are stored. Here are some examples of what is stored in RAM:
   • the operating system
   • applications
   • the graphical user interface (GUI)
   • If a computer loses power, all data stored in its RAM is lost.

5. Memory, also referred to as primary storage, typically refers to storage that is directly accessible by the computer's CPU. RAM is a high-speed storage medium that can be accessed with minimal delay. ROM, or read-only memory, is a type of non-volatile memory which means it keeps its data even if the power is turned off.

Low-resource school

Use Activity 1.3 in the Learner's Book in the section on ROM and RAM.

Answers to Activity 1.3

1. ROM can hold data when the power is turned off.
2. RAM is for temporary storage of data.
3. RAM loses its data when the power is turned off.
4. We use ROM for permanent storage of data.

Task: 8 of 16	
Strand 1: Introduction to computing	
Sub-strand 1: First generation of computers and parts of a computer and other gadgets	
Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.3 Differentiate between ROM and RAM.
Performance indicator: **ALL** learners will be able to explain what ROM and RAM are. **SOME** learners will be able to differentiate between ROM and RAM. **FEW** learners will be able to differentiate between ROM and RAM and explain what they are.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: random access memory, RAM, read-only memory, ROM, permanent, temporary.	

In this task:

Let the learners to recite their poems, sing or rap their songs during this task.

Learners should recite their poems, and sing or rap their songs during this task. They should also video each other's renditions and load it onto a share portal for evaluation and assessment.

Resources required

On CD

- Worksheet Task 7_B4.1.1.1.3 Difference between ROM and RAM.pdf

Phase 1: Start of task

- For this task, the learners must complete question 6 on the worksheet and create a song or rap or a short story about ROM and RAM.
- Prepare the learners for their performances ensuring they are confident, encouraged and keen to participate fully in the task. Remind them that the main focus is to understand the differences between ROM and RAM.

Phase 2: Main

(New learning, including assessment)
Allow learners to do their performances, either in groups, pairs or solo, according to their preferences. All learners should attempt to do something.

Phase 3: End of task

Remind learners to prepare for an assessment about ROM and RAM for the next task.

Task: 9 of 16	
Strand 1: Introduction to computing	
Sub-strand 1: First generation of computers and parts of a computer and other gadgets	
Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.3 Differentiate between ROM and RAM.
Performance indicator: **ALL** learners will be able to explain what ROM and RAM are. **SOME** learners will be able to differentiate between ROM and RAM. **FEW** learners will be able to differentiate between ROM and RAM and explain what they are.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: random access memory, RAM, read-only memory, ROM, permanent, temporary.	
In this task: Let the learners do the assessment and correct their answers at the end of the task. **Learners should** complete the assessment and correct their answers before the end of the task.	

Resources required

On CD

- Worksheet Task 9_B4.1.1.1.3 ROM and RAM Assessment.pdf

Phase 1: Start of task
Ensure that the learners are prepared to do the assessment.

Phase 2: Main
(New learning, including assessment)
Ask the learners to complete the assessment.

Phase 3: End of task
Go over the correct answers and allow learners to do their corrections.

Answers to worksheet:

1. C
2. A
3. B
4. B
5. True
6. True
7. False
8. False
9. True
10. True

Task: 10 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.4 Type short phrases
Performance indicator: **ALL** learners will be able to type short phrases. **SOME** learners will be able to type short phrases. **FEW** learners will be able to type short phrases.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: QWERTY, ergonomically designed, keyboard, shortcut, function keys, numeric pad, touchpad, mouse pad

> **In this task:**
>
> Refer the learners to the Learner's Book for short phrases that they can type.
>
> **Learners should** refer to the Learner's Book for short phrases to type from.

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task

Ask the learners to type the following excerpt as quickly as they can.

> Today is a joyous day as children all around the world celebrate a festive season with fireworks, delicious foods and exchanging gifts. Some children are not as fortunate as others and we should always spare a thought for those less fortunate than ourselves and practice good deeds of charity. Charity begins at home and in our hearts.

Phase 2: Main

(New learning, including assessment)
Allow learners to practise typing short phrases from the Learner's Book for this task.

Phase 3: End of task

Give learners this excerpt to type in three minutes. There shouldn't be any mistakes and they must stop when the time is up.

> Once upon a time, in the land of green ginger and luscious vegetation, lived a leopard called Loopy because she always seemed to roam around the forest in what appeared to be large loops. She had three adorable cubs, Spotty, Cuddly and Curly. They loved to romp around in the nearby foliage and hide from each other. They were also very playful, and it seemed as if they liked fighting with each quite a lot. The biggest struggle for their mother, Loopy was finding enough food for her young cubs and keeping them safe from other deadly predators. One day, Loopy was killed by a poacher for her beautiful hide. It was very sad because the young cubs had to fend for themselves and find enough food to keep them alive. They struggled to survive but very soon they grew up and became confident hunters themselves.

Answers

Allow learners to swap their work and correct each other's work, giving constructive feedback to each other.

Task: 11 of 16	
Strand 1: Introduction to computing	
Sub-strand 1: First generation of computers and parts of a computer and other gadgets	
Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.4 Type short phrases.

Performance indicator:

ALL learners will be able to type short phrases.

SOME learners will be able to type short phrases.

FEW learners will be able to type short phrases.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: caps lock, tab, PgUp, PgDn, Home, End, PrtSc, Delete, Num Lock, Ins, Backspace, Shift, Ctrl, Alt, Esc.

In this task:

Refer the learners to the Learner's Book for short phrases that they can type.

Learners should refer to the Learner's Book for short phrases to type from.

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task

Ask the learners to type the following excerpt as quickly as they can. They should be as accurate as they can be and as quickly as they can be.

> Learning to use keys on the keyboard from the upper and lower case, such as, 'C' instead of 'c' can be challenging. Yes? No? Maybe? It can be brilliant if you are a good typist or it could be dreadful if you have to keep looking to see where the keys are on the keyboard, such as, the (…) an the '???'! right? It can be annoying to type quickly when you do not know where all the keys really are! On the other hand, it might be better to simply dictate your text and the computer may be able to type it in for you. Do you think that might be a quicker way to get your text typed up?

Phase 2: Main

(New learning, including assessment)
Allow learners to practise typing short phrases from the Learner's Book for this task. Or if they have internet access they could try this URL:
https://www.how-to-type.com/typing-games/

Phase 3: End of task

Give learners this excerpt to type in five minutes. There should not be any mistakes and they must stop when the time is up.

> 5 chocolates, 30% off £2.39 ea. For mum, dad, brother, sister and myself. (* nutty)! If I had used the Shift+Ctrl followed by the ^ 75% of the total and CTRL^Z for the other 25% I'd be a winner! If I had £20.50 in my wallet, how much would I have left? (?*?). Learning how to type could save me a lot of time and I could make a fortune to the tune of 3^8 is 3^(3^3)*3(3^)!

Answers

Allow learners to swap their work and correct each other's work with constructive feedback.

- The two short paragraphs about Accra should have been typed in and saved with the filename 'Accra'.
- You may need to observe the learners throughout and encourage them to help them to rely on the home keys.

Task: 12 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1	**Indicator:** B4.1.1.1.5
Identify parts of a computer and technology tools.	Summarise the first generation of computers which used vacuum tubes as a major piece of technology.

Performance indicator:	**Core competencies:**
ALL learners will be able to summarise information on a first-generation computer – ENIAC.	1. Creativity and innovation
	2. Communication and collaboration
SOME learners will be able to summarise information on first-generation computers – ENIAC and EDVAC.	3. Cultural identity and global citizenship
	4. Personal development and leadership
	5. Digital literacy
FEW learners will be able to summarise information on first generation computers – ENIAC, EDVAC, UNIVAC, IBM-701, etc.	

Key words: first-generation computers, ENIAC, EDVAC, UNIVAC, IBM-701

In this task:

Refer the learners to the Learner's Book for information on first-generation computers and guide the learners on how to summarise the information on first-generation computers (EDVAC, UNIVAC, IBM-701, etc.).

Learners should refer to the Learner's Book to summarise the information on the first-generation computers (EDVAC, UNIVAC, IBM-701, etc.).

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task

Ask learners to work in pairs to find out about the Turing Test by researching on the World Wide Web and to discuss their understanding with each other.

Answer

The idea was that if the questioner could not tell the difference between human and machine, it would be considered that the computer was doing the thinking.

Phase 2: Main

(New learning, including assessment)
Learners should summarise the key message in each paragraph on page 17 of the Learner's Book about first-generation computers.

Phase 3: End of task

Let the learners swap exercise books with a friend. Ask them to compare summaries and give feedback to one another other.

Low-resource school

Use the Learner's Book and bring pictures taken from alternative sources to provide visual aid in this task.

Answers to Activity 1.5 Learner's Book page 18

The learners should have made notes on early computers and told others about their findings.

Task: 13 of 16

Strand 1: Introduction to computing

Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.5 Summarise the first generation of computers which used vacuum tubes as a major piece of technology.
Performance indicator: **ALL** learners will be able to summarise information on a first-generation computer – ENIAC. **SOME** learners will be able to summarise information on first-generation computers – ENIAC and EDVAC. **FEW** learners will be able to summarise information on first-generation computers – ENIAC, EDVAC, UNIVAC, IBM-701, etc.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: first-generation computers, ENIAC, EDVAC, UNIVAC, IBM-701

In this task:

Refer the learners to the Learner's Book for information on first-generation computers and guide them on how to create a poster displaying the information on first-generation computers; EDVAC, UNIVAC, IBM-701, etc.

Learners should refer to the Learner's Book to use the information on first-generation computers: EDVAC, UNIVAC, IBM-701, etc. to create classroom posters.

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task

Explain the essential elements of a good poster.
- There should be clear images and labels with short sentences explaining the key messages.
- There should not be too much small writing and not too many small images, which would make it difficult to read from a distance.

Phase 2: Main

(New learning, including assessment)
- Learners should create classroom posters from the information on first-generation computers on pages 17–18 of the Learner's Book .
- Let the learners swap posters with a friend. Let the learners compare posters and give a smiley face sticky note on their choice of the best posters. Discuss the reasons why the ones with the most smiley faces are so popular.

Task: 14 of 16	
Strand 1: Introduction to computing	
Sub-strand 1: First generation of computers and parts of a computer and other gadgets	
Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.5 Summarise the first generation of computers which used vacuum tubes as a major piece of technology.
Performance indicator: **ALL** learners will be able to summarise information on a first-generation computer – ENIAC. **SOME** learners will be able to summarise information on first-generation computers – ENIAC and EDVAC. **FEW** learners will be able to summarise information on first-generation computers – ENIAC, EDVAC, UNIVAC, IBM-701, etc.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: first-generation computers, ENIAC, EDVAC, UNIVAC, IBM-701	
In this task: Refer the learners to the Learner's Book for information on first-generation computers and allow them to complete the worksheet. **Learners should** refer to the Learner's Book to use the information on first-generation computers: EDVAC, UNIVAC, IBM-701, etc. to answer the questions in the worksheet.	

Resources required

On CD

• Worksheet Task 14_B4.1.1.1.5 First-generation computers.pdf

Phase 1: Start of task

Ask the learners to discuss this statement: 'I feel lucky that we're living in today's world of computers.'

Phase 2: Main

(New learning, including assessment)
Learners should answer the questions in the worksheet from the information on first-generation computers on pages 17–18 of the Learner's Book .

Phase 3: End of task

• Share the answers with learners so they can self-assess their own work.
• Ask the learners why they feel lucky to live in today's world of computers.
• Discuss any differences they expressed at the start of the task with their thoughts at the end of this task.

Answer for worksheet: First-generation computers

1. **a)** ENIAC (which stood for 'Electronic Numerical Integrator And Computer') was a computer built between 1943 and 1946. It was designed by two people called John Mauchly and J. Presper Eckert. The machine was built out of nearly 17500 vacuum tubes, 7200 diodes and many miles of wire.

   b) EDVAC was one of the earliest electronic computers. Unlike its predecessor the ENIAC, it was binary rather than decimal, and was designed to be a stored-program computer. ENIAC inventors John Mauchly and J. Presper Eckert proposed the EDVAC's construction in August 1944.

   c) The UNIVAC I was the first general purpose electronic digital computer design for business application produced in the United States. It was designed principally by J. Presper Eckert and John Mauchly, the inventors of the ENIAC.

   d) The IBM 701 Electronic Data Processing Machine, known as the Defense Calculator while in development, was IBM's first commercial scientific computer, which was announced to the public on 29 April 1952. It was designed by Nathaniel Rochester and based on the IAS machine at Princeton.

2. **a)** John Mauchly and J. Presper Eckert
   b) John Mauchly and J. Presper Eckert
   c) J. Presper Eckert and John Mauchly
   d) Nathaniel Rochester

3. **a)** Between 1943 and 1946
   b) August 1944
   c) June 14, 1951
   d) April 29, 1952

4. ENIAC
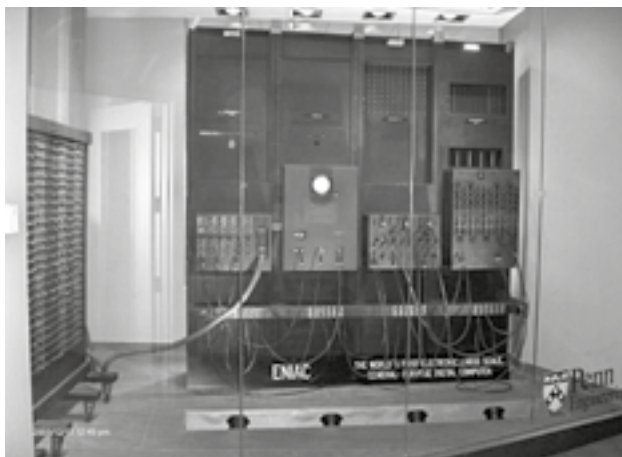
UNIVAC

EDVAC

IBM-701

Task: 15 of 16
Strand 1: Introduction to computing
Sub-strand 1: First generation of computers and parts of a computer and other gadgets

Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.1.5 Summarise the first generation of computers which used vacuum tubes as a major piece of technology.
Performance indicator: **ALL** learners will be able to summarise information on a first-generation computer – ENIAC. **SOME** learners will be able to summarise information on first-generation computers – ENIAC and EDVAC. **FEW** learners will be able to summarise information on first-generation computers – ENIAC, EDVAC, UNIVAC, IBM-701, etc.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: first-generation computers, ENIAC, EDVAC, UNIVAC, IBM-701

In this task:

Refer the learners to the Learner's Book for information on first-generation computers and allow them to create a timeline and an explanation of the reasons why there was such a rapid development of computers during this time period.

Learners should refer to the Learner's Book to use the information on first-generation computers: EDVAC, UNIVAC, IBM-701, etc. to create a timeline and an explanation of the reasons why there was such rapid development of computers during this time period.

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task

Explain this timeline, which shows the evolution of computers.

Evolution of computers

| 1960s | 1970s | 1980s | 1990s | 2000s | 2010s | 2015 |
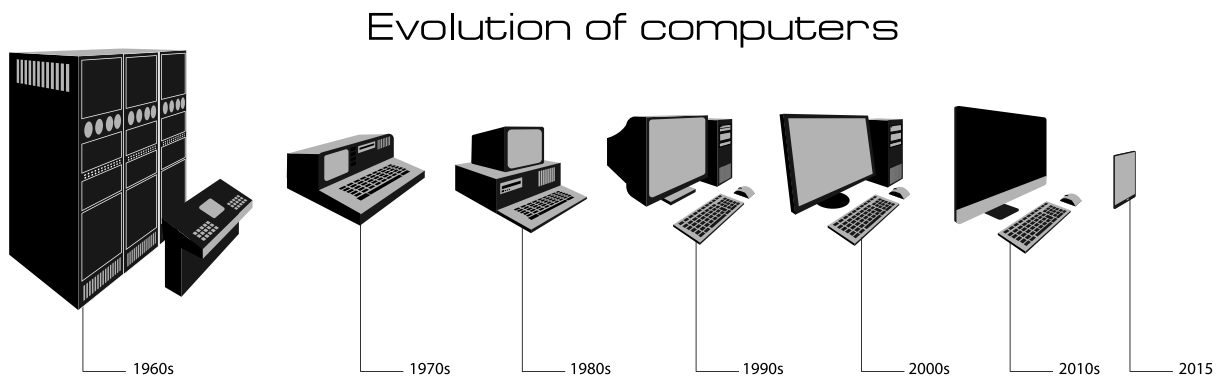
Phase 2: Main

(New learning, including assessment)
Learners should use all the information in the Learner's Book on the topic of first-generation computers and get more information from the internet, if necessary, to draw a timeline showing the development and progress of computers from the first-generation computers in the early 1940s.

Phase 3: End of task

Display the learners' timelines in the classroom.

Task: 16 of 16	
Strand 1: Introduction to computing	
Sub-strand 1: First generation of computers and parts of a computer and other gadgets	
Content standard: B4.1.1.1 Identify parts of a computer and technology tools.	**Indicator:** B4.1.1.5 Summarise the first generation of computers which used vacuum tubes as a major piece of technology.

Performance indicator:

ALL learners will be able to summarise information on a first-generation computer – ENIAC.

SOME learners will be able to summarise information on first-generation computers – ENIAC and EDVAC.

FEW learners will be able to summarise information on first-generation computers – ENIAC, EDVAC, UNIVAC, IBM-701, etc.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: first-generation computers, ENIAC, EDVAC, UNIVAC, IBM-701

In this task:

Support the learners as they complete the assessment as set out on the worksheet.

Learners should use the assessment worksheet during this task.

Resources required

On CD

- Worksheet Task 16_B4.1.1.1.3 First-generation computers Assessment.pdf

Phase 1: Start of task

Introduce the assessment worksheet and explain to the learners what they have to do for this task.

Phase 2: Main

(New learning, including assessment)
- Learners should use **Worksheet Task 16_B4.1.1.1.3 First-generation computers Assessment.pdf** and follow the instructions.

Phase 3: End of task

Let the learners swap their questions with a classmate. They must take turns to answer the questions. Let them then turn the cards over and read the answers. Give them time to discuss the answers.

Sub-strand 2: Introduction to Microsoft Windows interface

Task: 1 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1. Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.1 Describe the desktop background and explain its features (e.g. image, icons and taskbar of the background).
Performance indicator: **ALL** learners will be able to describe the desktop background features (e.g. image, icons and taskbar of the background). **SOME** learners will be able to explain the desktop background features (e.g. image, icons and taskbar of the background). **FEW** learners will be able to describe the desktop background and explain its features (e.g. image, icons and taskbar of the background).	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: personalise, customise, edit, icons, taskbar, Microsoft Windows interface, wallpaper, settings, Start menu

In this task:

Refer to the Learner's Book to explore the features that enable you to personalise your desktop background, such as images, icons, and taskbar.

Learners should watch the presentation and use pages 19–23 in the Learner's Book to comprehend the meanings of the key words and to note where to locate the features in the Microsoft Windows interface and what each feature enables you to do.

Resources required

On CD

- Presentation Task 1_B4.1.2.1.1 Desktop backgrounds.pptx
- Worksheet Task 1_B4.1.2.1.1 Desktop background features.pdf

Phase 1: Start of task

Ask the learners to discuss the meaning of the word 'personalise' as it applies to any aspect of their lives, such as their clothing, food, homes, etc. What does it mean to personalise your house? How can we personalise our desktop background on the computer?

Phase 2: Main

(New learning, including assessment)

- Use **Presentation Task 1_B4.1.2.1.1 Desktop backgrounds.pptx** to demonstrate how to personalise the desktop background. Allow learners to locate the Personalise tabs in the Microsoft Windows interface. Complete the worksheet to describe the desktop background features.

Phase 3: End of task

Ask the learners to write down three new things they learnt today. Allow discussion in pairs to compare what the learners enjoyed most about the task.

Answers to worksheet: Desktop background features

1.

Key word	Meaning
personalise	Attach something that you like personally to something, e.g. a background image of your favourite flower or car
customise	To change from the original to something else according to a specific requirement
edit	To make changes on your computer.
icons	Small pictures that represent actions, apps, logos, etc.
taskbar	A panel on the computer's interface that has lots of icons for accessing the various features of a software package
Microsoft Windows interface	It's similar to a cover page of a magazine that displays icons of the features you have in that software package
wallpaper	The standard background images for interfaces
Settings	It's a button that gives you access to editing, personalising and customising your computer
Start menu	The Start menu displays access to the icons to use for editing the various features on your computer.

Task: 2 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.1 Describe the desktop background and explain its features (e.g. image, icons and taskbar of the background).
Performance indicator: **ALL** learners will be able to describe the desktop background (e.g. image, icons and taskbar of the background). **SOME** learners will be able to explain the desktop background features (e.g. image, icons and taskbar of the background). **FEW** learners will be able to Describe the desktop background and explain its features (e.g. image, icons and taskbar of the background).	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: personalise, customise, edit, icons, taskbar, Microsoft Windows interface, wallpaper, settings, Start menu

In this task:

Refer learners to the Learner's Book, worksheet and the presentation again to explore the features that enable you to personalise your desktop background, such as images, icons, and taskbar.

Learners should watch the presentation and use the Learner's Book to understand the meaning of the key words and to describe the features in the Microsoft Windows interface. They should be able to explain the function of each feature.

Resources required

On CD

- Presentation Task 1_B4.1.2.1.1 Desktop backgrounds.pptx
- Worksheet Task 2_B4.1.2.1.1 Desktop background features.pdf

Phase 1: Start of task

Play the game 'Clever ball' with the key words. Stick small bits of paper with a word from the key words list onto a large soft ball with sticky tape. Throw the ball around the class for each learner to take one paper with a word off. Open Microsoft Windows interface and display the Personalise page. Ask the learners to come up to point out where their word is on the board.

Phase 2: Main

(New learning, including assessment)
Learners should use their Learner's Book and the PowerPoint presentation to find the information to answer the questions on the worksheet.

Phase 3: End of task

Ask the learners to swap their answers with a classmate for peer-reviewing. Allow discussion to correct any errors.

Answers to worksheet: Describe the desktop background features

1. a) You can customise it with another image according to your own requirements.
   b) You can choose one of the Microsoft Windows interface photos or one from your own folders.
   c) The image could be split into smaller tiles on the desktop background.
   d) The image could be stretched to fit on the whole screen as a background image.
   e) The image could be photo gallery showing all the images you have in your 'Pictures' drive.
2. Learners' answers will vary.
3. a) The taskbar runs along the bottom of the screen.
   b) When you place the cursor on the taskbar and right-click, a menu pops up and you can select taskbar settings. You can then turn some settings on or off.

Task: 3 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.1 Describe the desktop background and explain its features (e.g. image, icons and taskbar of the background).
Performance indicator: **ALL** learners will be able to describe the desktop background. **SOME** learners will be able to explain the desktop background features (e.g. image, icons and taskbar of the background). **FEW** learners will be able to describe the desktop background and explain its features (e.g. image, icons and taskbar of the background).	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: personalise, customise, edit, icons, taskbar, Microsoft Windows interface, wallpaper, settings, Start menu

In this task:

Guide the learners to explore the features that make it possible to personalise the desktop background (for example, images, icons, taskbar).

Learners should adjust the background colours, themes or images and change the fill from its original setting to a different one.

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task
- Play the game 'Clever ball' with the key words. Stick small bits of paper with a word from the key words list onto a large soft ball with sticky tape. Throw the ball around the class for each learner to take one paper with a word off.
- Open a document in Microsoft PowerPoint and display the Home tab.
- Enlarge and project it onto the board ask the learners to come up to point out where their word is on the board.

Phase 2: Main

(New learning, including assessment)
Support learners in exploring the features that enable you to personalise your desktop background, such as images, icons, and taskbar. Learners should edit the background colours, themes or images and change the fill from its original setting to a different one.

Phase 3: End of task

Ask the learners to write down two questions about what they learnt today. Let them swap their questions with a classmate for answering the questions. Return the answers and let learners assess and feedback to their classmates. Allow discussion to correct any errors.

Task: 4 of 16	
Strand 1: Introduction to computing	
Sub-strand 2: Introduction to Microsoft Windows interface	
Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.2 Demonstrate how to personalise the desktop background using required tools and settings.
Performance indicator: **ALL** learners will be able to personalise the desktop background. **SOME** learners will be able to personalise the desktop background using some tools and settings. **FEW** learners will be able to personalise the desktop background usingits tools and settings.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: background, settings, taskbar, personalisation	
In this task: Use the presentation to demonstrate how to personalise the desktop background image and colours. **Learners should** adjust the background colours, themes or images and change the fill from its original setting to a different one.	

Resources required

On CD

•   Presentation Task 4_B4.1.2.1.2 Personalise desktop backgrounds.pptx

Phase 1: Start of task

Let the learners play the word game 'Hot seat'. The rules are as follows: One volunteer learner sits on a chair at the front of the class facing the rest of the learners. Behind on the board the teacher should write the keyword. Learners should explain to the volunteer what the key word is without using the exact word or without spelling it. The volunteer learner must guess what it is and when it is guessed correctly, the next learner can sit in the hot seat. Repeat until all the key words are used.

Phase 2: Main

(New learning, including assessment)
Use the presentation up to the slide that shows how to change the background image and colours only in this task. Learners should be given enough time to edit the background colours, themes or images and change the fill from its original setting to a different one in this task.

Phase 3: End of task

In pairs, learners should show their partners their edited desktop backgrounds and give each other feedback about the suitability of their choice of image and colours. They should also discuss the usefulness of personalized desktop background images and colours.

Task: 5 of 16	
Strand 1: Introduction to computing	
Sub-strand 2: Introduction to Microsoft Windows interface	
Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.2 Demonstrate how to personalise the desktop background using required tools and settings.
Performance indicator: **ALL** learners will be able to personalise the desktop background. **SOME** learners will be able to personalise the desktop background using some tools and settings. **FEW** learners will be able to personalise the desktop background using its tools and settings.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: background, settings, taskbar, themes, fonts, colours, customise	
In this task: Use the presentation to demonstrate how to personalise the desktop background image and colours. **Learners should** adjust the background colours, themes or images and change the fill from its original setting to a different one.	

Resources required

On CD

- Presentation Task 5_B4.1.2.1.2 Personalise desktop backgrounds.pptx

Phase 1: Start of task

Translate the key words into any other Ghanaian language and discuss any differences in meanings due to the translations.

Phase 2: Main

(New learning, including assessment)
Use the presentation slides that shows how to change the themes, fonts and colours of the desktop background only in this task. Learners should be given enough time to edit the background colours, themes or images and change the fill from its original setting to a different one in this task. Encourage them to get some more themes from Microsoft Store – free ones only.

Phase 3: End of task

Let the learners work in pairs. Ask them to show their partners their edited desktop background themes and give each other feedback about the suitability of their choice of image and colours. They should also discuss the usefulness of personalized desktop background images and colours.

Task: 6 of 16
Strand 1: Introduction to computing
Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.2 Demonstrate how to personalise the desktop background using required tools and settings.
Performance indicator: **ALL** learners will be able to personalise the desktop background. **SOME** learners will be able to personalise the desktop background using some tools and settings. **FEW** learners will be able to personalise the desktop background using its tools and settings.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: Cortana, Alexa, Siri, voice-activated personal assistant
In this task: Use the presentation to demonstrate how to personalise the desktop background image and colours. **Learners should** adjust the background colours, themes or images and change the fill from its original setting to a different one.

Resources required

On CD

- Presentation Task 6_B4.1.2.1.2 Personalise desktop backgrounds.pptx

Phase 1: Start of task

- Ask the learners what they know about any one of the following: Cortana, Siri or Alexa.
- Discuss what they are, what they can do and relate some examples of how they are used.

Possible discussion points:
Answering questions posed by users is one of the primary functions of voice-activated personal assistants. Alexa, Cortana, Google's Assistant and Siri use powerful, AI-driven search engines that can find information on the internet.

Phase 2: Main

(New learning, including assessment)
Use either one of the voice-activated personal assistants (for example, Siri or Cortana) to ask it questions relating to weather, news of the world or any other relevant topic. Allow learners to use Cortana to help them personalise the desktop background image. Ask the learners to think about the potential uses of such systems in their personal lives. Ask the learners to write a three-paragraph page about how they could use such a system to live a dream life.

Phase 3: End of task

Choose one or two of the learner's efforts and read it out aloud to promote discussion. Besides the advantages of using such AI systems, what are the potential disadvantages of using such systems?

Possible discussion points
AI systems may be used to carry out crimes or to hurt others.

Extension activity

Create a user's guide for your parents on how to use one of the following AI systems:
- Alexa
- Cortana
- Google's Assistant
- Siri.

Answers to Activity 1.6

Learners should have made notes about Cortana and be able to say where they had found the information.

Task: 7 of 16	
Strand 1: Introduction to computing	
Sub-strand 2: Introduction to Microsoft Windows interface	
Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.3 Demonstrate the use of sections of the taskbar and Start menu.

Performance indicator:

ALL learners will be able to demonstrate the use of sections of the taskbar.

SOME learners will be able to demonstrate the use of the Start menu.

FEW learners will be able to demonstrate the use of sections of the taskbar and Start menu.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: Start menu, location, launch, taskbar

In this task:

Use the presentation to demonstrate how to locate and launch the Start menu in order to personalise the desktop background image and colours.

Learners should adjust the desktop background by locating and launching the Start menu and using appropriate tools and settings.

Resources required

On CD

- Presentation Task 7_B4.1.2.1.3 Start menu.pptx
- Worksheet Task 7_B4.1.2.1.3 Start menu.pdf

Phase 1: Start of task

- Follow the link to introduce the Windows Start menu.
  https://www.youtube.com/watch?v=5XrXIW6AwMc
- Stop the video at any point to allow learners to ask relevant questions. You may not need to show the whole video at the start of this task. If you stop around 1.30 minutes, that will be enough to start with.

Phase 2: Main

(New learning, including assessment)

- Allow learners to open their Windows Start menu and give them access to their worksheet. Use **Presentation Task 7_B4.1.2.1.3 Start menu.pptx** to demonstrate how they can locate and launch their Windows Start menu. Learners should attempt the task on the worksheet when the presentation is finished.

Phase 3: End of task

Let the learners work in pairs. Ask them to swap their worksheets and discuss each other's efforts.

Task: 8 of 16	
Strand 1: Introduction to computing	
Sub-strand 2: Introduction to Microsoft Windows interface	
Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.3 Demonstrate the use of the pinned applications.

Performance indicator:

ALL learners will be able to demonstrate the use of some of the pinned applications.

SOME learners will be able to demonstrate the use of most of the pinned applications.

FEW learners will be able to demonstrate the use of all of the pinned applications.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: pinned applications, minimise, launched, expand, pinned files, All Apps

In this task:

The teacher should use the presentation to demonstrate how to locate and launch the Start menu's pinned applications in order to personalise the desktop background image and colours.

Learners should use the worksheet to personalise the desktop background by locating and launching the Start menu's pinned applications and using appropriate tools and settings

Resources required

On CD

- Presentation Task 8-9_B4.1.2.1.3 Pins and notification area.pptx
- Worksheet Task 8_B4.1.2.1.3 Pinned applications.pdf

Phase 1: Start of task

Let the learners work in pairs. Ask them to use any word from the key words to create a flash card for the Word Wall. Collect these and arrange them onto a section of the classroom display boards while learners are busy with their next task.

Phase 2: Main

(New learning, including assessment)
- Use the presentation to demonstrate how to locate and launch the Start menu's pinned applications in order to personalise the desktop background image and colours.
- Allow learners to use the worksheet to screenshot their use of the pinned applications and using appropriate tools and settings.

Phase 3: End of task

Let the learners work in pairs. Ask them to share their worksheets to discuss each other's efforts.

Task: 9 of 16
Strand 1: Introduction to computing
Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1	**Indicator:** B4.1.2.1.3
Demonstrate the use of the desktop background as well as working with folders.	Demonstrate the use of the taskbar notification area.

Performance indicator:

ALL learners will be able demonstrate the use of the taskbar notification area – hidden icons.

SOME learners will be able to demonstrate the use of the taskbar notification area – settings.

FEW learners will be able to demonstrate the use of all the taskbar notifications.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: notification area, systems tray, Date &Time, hidden icons, internet access

In this task:

The teacher should use the presentation to demonstrate how to locate and launch the notification area or systems tray in order to personalise the desktop background image and colours.

Learners should use the worksheet to personalise the desktop background by locating and launching the notification area or systems tray and using appropriate tools and settings

Resources required

On CD

- Presentation Task 8-9_B4.1.2.1.3 Pins and notification area.pptx
- Worksheet Task 9_B4.1.2.1.3 Notification area.pdf

Phase 1: Start of task

Create some flash cards using pictures or Icons of the key words. Hold each flash card up and ask the learners your questions about it until they understand what each one means.

Example: Hold up an icon, for example 📶. Learners could ask questions such as:
- What is it used for?
- Why is it important?
- How can I access it?
- Where can I change it?

Answer their questions for each flash card.

Phase 2: Main

(New learning, including assessment)
- Use **Presentation Task 8-9_B4.1.2.1.3 Pins and notification area.pptx** to demonstrate and explain how to access and edit the settings on the taskbar.
- Allow learners to use the worksheet to practise personalising their taskbar, using the notification area.

Phase 3: End of task

- Check with learners how many have completed the worksheet and how many still have some work to complete.
- Ask them to describe any difficulties they have experienced, and how they tried to solve the problems.

Task: 10 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.4 Adding and removing icons from the desktop. B4.1.2.1.5 Moving, selecting and hiding multiple icons on the desktop. B4.1.2.1.6 Creating, naming and renaming a folder.
Performance indicator: **ALL** learners will be able to carry out some of the above-mentioned tasks. **SOME** learners will be able to carry out most of the above-mentioned tasks. **FEW** learners will be able to carry out all of the above-mentioned tasks.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: add and remove icons, move, select and hide icons, create, name and rename folders

In this task:

Introduce the topics that will cover the next three tasks. Learners will be divided into small groups and each group will have a different topic to teach-back.

Explain that the learners are going to do their own research and prepare to do a group teach-back for presentation in the next three tasks.

Learners should use the Learner's Book and the internet to prepare a three-minute teach-back as a group for their task presentation.

Resources required
Learner's Book pages 23–27

On CD

- Worksheet Task 10-12 Teach-back planning and ideas.pdf

Phase 1: Start of task

- Introduce the topics which will be cover the next three tasks. Learners will be divided into small groups and each group will have a different topic to teach-back.
- Explain that learners are going to do their own research and prepare to do a group teach-back for presentation in the next three tasks. The topics are:
  - Adding icons on the desktop
  - Removing icons from the desktop
  - Moving icons from the desktop
  - Selecting and hiding multiple icons from the desktop
  - Creating and naming a folder
  - Renaming a folder
- If the class is very big, some topics may be assigned to more than one group.

Phase 2: Main

(New learning, including assessment)
- Ensure that learners have access to all the learning materials they require to perform their teach-backs confidently and to the best of their abilities.
- Refer learners to the relevant sections of the Learner's Book and the internet.
- Refer to the worksheet that has a task plan template and an evaluation section to help learners plan and to see how they will be evaluated on their teach-back delivery.

Phase 3: End of task

Check with learners how many have completed their preparations because once the next task begins, all learners will have to pay attention and evaluate the other group's tasks.

Task: 11 of 16
Strand 1: Introduction to computing
Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.4 Adding and Removing Icons from the desktop. B4.1.2.1.5 Moving, selecting and hiding multiple icons on the desktop. B4.1.2.1.6 Creating, naming and renaming a folder.
Performance indicator: **ALL** learners will be able to carry out some of the above-mentioned tasks. **SOME** learners will be able to carry out most of the above-mentioned tasks. **FEW** learners will be able to carry out all of the above-mentioned tasks.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: add and remove icons, move, select and hide icons, create, name and rename folders
In this task: **The teacher should** arrange learners to deliver their teach-back presentations in an orderly fashion. **Learners should** deliver their teach-back presentations when it's their time and when they aren't presenting, they should be evaluating other presentations.

Resources required

On CD

• Worksheet Task 10-12 Teach-back planning and evaluation.pdf

Phase 1: Start of task

Ensure that all learners are prepared for their teach-backs and have all the materials and resources they require to deliver to their best standards.

Phase 2: Main

(New learning, including assessment)
Ensure that learners have access to all the learning materials and resources they require to ensure they are able to perform their teach-backs confidently and to the best of their abilities. Offer lots of praise and encouragement to all groups.

Phase 3: End of task

Offer lots of praise, encouragement and constructive feedback to all groups.

Task: 12 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.4 Adding and removing icons from the desktop. B4.1.2.1.5 Moving, selecting and hiding multiple icons on the desktop. B4.1.2.1.6 Creating, naming and renaming a folder.
Performance indicator: **ALL** learners will be able to carry out some of the above-mentioned tasks. **SOME** learners will be able to carry out most of the above-mentioned tasks. **FEW** learners will be able to carry out all of the above-mentioned tasks.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: add and remove icons, move, select and hide icons, create, name and rename folders

In this task:

The teacher should arrange learners to deliver their teach-back presentations in an orderly fashion.

Learners should deliver their teach-back presentations when it's their time and when they aren't presenting, they should be evaluating other presentations.

Resources required

On CD

- Worksheet Tasks 10-12 Teach-back planning and evaluation.pdf

Phase 1: Start of task

Ensure that all learners are prepared for their teach-backs and have all the materials and resources they require to deliver to their best standards.

Phase 2: Main

(New learning, including assessment)
Ensure that learners have access to all the learning materials and resources they require to ensure they are able to perform their teach-backs confidently and to the best of their abilities. Offer lots of praise and encouragement to all groups.

Phase 3: End of task

Offer lots of praise, encouragement and constructive feedback to all groups.

Task: 13 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.4 Adding and removing icons from the desktop. B4.1.2.1.5 Moving, selecting and hiding multiple icons on the desktop. B4.1.2.1.6 Creating, naming and renaming a folder.
Performance indicator: **ALL** learners will be able to carry out some of the above-mentioned tasks. **SOME** learners will be able to carry out most of the above-mentioned tasks. **FEW** learners will be able to carry out all of the above-mentioned tasks.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: add and remove icons, move, select and hide icons, create, name and rename folders

In this task:

The teacher should explain that learners need to provide evidence of their use of tools of the Windows interface

Learners should use the tools in the Windows interface to provide screenshots of their evidence.

Resources required
Learner's Book pages 23–27

On CD

• Worksheet Tasks 13-14_B4.1.2.1 Demonstration of evidence.pdf

Phase 1: Start of task
Ensure that learners have access to all the learning materials and resources they require to show how they have used the Windows interface.

Phase 2: Main
(New learning, including assessment)
Learners should use the worksheet over two tasks (this one and the next).

Phase 3: End of task
Offer lots of praise, encouragement and constructive feedback to all groups.

Task: 14 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	Indicator: B4.1.2.1.4 Adding and removing icons from the desktop. B4.1.2.1.5 Moving, selecting and hiding multiple icons on the desktop. B4.1.2.1.6 Creating, naming and renaming a folder.
Performance indicator: **ALL** learners will be able to carry out some of the above-mentioned tasks. **SOME** learners will be able to carry out most of the above-mentioned tasks. **FEW** learners will be able to carry out all of the above-mentioned tasks.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: add and remove icons, move, select and hide icons, create, name and rename folders

In this task:

The teacher should explain that learners need to provide evidence of their use of tools of the Windows interface.

Learners should use the tools in the Windows interface to provide screenshots of their evidence.

Resources required

On CD

- Worksheet Tasks 13-14_B4.1.2.1 Demonstration of evidence.pdf

Phase 1: Start of task

Ensure that learners have access to all the learning materials and resources they require to show how they have used the Windows interface.

Phase 2: Main

(New learning, including assessment)
They should use the worksheet from the previous task.

Phase 3: End of task

Give learners a lot of praise, encouragement and constructive feedback.
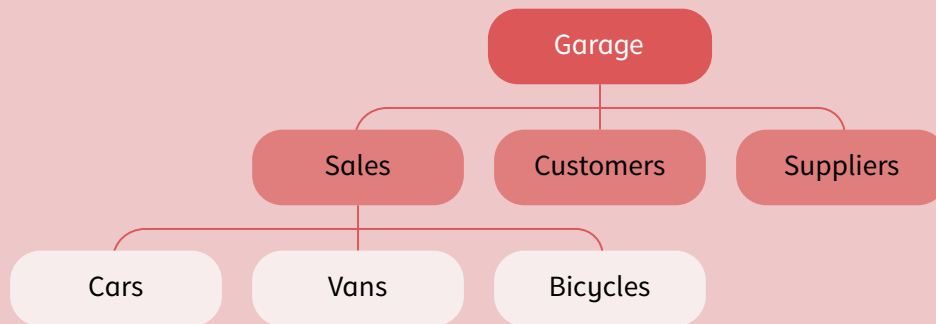
Extension activity

Answer the following questions to reflect on your approach to your learning in the last two tasks:

1. How was this way of learning different from the usual way that I learn things?
2. What was the best aspect of learning in this way?
3. What was not so good about trying to learn this way?
4. How would you change your approach to learning this topic next time?

Answers to Activity 1.7

Learner's Book page 28

1. The design may vary between learners. There should be:
   - a minimum of two levels

```
                    Garage
          ┌───────────┼───────────┐
        Sales     Customers    Suppliers
    ┌─────┼─────┐
  Cars   Vans  Bicycles
```

Task: 15 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1 Demonstrate the use of the desktop background as well as working with folders.	**Indicator:** B4.1.2.1.1 B4.1.2.1.2 Personalising the desktop background. B4.1.2.1.3 Using the taskbar, Start menu, pinned applications and notification area. B4.1.2.1.4 Adding and removing icons from the desktop. B4.1.2.1.5 Moving, selecting and hiding multiple icons on the desktop. B4.1.2.1.6 Creating, naming and renaming a folder.
Performance indicator: **ALL** learners will be able to carry out some of the above-mentioned tasks. **SOME** learners will be able to carry out most of the above-mentioned tasks. **FEW** learners will be able to carry out all of the above-mentioned tasks.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: personalise, taskbar, moving, selecting, folder

In this task:

Explain that learners need to provide evidence of their use of tools of the Windows interface

Learners should use the tools in the Windows interface to provide screenshots of their evidence.

Resources required

On CD

- Worksheet Task 15_B4.1.2.1 Preziplanning and ideas.pdf

Phase 1: Start of task

- Introduce the new project and explain that learners need to provide evidence of their use of the tools of the Windows interface. In addition, explain that learners should plan their Prezi presentations according to the checklist in the worksheet.
- Create a Prezi account online and send a link to all your learners so they can upload their presentations for sharing. Follow this link:
  https://prezi.com
  Note that the learners will need time and guidance to learn how to use this online app.

Phase 2: Main

(New learning, including assessment)

Ask the learners to prepare one slide that demonstrates how to carry out one of the following activities:

- Change your background image.
- Change any ONE icon on the taskbar.
- Start menu – add two icons and remove one.
- Pin two more icons and remove two different icons to the pinned applications.
- Remove most of the icons in the notification area.
- Make sure the hidden icons and Date and Time notification remains.
- Add one icon on the desktop.
- Remove one icon from the desktop.
- Move one icon from the desktop to the taskbar at the bottom of the screen.
- Hide two icons from the desktop.
- Create a new folder.
- Name the new folder '[My Name]_ICT'.
- Rename the same folder '[My Name]_Assessment'.

Ensure that all the activities have been selected by a group of learners so that the Prezi will cover all the topics listed above.

Phase 3: End of task

Once all the learners have created their Prezi, prepare the final Prezi for a whole class evaluation in the next task.

Task: 16 of 16

Strand 1: Introduction to computing

Sub-strand 2: Introduction to Microsoft Windows interface

Content standard: B4.1.2.1

Demonstrate the use of the desktop background as well as working with folders.

Indicator: B4.1.2.1.1

B4.1.2.1.2 Personalising the desktop background.

B4.1.2.1.3 Using the taskbar, Start menu, pinned applications and notification area.

B4.1.2.1.4 Adding and Removing icons from the desktop.

B4.1.2.1.5 Moving, selecting and hiding multiple icons on the desktop.

B4.1.2.1.6 Creating, naming and renaming a folder.

Performance indicator:

ALL learners will be able to carry out some of the above-mentioned tasks.

SOME learners will be able to carry out most of the above-mentioned tasks.

FEW learners will be able to carry out all the above-mentioned tasks.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: folders, subfolders, start button, icon, taskbar, notification area, pinned applications

In this task:

The teacher should explain that learners need to evaluate the evidence of their use of tools of the Windows interface

Learners should use the evaluation sheet to evaluate each group's Prezi.

Resources required

On CD

• Worksheet Task 16_B4.1.2.1 Prezi evaluation.pdf

Phase 1: Start of task

Open the Prezi online portal where all the learners have shared their Prezis.
Ensure that each learner has their copy of the evaluation sheet ready.

Phase 2: Main

(New learning, including assessment)
Begin by showing each Prezi in turn and discussing the evaluations given by others for each group's Prezi.

Phase 3: End of task

Continue evaluating all the Prezis until the end of the task.

Sub-strand 3: Data, sources and usage

Task: 1 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.1 Use strategies for identifying data in conversation and newspapers.
Performance indicator: **ALL** learners will be able to identify data in conversations. **SOME** learners will be able to identify data in newspapers. **FEW** learners will be able to identify data in conversations and newspapers.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: data, information, context, conversation, newspapers, role play

In this task:

Present conversational material and newspapers from which learners can identify data out of. Explain the difference between data and information.

Learners should identify data in conversations and newspapers.

Resources required

On CD

- Worksheet Task 1_B4.1.3.1.1 Data newspaper.pdf

Phase 1: Start of task

- Write on the board: 12121938 and GC2259-09.
- Ask the learners if they know what these are. What do the strings of number and letters represent? Guide the learners to understand that the strings are not in context, so they are just data.
- Now tell the learners that 12121938 is a date of birth, and GC2259-09 is the vehicle registration number of a car in Ghana. Guide the learners to understand that by knowing the context in which these numbers are used, the data can be processed as information.

Phase 2: Main

(New learning, including assessment)

- Play these two video clips and ask the learners if they can pick out the data in these conversations.
  https://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization?language=en#t-2557
- Stop this video after 117 seconds.
- Ask the learners if they can identify the data in that conversation.
- When you read figures such as '20 billion dollars' in the newspaper or hear them in a news report, the figures constitute data. They can only be regarded as Information when they are presented in context.
- Discuss other examples of numbers of things mentioned out of context that learners can think of.

- Provide learners with the newspaper excerpts in the worksheet and ask them to highlight, ring or underline all the data in the two articles. Which of it is data and which is information?

Phase 3: End of task

Summarise: Data is usually just numbers spoken in conversation or written that is without its context. Once you know it's context, it becomes information.

Extension activity

Ask the learners to have a conversation with their parents about the cost of living. The learners should make notes of the information and present it to the class as an oral presentation, with a poster to show the main points.

Answers to Activity 1.8 Learner's Book page 30

- One of the subjects from: mobile phones, swimming, football or food should have been discussed and a list of data extracted from the conversation that is appropriate to the subject, together with the names of the learners in the group.
- The notes could be on paper or the word processor but should be in list form.

Task: 2 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.2 Use strategies for classifying data into information (i.e. sorting and classifying).
Performance indicator: **ALL** learners will be able to identify data in conversations. **SOME** learners will be able to identify data in newspapers. **FEW** learners will be able to identify data in conversations and newspapers.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: classify, sort, data, information, video, artefacts, sound, audio

In this task:

Use the video clip with the sound off. Play it again if necessary. After the learners have answered the questions in the worksheet, turn the sound back on again and let their peers review their efforts. Learners should correct their work according to the new information.

Learners should watch the silent video clip intently and then use the worksheet to answer the questions relating to the silent video clip.

Resources required

On CD

- Worksheet Task2_B4.1.3.1.2 Data and information_1

Phase 1: Start of task
- Follow the video link and turn off the sound so that learners watch intently.
  https://www.youtube.com/watch?v=PRg5RNU_JLk
- Watch only the first 20 seconds of the video, then stop.
- Play it again if necessary.

Phase 2: Main

(New learning, including assessment)
- Ask the learners to answer the questions relating to the silent video clip on their worksheets.
- When they have finished task 1, play the video again but this time, TURN THE SOUND ON.
- Learners should swap their answers to be reviewed by their peers and they should edit their versions to compare the extent that their version matched with the original video's version.

Phase 3: End of task

Let the learners answer questions 3 and 4 on the worksheet.

Answers to worksheet: Data and information (1)

1. Answers will vary.
2. a) It is night time.
   b) a moving vehicle
   c) a road or rail track
   d) obstacles in the road
3. Possible answers: Making assumptions, guessing, imagining
4. It is data, because without the sound, it didn't have its full context.

Task: 3 of 18	
Strand 1: Introduction to computing	
Sub-strand 3: Data, sources and usage	
Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.2 Use strategies for classifying data into information (i.e. sorting and classifying).
Performance indicator: **ALL** learners will be able to identify data in conversations. **SOME** learners will be able to identify data in newspapers. **FEW** learners will be able to identify data in conversations and newspapers.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: classify, sort, data, information, images, text, numbers	

In this task:

Use the video clip so that learners do not see the pictures but only hear the soundtrack. Play it again if necessary. After the learners have drawn their sketches in the storyboard boxes on the worksheet, show them the video again so they can see the pictures also. Discuss different versions of the full story.

Learners should listen only to the soundtrack of the video for the first time. Learners should then use the worksheet to draw what they think happened in this video as simple sketches in the story board boxes. When they view the video for the second time, they should compare their version to that of the real version.

Resources required   Learner's Book pages 29–33

On CD

- Worksheet Task3_B4.1.3.1.2 Data and information_2.pdf

Phase 1: Start of task

Click on the video linkbelow and play the video for the class. Before the video starts, ask the learners to close their eyes and only listen to story.
https://www.youtube.com/watch?time_continue=57&v=CcxH4GpoNcg&feature=emb_logo

Phase 2: Main

(New learning, including assessment)
- Ask the learners to fill in what they think the story line in the story board drawing boxes looks like. It should be simple sketches and not perfect drawings. Give learners about 10 to 15 minutes for this task.
- When they have completed their simple sketches, play the video. Ask the learners to watch the video and listen to the story.
- Discuss the differences in what they assumed was the real story and what the real story looked like.

Phase 3: End of task

Let the learners answer questions 3 and 4 on the worksheet.

Answers to worksheet: Data and information (2)

1. Answers will vary.
2. a) The jackal wandered into the village by accident.
   b) The village dogs attacked him and barked at him.
   c) He ran away and entered the yard of a washer woman. There he found a tub with blue dye in it. He jumped into the blue dye and turned blue. The dogs couldn't recognise him and got scared of him.
   d) He became someone else, not to be feared or attacked.
3. Possible answer: Drawing conclusions or making assumptions without having all the information.
4. It is data, because without the sound, it didn't have its full context.

Answers to Activity 1.9   Learner's Book page 33

1. 1
2. Crawl
3. Kukua and Majid
4. 7

Task: 4 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1
Identify data and collect data from different sources.

Indicator: B4.1.3.1.2
Use strategies for classifying data into information (i.e. sorting and classifying).

Performance indicator:

ALL learners will be able to identify data in conversations.

SOME learners will be able to identify data in newspapers.

FEW learners will be able to identify data in conversations and newspapers.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: sorting, classifying, data, information, highlight, circle, ring, isolate

In this task:

The teacher should discuss ways to classify data and information and ways to sort data and information.

Learners should use the worksheet to carry out tasks regarding ways to classify data and information and ways to sort data and information.

Resources required
Learner's Book pages 34–36

On CD

- Worksheet Task 4_B4.1.3.1.2 Classifying data.pdf

Phase 1: Start of task

Use this short video clip to show learners how all the information in books are classified in a library according to the Dewey Decimal System.
https://www.youtube.com/watch?v=NHiUQb5xg7A

Phase 2: Main

(New learning, including assessment)
Ask all the learners to stand up and to sit down when the criteria you call out matches them:
- All girls may sit down.
- All boys who have a more than two pens with them may sit down.
- All boys with one pen sit down.
- Ask the learners these questions:
  - How many learners are still standing?
  - What have we actually done in this exercise?(Sorting out so we have data.)
  - What information have we been able to get out of the data? (Number of learners who have blue pens, number who are males and alsohave no pens, etc.)
- Ask the learners to collect data from other learners in the class about which month they were born and their gender and favourite fruit.

- Let the learners classify the data and sort it.
- Ask the learners what information they can get from the data.
- Use the worksheet to complete all the tasks for this task.

Phase 3: End of task

Share the results of the information extracted from the data collected from within this class. Is the information the same or different?

Answers to worksheet: Classifying data

1. This is a practical activity.

2. Answers will vary, based on the data collected. Sample answer:
   How many were born in January, February, March, etc? Maybe 2, 4, 8
   How many were girls and how many boys? Maybe 0 girls but 2 boys in January, 1 girl and 3 boys in February and 5 girls and 3 boys in March, etc. Favourite fruits? Maybe most common fruit is apples.

3. Answers will vary, based on the data collected. Sample answer:
   Girls born in March prefer apples more than boys born in March. Explain why? What could be the reasons? Are there any logical reasons for this information?

Extension activity

Ask the learner to keep a record of all types of animals, including birds and insects, that they see in the course of one week. Invite them to share the information with the rest of the class in an oral presentation.

Task: 5 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.2 Use strategies for classifying data into information (i.e. sorting and classifying).
Performance indicator: **ALL** learners will be able to identify data in conversations. **SOME** learners will be able to identify data in newspapers. **FEW** learners will be able to identify data in conversations and newspapers.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: sorting, classifying, data, information, table, filter

In this task:

Use the spreadsheet data to sort and filter out under the different columns to classify data into information.

Learners should use the worksheet to carry out tasks regarding ways to classify data and information and ways to sort data and information.

Resources required

On CD

- Worksheet Task 5_B4.1.3.1.2 Classifyingdata into information.pdf

Phase 1: Start of task

Discuss the following questions with the class:
- What is the difference between data and information?(Answer: Data is information without a context.)
- How can data be sorted?(Answer: Arrange the data within a field from highest to lowest or vice versa or in alphabetical order from A to Z or vice versa.)
- How can data and information be classified?(Answer: Similar types can be categorised.)

Phase 2: Main

(New learning, including assessment)
- Present the data in the table in a spreadsheet. Sort on different fields and use filters so that learners can find answers to questions about the frog's leaping performances.
- Allow learners to answer the questions on the worksheet.

Phase 3: End of task

Provide the answers to the learners and allow them to self-assess. Check their results.

Answers to worksheet: Classifying data into information

1. George (Leepy)
2. This is a practical activity.
3. a) three
   b) All three are green frogs.
   c) Yes, from this data set.
   d) No, because the frog with the smallest leap is 2 years old and the frog with the longest leap is also 2 years old.
4. answers will vary.

Answers to Activity 1.10

The table will look similar to this, depending on the subject chosen.

Name	Can swim	How many times each week	Where	Favourite stroke
Ekow	Yes	5	Sea	Crawl
Esam	No	0		
Kessie	Yes	I	Pool	Backstroke
Kukua	Yes	7	Lake	Butterfly
Majid	Yes	3	Lake	Crawl

Answers to Activity 1.11

This is a practical activity.

Task: 6 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.3 Identify primary sources of information.
Performance indicator: **ALL** learners will be able to identify primary sources of data, such as photographs, newspapers and films. **SOME** learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings and films. **FEW** learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings, video recordings, government publications, oral histories and films.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: classify, sort, data, information, images, text, numbers, date, currency

In this task:

Use the **Worksheet Task 6_B4.1.3.1.3 Primary sources of information.pdf** and guide learners through the section in the Learner's Book on primary sources of Information.

Learners should use the **Worksheet Task 6_B4.1.3.1.3 Primary sources of information.pdf** and refer to the section in the Learner's Book on primary sources of Information before completing the worksheet.

Resources required

On CD

• Worksheet Task 6_B4.1.3.1.3 Primary sources of information.pdf

Phase 1: Start of task

Use flashcards that you have prepared beforehand of pictures of examples of primary sources of information for the starter. Hold up each flashcard and ask learners to say whether it is a primary source or not and to explain their answer.

Phase 2: Main

(New learning, including assessment)
Ask the learners to use the use **Worksheet Task 6_B4.1.3.1.3 Primary sources of information.pdf** and refer to the section in the Learner's Book on primary sources of Information to complete the worksheet. When they have completed the worksheet, use the answer sheet to go through the answers as a whole class, allowing learners to mark their own work.

Phase 3: End of task

Set the stopwatch for two minutes and in a timed activity, ask learners to write down as many examples of primary sources as they can remember in only two minutes. when the stopwatch alarm goes off, ask learners to put their pens down. Ask the first learner to start calling out each word on their list. The rest of the class should cross out if they have any of those examples on their lists. Ask another student who still has words left on their list to continue calling out their list while learners cross-off what's left on their list. The learner with the last word/s left that no-one else has on their list, is the winner.

Answers to worksheet: Primary sources of information

1. Primary sources of data refers to data collected by the researcher, so it is first-hand data.
2. Secondary sources and primary sources differ in that primary sources come directly from the original owner of the information while secondary sources are being re-told by someone else about the original story.

3.

Sources of information	Primary	Secondary
Newspaper	✓	
An mp3 of a pop singer's new song	✓	
Kofi Annan's biography		✓
President's speeches	✓	
Accra Evening News		✓
The Ghanaian Chronicle		✓
The Diary of a Wimpy Kid		✓
The Diary of Anne Frank	✓	
The Concise Oxford Dictionary		✓
Movie reviews		✓
TV Interview Show	✓	
TV Documentary	✓	
Grandfather's stories around the fire	✓	

Answers to Activity 1.12

1. Photographs: Primary if they illustrate past events as they actually happened or if it is a photograph of people it shows them as they were at a particular time.
2. Audio recordings: Primary
3. Film: Can be a primary source of data, but only if they record events as they actually happened.
4. Letters: Primary, as they are written records of events communicated between 2 people
5. Diaries: Primary

6. Speeches: Primary, because it is first-hand evidence.
7. Published books: Primary if the author collected data through research; secondary if the author found the data from published articles written by others.
8. Newspapers and magazines: Primary if the reporter/writer witnessed the event as it happened. Many of the other articles in a newspaper are secondary sources.
9. Government publications: Primary

Extension activity

In pairs, ask learners to discuss how being able to identify primary sources of information can be used in any two other subjects they study at school.

Possible answers
Language studies require accurate information in reports, essays and news articles; Science manipulates data to produce information, such as scientific experiments; History uses primary sources as historical facts depend on the information from primary sources, such as important dates of world events and numbers of people affected by wars; Geography uses data from primary sources, such as readings for weather and climatic data to produce weather forecasts; data about population to produce population predictions that affect economic decisions, etc.

Task: 7of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.3 Identify primary sources of information.
Performance indicator: **ALL** learners will be able to identify primary sources of data, such as photographs, newspapers and films. **SOME** learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings and films. **FEW** learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings, video recordings, government publications, oral histories and films.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: primary sources of information, artefacts, data, statistics

In this task:

List five primary sources of information they will use to find out about what life was like in the early 20th century in Ghana.

Learners should use the worksheet for this task and the next task.

Resources required

On CD

- Worksheet Task 7_B4.1.3.1.3 Primary sources project_1.pdf

Phase 1: Start of task

Ask for six volunteers to come up to the front of the classroom. Arrange six chairs in a circle. Ask the learners to sit on the six chairs. Give a message written on a piece of paper to the first learner and ask them to whisper it to the next learner very quickly. The next learner must whisper what they heard from the first learner to the next learner quickly until you get to the last learner who must say it out loud. Compare that message with the first message written down on piece of paper.

Questions

a) Is there a big difference between the original message and the passed around message?

b) How might this way of passing information around affect the information received daily?

The message on the piece of paper should be: *There's a baby elephant walking in the street outside with a man in a green shirt and yellow hat following it. There's also a woman with a red scarf and blue dress next to the man.*

Phase 2: Main

(New learning, including assessment)
- Ask the learners to list five primary sources of information they will use to find out about what life was like in the early 20th century in Ghana.
- Learners should use **Worksheet Task 7_B4.1.3.1.3 Primary sources project_1.pdf**.

Phase 3: End of task

- Ask learners to write down all the ways that their lives are different from early 20th century lifestyles in Ghana.
- Remind learners to collect their information from their five primary sources before the next task.

Task: 8 of 18	
Strand 1: Introduction to computing	
Sub-strand 3: Data, sources and usage	
Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.3 Identify primary sources of information.
Performance indicator: **ALL** learners will be able to identify primary sources of data, such as photographs, newspapers and films. **SOME** learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings and films. **FEW** learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings, video recordings, government publications, oral histories and films.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: photographs, diaries, audio recordings, video recordings, government publications, oral histories, films

In this task:

Check that the learners have collected all the materials they need for this task. There should be about five different primary sources of information for learners to draft a story about life in 20th century Ghana. Learners should share and compare their stories.

Learners should use their data and information they have collected from the five different primary sources to draft a story about what life was like in the 20th century.

Resources required

On CD

- Worksheet Task 7_B4.1.3.1.3 Primary sources project_2.pdf

Phase 1: Start of task

Ask the learners what an artefact is.
Possible answers: Any physical item can be considered an artefact. In using artefacts as primary sources you've added material culture to your research . . . In addition to telling you something about its creator, an artefact provides insight into a culture: its customs, preferences, styles, special occasions, work, and play. Taken from https://www.google.com/search?q=primary+source+artefact&oq=primary+source+artefact&aqs=chrome..69i57j33.6485j0j7&sourceid=chrome&ie=UTF-8on 24/10/2019

Question

If anyone has used an artefact, what does it tell us about the culture and customs of that period of time in a certain region (20th century, Ghana)?

Phase 2: Main

(New learning, including assessment)
- The learners must draft a story about what they believe life was like in 20th century Ghana based on the primary sources of information they have collected.
- The learners should use **Worksheet Task 7_B4.1.3.1.3 Primary sources project_2.pdf**.

Phase 3: End of task

- Remind learners to continue building their stories based on their information from their five primary sources, before continuing with the next task.
- Answer any questions they might have about their project.

Task: 9 of 18	
Strand 1: Introduction to computing	
Sub-strand 3: Data, sources and usage	
Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.3 Identify primary sources of information.

Performance indicator:

ALL learners will be able to identify primary sources of data, such as photographs, newspapers and films.

SOME learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings and films.

FEW learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings, video recordings, government publications, oral histories and films.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: artefact, letters, newspapers, diaries, oral histories

In this task:

Encourage the learners to continue writing up their story about life in 20th century Ghana. Check with learners that they've collected all the materials they need for this task. There should be about different primary sources of information for learners to draft a story about life in Ghana in the 20th century. Learners should share and compare their stories.

Learners should continue where they left off in the previous task and use their data and information, they have collected from the five different primary sources to draft a story about what 20th-century life was like.

Resources required

On CD

- Worksheet Task 7_B4.1.3.1.3 Primary sources project_2.pdf

Phase 1: Start of task

Let the learners work in pairs and use key words (as many as can displayed on the classroom display boards) about sources of information to create a word cloud.

Phase 2: Main

(New learning, including assessment)
- The learners should again use **Worksheet Task 7_B4.1.3.1.3 Primary sources project_2.pdf** for this task.
- The learners must continue writing their stories about what they believe life was like in Ghana in the 20th century, based on the primary sources of information they have collected.

Phase 3: End of task

Remind learners that they will share their projects next task and each of them will evaluate each other's projects in groups. They must complete all their projects before the next task.

Task: 10 of 18	
Strand 1: Introduction to computing	
Sub-strand 3: Data, sources and usage	

Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.3 Identify primary sources of information.

Performance indicator: **ALL** learners will be able to identify primary sources of data, such as photographs, newspapers and films. **SOME** learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings and films. **FEW** learners will be able to identify primary sources of data, such as photographs, newspapers, letters and diaries, audio recordings, video recordings, government publications, oral histories and films.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: photographs, diaries, audio recordings, video recordings, government publications, oral histories, films

In this task:

Arrange the learners into groups of three to four and ask them to share their work amongst the group for evaluation and feedback.

Learners should share and evaluate each learner in their group's work and give them feedback.

Resources required

On CD

- Worksheet Task 10_B4.1.3.1.3 Primary sources_Evaluation.pdf

Phase 1: Start of task

Discuss the evaluation criteria on the evaluation sheet and divide the learners into groups of threeor four. Each group will evaluate each learner's project using the evaluation sheet. Give verbal feedback to each learner.

Phase 2: Main

(New learning, including assessment)
Learners should begin to evaluate each other's projects and provide verbal feedback. They must also complete the evaluation sheet.

Phase 3: End of task

When all the evaluations are completed, ask the learners a few more questions:
- When you were looking for your primary sources of information, did you think that some information was a secondary source and perhaps not a primary source of information? If so, what made you doubt it?
- Describe some of the difficulties you experienced in accessing primary sources of information.
- What would you do differently next time?

Task: 11 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1
Identify data and collect data from different sources.

Indicator: B4.1.3.1.4
Demonstrate sending and sharing information to and from other gadgets.

Performance indicator:

ALL learners will be able to demonstrate sending information to other gadgets.

SOME learners will be able to demonstrate sharing information from other gadgets.

FEW learners will be able to send and share information to and from other gadgets.

Core competencies:
1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: radio, fax, SMS, telephone calls, social media apps

In this task:

The teacher should ensure that learners can make use of their gadgets for the purposes of this task. They would need gadgets like mobile phones, smart phones and internet connections.

Learners should use their devices to send and receive information between their groups according to the tasks required in the worksheet.

Resources required

On CD

- Worksheet Task 11_B4.1.3.1.4 Send information.pdf

Phase 1: Start of task

Ensure there are sufficient phones and smartphones available for use in this task. A day or two before the lesson, ensure that learners download a QR code scanner on their gadgets. Ask the learners how they send and share information out of school to their friends. Discuss the various ways. Possible answers: SMS, phone calls, Skype calls, WhatsApp chats and calls, Messenger, Instagram, WeChat, Twitter, etc.
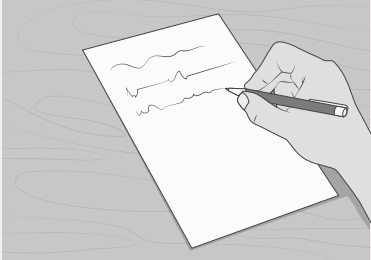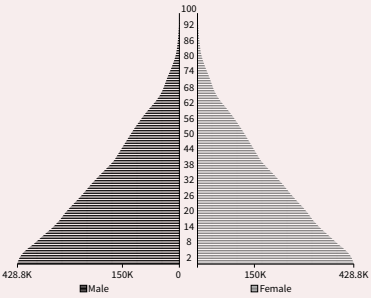
Phase 2: Main

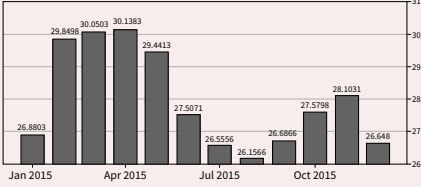(New learning, including assessment)
Divide learners into groups that will use one type of technology to send and share information within the group. Use the pictures as stimulus materials, giving one picture to each group. Learners should share the image with another group in their class so that they all have the correct answers as images they have sent to each other using their gadgets.

Phase 3: End of task

- Check your group's answers against those in the Answer Sheet.
- Discuss what barriers you faced during this learning experience.
- How would you do things differently next time?

Answer for worksheet: Send and share information

1.

Questions to send	Replies to questions as images	Technology used
Who is the inventor of the internet?		(The answers in this column will vary.)
Is the letter from your cousin who lives abroad, a primary or secondary source of information?	Yes.	
What is the population of Ghana?		
What is the annual average temperature in Ghana?		
Who is Jeff Bezos?		
What is Steve Jobs known for?		

Is it true that Facebook belongs to Bill Gates?	No, it is Mark Zuckerberg	

2. Ask the learners to follow the instructions on the worksheet.

Task: 12 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1	**Indicator:** B4.1.3.1.4
Identify data and collect data from different sources.	Demonstrate sending and sharing information to and from other gadgets.

Performance indicator:	**Core competencies:**
ALL learners will be able to demonstrate sending information to other gadgets.	1. Creativity and innovation
	2. Communication and collaboration
SOME learners will be able to demonstrate sharing information from other gadgets.	3. Cultural identity and global citizenship
	4. Personal development and leadership
FEW learners will be able to send and share information to and from other gadgets.	5. Digital literacy

Key words: radio, fax, SMS, telephone calls, social media apps

In this task:

The teacher should ensure that learners can make summaries of the gadgets used for sending and sharing information from the Learner's Book on pages 38–39.

Learners should summarise the notes about gadgets used to send and share information on pages 37–39 in the Learner's Book.

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task

Let the learners work in pairs and discuss the best ways for them personally to send and share information, giving their reasons.

Phase 2: Main

(New learning, including assessment)
Refer to pages 38–39 in the Learner's Book and summarise the notes on radio, fax, telephone call and SMS as ways to send and share information on other gadgets.

Phase 3: End of task

Write ONE question to test the understanding of each of the following gadgets: radio, fax, telephone calls and SMS.

Task: 13 of 18	
Strand 1: Introduction to computing	
Sub-strand 3: Data, sources and usage	
Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.5 Demonstrate basic calculations on sample data, e.g. sum, percentage and average, etc.
Performance indicator: **ALL** learners will be able to demonstrate basic calculations on sample data, e.g. SUM. **SOME** learners will be able to demonstrate basic calculations on sample data, e.g. percentages. **FEW** learners will be able to basic calculations on sample data, e.g. SUM, percentages and average.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: spreadsheet, percentage, average, sum, calculations	
In this task: Demonstrate basic calculations using a spreadsheet application. **Learners should** complete the worksheet with basic calculations, such as SUM, percentages and average.	

Resources required

On CD

- Worksheet Task 13_B4.1.3.1.5 Basic calculations

Phase 1: Start of task

Watch this short video clip on how to use formulas in a spreadsheet:
https://www.youtube.com/watch?v=DsZ7lsTaAYo
Explain the difficult concepts in the video to the learners.

Phase 2: Main

(New learning, including assessment)
- Use the Worksheet to carry to learn a few more about doing the calculations.
- Let the learners collect data from fourof their class friends. Ask them to add this data into a new spreadsheet and apply the formulas to work out the totals (SUM), averages and percentages.

Phase 3: End of task

Swap and share with a classmate for peer-reviews and feedback.

Answers to Activity 1.13	Learner's Book page 42

1. B5
2. E6
3. 349.12 or 'the average price after discount'
4. There is nothing in cell D10.

Task: 14 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.1 Identify data and collect data from different sources.	**Indicator:** B4.1.3.1.5 Demonstrate basic calculations on sample data, e.g. sum, percentage and average, etc.
Performance indicator: **ALL** learners will be able to demonstrate basic calculations on sample data, e.g. SUM. **SOME** learners will be able to demonstrate basic calculations on sample data, e.g. percentages. **FEW** learners will be able to basic calculations on sample data, e.g. SUM, percentages and average.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: spreadsheet, percentage, average, sum, calculations

In this task:

The teacher should demonstrate doing basic calculations using a spreadsheet application.

Learners should complete the worksheet with basic calculations, such as SUM, percentages and average.

Resources required

On CD

- Spreadsheet Task 14_B4.1.3.1.5 Basic calculations.xlsx

Phase 1: Start of task

Ask the learners to recall the formulas to add, subtract, multiply and divide data.

Answers:
ADD=cell 1+cell 2e.g. =H1+K4
SUBTRACT=cell 1 – cell 2e.g. =H7-F4
MULTIPY=cell 1 * cell 2e.g. =D6*G2
DIVIDE=cell 1 / cell 2e.g. =R8/K3

Phase 2: Main

(New learning, including assessment)
- Demonstrate to the learners how to complete the first sum in **Spreadsheet Task 14_B4.1.3.1.5 Basic calculations.xlsx.**
- Give the learners time to carry out the calculations in the spreadsheet.
- Assist them where needed.

Phase 3: End of task

- Learners will find the correct answers and should be able to correct their own work because the system has built-in functions that show them whether their answers are correct or not. Assist those who are still struggling to get them right.
- Check how many learners got all right, how many got some right and how many got nothing right.

Possible answers:
Use the spreadsheet to help learners to correct their own work.

	A	B	C	D	E
1	FIRST NUMBER	OPERATION	SECOND NUMBER	YOUR ANSWER	CORRECT?
2	39	ADD	576	615	Correct
3	854	ADD	35	889	Correct
4	27	SUBTRACT	8	19	Correct
5	8	SUBTRACT	5	3	Correct
6	3	MULTIPLY	55	165	Correct
7	3333	MULTIPLY	3	9999	Correct
8	51	DIVIDE	17	3	Correct
9	255	DIVIDE	5	51	Correct
10					
11			**Your Score**		8

	A	B	C	D	E
1	FIRST NUMBER	OPERATION	SECOND NUMBER	YOUR ANSWER	CORRECT?
2	39	ADD	576	=A2+C2	=IF(D2=A2+C2,"Correct","Incorrect")
3	854	ADD	35	=A3+C3	=IF(D3=A3+C3,"Correct","Incorrect")
4	27	SUBTRACT	8	=A4–C4	=IF(D4=A4–C4,"Correct","Incorrect")
5	8	SUBTRACT	5	=A5–C5	=IF(D5=A5–C5,"Correct","Incorrect")
6	3	MULTIPLY	55	=A6*C6	=IF(D6=A6*C6,"Correct","Incorrect")
7	3333	MULTIPLY	3	=A7*C7	=IF(D6=A7*C7,"Correct","Incorrect")
8	51	DIVIDE	17	=A8/C8	=IF(D8=A8/C8,"Correct","Incorrect")
9	255	DIVIDE	5	=A9/C9	=IF(D9=A9/C9,"Correct","Incorrect")
10					
11			**Your Score**		**=COUNTIF(E2:E9,"Correct")**

Task: 15 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.2 Demonstrate data collection using Data Collection tools.	**Indicator:** B4.1.3.2.1 Identify the steps and issues involved in data collection.
Performance indicator: **ALL** learners will be able to identify some of the steps and issues involved in data collection. **SOME** learners will be able to identify most of the steps and issues involved in data collection. **FEW** learners will be able to identify all the steps and issues involved in data collection.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: data, analysis, collection, timeframe

In this task:

The teacher should explain the steps to take for collecting data by using the presentation.

Learners should make short notes using bullet points to capture the main points during the presentation and refer to the Learner's Book for further information on how to do basic calculations in a spreadsheet.

Resources required

On CD

- Presentation Task 15_B4.1.3.2.1 Data collection steps.pptx
- Worksheet Task 15_Data collection steps_Cards.pdf

Phase 1: Start of task
- Ask the learners to arrange the cards in order of the steps they believe need to be taken to collect data.
- Reveal the answers and allow a brief discussion.

Phase 2: Main

(New learning, including assessment)
Use the presentation and the Learner's Book page for learners to understand the steps. They should summarise short notes.

Phase 3: End of task

Recap that most learners understand the correct steps involved in collecting data and the reasons why they need to collect data.

Answers to worksheet: Arrange cards in order

Determine your data collection method 3	**Determine what information you want to collect** 1
Analyse the data and implement your findings 5	**Set a timeframe for data collection** 2
Set a timeframe for data collection 2	**Determine your data collection method** 3
Determine what information you want to collect 1	**Collect the data** 4
Collect the data 4	**Analyse the data and implement your findings** 5

Task: 16 of 18	
Strand 1: Introduction to computing	
Sub-strand 3: Data, sources and usage	
Content standard: B4.1.3.2 Demonstrate data collection using Data Collection tools.	**Indicator:** B4.1.3.2.1 Identify the steps and issues involved in data collection.
Performance indicator: **ALL** learners will be able to identify some of the steps and issues involved in data collection. **SOME** learners will be able to identify most of the steps and issues involved in data collection. **FEW** learners will be able to identify all the steps and issues involved in data collection.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: data, analysis, collection, timeframe, unavailability of data, manipulation of data, random errors

In this task:

The teacher should use the Learner's Book to provide material for learners to prepare a one-page information guide for other learners in the level below their level at school. The topic for the information guide should be about steps and issues involved in data collection.

Learners should produce a one-page information guide regarding the 'Issues involved in Collecting Data'.

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task

Ask the learners to relate any issues they experienced when they collected data for their sample data in a previous task. Discuss with the whole class.

Phase 2: Main

(New learning, including assessment)
Refer the learners to page 44 of the Learner's Book. Ask them to create a document in which they explain the steps and issues involved in data collection. The learners must follow these guidelines for the information guide:
- Present the information in short, clear sentences.
- Use suitable sub-headings.
- The document should be typed in a serif font.
- The font size should be 14 pt.
- Use colour effectively.
- Include at least two images.
- The layout of the document should be two columns under the main heading or title.

Phase 3: End of task

Recap what most learners understand about the issues involved in collecting data.

Task: 17 of 18	
Strand 1: Introduction to computing	
Sub-strand 3: Data, sources and usage	
Content standard: B4.1.3.2 Demonstrate data collection using data collection tools.	**Indicator:** B4.1.3.2.1 Identify the steps and issues involved in data collection.

Performance indicator:

ALL learners will be able to identify some of the steps and issues involved in data collection.

SOME learners will be able to identify most of the steps and issues involved in data collection.

FEW learners will be able to identify all the steps and issues involved in data collection.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: data, analysis, collection, timeframe, unavailability of data, manipulation of data, random errors

In this task:

Explain that learners will evaluate each other's information guides according to the evaluation sheet. Thereafter, they should improve their work.

Learners should use the evaluation sheet to evaluate each other's one-page information guides. Thereafter, they must improve on their information guides work and hand them in for assessment.

Resources required

On CD

- Worksheet Task 17_B4.1.3.2.1 Evaluation sheet

Phase 1: Start of task

Ask the learners relate any issues they experienced when they collected data for their sample data in a previous task. Discuss with the whole class.

Phase 2: Main

(New learning, including assessment)
- Explain that learners will evaluate each other's information guides according to the evaluation sheet. Thereafter, they should improve their work.
- Learners should use the evaluation sheet to evaluate each other's one-page information guides. Thereafter, they must improve on their information guides work and hand them in for assessment.

Evaluation criteria are as follows:
- Present the information in short, clear sentences.
- Use suitable sub-headings.
- The document should be typed in a serif font.
- The font size should be 14 pt.
- Use colour effectively.
- Include at least two images.
- The layout of the document should be two columns under the main heading or title.

Phase 3: End of task

Recap what most learners understand about the issues involved in collecting data.

Task: 18 of 18

Strand 1: Introduction to computing

Sub-strand 3: Data, sources and usage

Content standard: B4.1.3.2 Demonstrate data collection using Data Collection tools.	**Indicator:** B4.1.3.2.2 Describe various tools for collecting data.

Performance indicator: **ALL** learners will be able to describe various tools for collecting data, such as interviewing. **SOME** learners will be able to describe various tools for collecting data, such as interviewing and observation. **FEW** learners will be able to describe various tools for collecting data, such as interviewing, observation and checklist.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: interviewing, observation, checklist, questionnaires, surveys

In this task:

The teacher should divide the class into groups to prepare teach-backs. The teacher should also provide enough resources for learners to create effective teach-backs, such as chart paper, glue, tape, sticky notes, internet connection, etc.

Learners should use both the Learner's Book and the internet to research information for their teach-backs, which will take place in the next task.

Resources required

On CD

•   Worksheet Task 18_B4.1.3.2.2 Data collection teach-back_Evaluation.pdf

Phase 1: Start of task

Divide the class into small groups of three to four learners to prepare teach-backs. The topics for the teach-backs are: questionnaires, interviews, observations, surveys, and checklists. More than one group can have the same topic, but all topics must be done by at least one group. Each teach-back should not be longer than three minutes.

Phase 2: Main

(New learning, including assessment)
Learners must use the Learner's Book and the internet if they require any extra information on their topic. teach-backs will be evaluated according to the following criteria so learners must ensure that they have met all the criteria when planning.

Evaluation criteria are as follows:
•   It must be well planned.
•   It should not be longer than three minutes.

- It should use pictures.
- It should use videos.
- It should use audio.
- It could use role play.
- There must be questions for their 'learners'.

Below is an example of an evaluations form:

Topic	
Resources needed	For example: Coloured paper, pictures, glue, tape, coloured pens, etc.
Introduction	For example: Ask a leading question to get started Show a picture Play a short video clip
Main	Explain Role play Demonstrate
Conclusion	Check understanding by asking one or two questions

Phase 3: End of task

Recap some of the main points missed in any of the topics in the teach-backs to ensure a thorough coverage of the topic for this task.

Sub-strand 4: Technology in the community

Task: 1 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.1 Describe how digital systems are used and could be used at home, in school and the local community.

Performance indicator:

ALL learners will be able to describe how digital systems are used and could be used at home.

SOME learners will be able to describe how digital systems are used and could be used at home and at school.

FEW learners will be able to describe how digital systems are used and could be used at home, in school and the local community.

Core competencies:
1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: Internet of Things (IoT), voice-activated personal assistant, Alexa, Cortana, Siri, authenticate, verify, sensors

In this task:

Refer to pages 45–47 of the Learner's Book for information on digital systems in the home.

Learners should refer to pages 45–47 of the Learner's Book and use the worksheet to answer the questions on how digital systems can be used in the home.

Resources required

On CD

- Worksheet Task 1_B4.1.4.1.1 Digital systems in the home.pdf

Phase 1: Start of task

Ask the learners the following questions:
- What does IoT stand for? (Answer: Internet of Things)
- What do you know about the Internet of Things (IoT)? (Possible answers: using different computer components, such as sensors, connectivity and peripherals to interact with each other to make your home a smart home.)

Phase 2: Main

(New learning, including assessment)
Read the section 'At home' on pages 45–47 in the Learner's Book.
Learners must complete the worksheet after you have read the text and discussed it with the class.

Phase 3: End of task

As a class, go through the correct answers and allow learners to self-assess their work.

Answers to worksheet: Digital systems in the home

1. Internet of Things

2. You may open your door with your fingerprint or by facial recognition; a voice may greet you and switch on your lights and favourite music. There are many more examples to be found in the literature.

3. Open doors; switch on lights along the paths you walk; play music; switch on air conditioning when temperature becomes too high; automatically orders groceries that run out of stock; notifies you that your neighbour needs you to look after her cat while she is away on holiday from today; sets off the garden sprinklers to water the plants, etc.

4. A smart home is one that uses the IoT to operate many activities automatically with the minimum of human intervention.

5. My smart home would have groceries ordered automatically, robotic floor cleaners and vacuum cleaners. Robots would also clean my kitchen and bathroom areas; send gifts and greeting cards to all my friends and family when necessary; utility payments would go out of my bank account automatically.

6. Location settings on mobile phones gives exact places, times and dates of your movements and tracks your whereabouts while you have your mobile devices with you. Criminals could track or stalk you and your house and you could be in danger.

7. If the network is down, some services may be delayed until it becomes operational again. You may have to reset some appliances to reconnect to your IoT in your home. This could be time-consuming.

8. There are excellent examples of how communities are joining using social media apps such as WhatsApp to inform group members of suspicious looking people or vehicles in their vicinity. In regions prone to natural disasters, like tsunamis, earthquakes and volcanoes, group notifications can be very helpful in warning people to evacuate in time.

9. Usually, this wouldn't happen as most technologies require 2-step authentication and don't only rely on one form of verification. Example is when you set up a new email account, you have to provide other ways to contact you, such as mobile number or physical address, etc.

10. The learners draw or find a picture of their ideal home entertainment centre.

Extension activity

Ask the learners to imagine what their dream home could work using the latest technology possible.

Task: 2 of 16	
Strand 1: Introduction to computing	
Sub-strand 4: Technology in the community	
Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.1 Describe how digital systems are used and could be used at home, in school and in the local community.

Performance indicator:

ALL learners will be able to describe how digital systems are used and could be used at home.

SOME learners will be able to describe how digital systems are used and could be used at home and at school.

FEW learners will be able to describe how digital systems are used and could be used at home, in school and the local community.

Core competencies:
1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: hologram, artificial intelligence, virtual reality, augmented reality

In this task:

Refer to page 47 of the Learner's Book for information on how digital systems can be used in schools.

Learners should refer to page 47 in the Learner's Book and use the worksheet to answer the questions on how digital systems can be used in schools.

Resources required

On CD

- Video: Bridging our future
- Worksheet Task 2_B4.1.4.1.1 Digital systems in schools.pdf

Phase 1: Start of task

Discuss this question with the class:
- What do you know about holographic teachers, artificial intelligence, virtual reality or augmented reality?

Possible answers:

Learners wouldn't even need to be in a school building; teachers and learners could be anywhere in world and still be receiving their daily tasks; school buildings will be solar-powered or use will be made of wind power technologies; more widely-used WiFi connectivity in schools; teachers roles' will be different.

Phase 2: Main

(New learning, including assessment)
- Use the video, 'Bridging the future' and read the information on page 47 of the Learner's Book.
- Learners must complete the worksheet after you have read to them and discussed with the whole class.

Phase 3: End of task

As a class, go through the correct answers and allow learners to self-assess their work.

Answers to worksheet: Digital systems in schools

Watch this video for the answer: https://www.youtube.com/watch?time_continue=40&v=ziIoUfzsk_Q

1. A holographic teacher can be anywhere else in the world as she teaches her classes all at the same time. Her classes could be in different countries all at the same time. One image of her is beamed to as many different learners as needs be and she is able to hear and speak to each learner just as she can in a normal classroom.

2. Artificial intelligence is defined as an expert system that can change the rules by which it operates according to the experience of what has happened in previous occurrences.

3. Robots can be trained to take the place of teachers. The video below is fun to watch.
https://www.youtube.com/watch?v=rjCkiNRM-FI

4. Interactive projectors allow multi-touch ability so learners can collaborate on learning tasks and it can be seen by many who are watching the projected screen.

5. Learners' own opinion.

6. Learners' own opinion.

7. Learners' own opinion.

Extension activity

Ask the learners to imagine how their dream school could work using the latest technology possible.

Task: 3 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.1 Describe how digital systems are used and could be used at home, in school and in the local community.
Performance indicator: **ALL** learners will be able to describe how digital systems are used and could be used at home. **SOME** learners will be able to describe how digital systems are used and could be used at home and at school. **FEW** learners will be able to describe how digital systems are used and could be used at home and at school and the local community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: 3D printing, digital files

In this task:

Refer to page 48 of the Learner's Book for information on how digital systems can be used in the community.

Learners should refer to page 47 of the Learner's Book and use the worksheet to answer the questions on how digital systems can be used in the community.

Resources required

On CD

- Worksheet Task 3_B4.1.4.1.1 Digital systems_Community.pdf

Phase 1: Start of task

Draw a mind map of things that are important in your community. Include things that might benefit from upgrading to using more digital systems.

Phase 2: Main

(New learning, including assessment)
- Refer to the information on 3D printing on page 48 of the Learner's Book, and watch this video:
  https://www.youtube.com/watch?v=wCzS2FZoB-I
- Learners must complete the worksheet after they have watched and discussed the video.

Phase 3: End of task

As a class, go through the correct answers and allow learners to self-assess their work.

Answers to worksheet: Digital systems in the community

Read the text on page 48 of the Learner's Book. In addition, watch this video:
https://www.youtube.com/watch?v=wCzS2FZoB-I

1. Printing whole real objects in 3 dimensions not just a 2 D printout on a piece of paper.
2. Kitchen accessories; specialised part of our vehicles; building bricks of houses; biological components to aid in human and animal organ repairs and replacements; printing food; printing artificial body organs, such as the liver, hearts, skin tissue, etc.
3. No, not sure if it will taste the same or worse than normal food. Yes, it might be more perfect as it will follow tried and tested recipes every time.
4. Yes, because 3D printed housing costs much less than conventional building costs.
5. Advantages:
   - More people can afford the lower-cost housing
   - It's healthier to have better housing
   - Reduce crime as it will alleviate poverty

Disadvantages:
- Some locations may need to transport building materials from far away thereby making their printing costs increase.
- It's still not cheaper than free housing.
- Using the 3D printer to build houses requires people to re-train in using it for this purpose.

Extension activity

Ask the learners to imagine what their dream community could look like using the latest technology possible.

Task: 4 of 16	
Strand 1: Introduction to computing	
Sub-strand 4: Technology in the community	
Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.3 Describe how a range of digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community.

Performance indicator:

ALL learners will be able to describe how a range of some digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community.

SOME learners will be able to describe how a range of most digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community.

FEW learners will be able to describe how a wide range of digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: energy-efficient gadgets, solar heating

In this task:

The teacher should divide the learners into groups who should prepare presentations on their assigned topic. Ensure that learners have access to the resources they require to prepare good presentations.

Learners should research the latest energy-efficient gadgets on the internet and complete their worksheet.

Resources required

On CD

There are no files on the CD for this task.

Phase 1: Start of task

Divide learners into groups of three or four. Each group will prepare to present their work on one topic and evaluate the other groups during presentation time. Explain how this project works.

Phase 2: Main

(New learning, including assessment)
- Learners should research the latest technological developments on the internet and prepare their presentations. The topics are:
  Group 1 – Artificial intelligence in the workplace
  Group 2 – Commercial space travel
  Group 3 – Driverless cars
  Group 4 – Implantable technologies
  Group 5 – Augmented reality
  Group 6 – Computer gaming
  Group 7 – Future transport technology
- If there are more than seven groups in the class, assign some of the same topics twice.
- Give the learners support and guidance to understand and be able to explain the technological development involved for their topic.

Evaluation criteria
- Topic content must be accurate.
- The title and/or key terms used must be explained in the presentation.
- The presentation must includeat least two examples.

- The presentation must not be longer than three minutes.
- The presentation should include pictures or images.
- The presentation should be a short explanation of the latest energy-efficient technological development for their topic.
- The presenter(s) should answer questions from the class.

Phase 3: End of task

Check that learners are ready for their presentations during the next task.

Low-resource school

Refer to the relevant Learner's Book pages and ask the learners to make summaries of the section on digital systems in the community.

Extension activity

Ask the learners to imagine what their dream community, where the latest digital systems are used,could look like. Ask them to describe this community to the rest of the class.

Task: 5 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.3 Describe how a range of digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community.
Performance indicator: **ALL** learners will be able to describe how a range of some digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community. **SOME** learners will be able to describe how a range of most digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community. **FEW** learners will be able to describe how a wide range of digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: energy-efficient gadgets, solar heating	

In this task:

Divide the learners into groups who should prepare presentations on their assigned topic. Ensure that learners have access to the resources they require to prepare good presentations.

Learners should research the latest energy-efficient gadgets on the internet and complete their worksheet.

Resources required

On CD

Worksheet Task 5_B4.1.4.1.3 Evaluation of presentation.pdf

Phase 1: Start of task

Groups of learners will be presenting their projects in this task while those watching will be evaluating their peers' projects.

Phase 2: Main

(New learning, including assessment)

- Learners should present their projects based on the work they carried out in the previous task on the latest digital systems in the community. The topics are:
  Group 1 – Artificial Intelligence in the Workplace
  Group 2 – Commercial space travel
  Group 3 – Driverless Cars
  Group 4 – Implantable technologies
  Group 5 – Augmented Reality
  Group 6 – Computer Gaming
  Group 7 – Future Transport Technology

Learners should use **Worksheet Task 5_B4.1.4.1.3 Evaluation of presentation.pdf** to give a score to the other groups when they are presenting to the whole class.

Evaluation criteria:
- Topic content must be accurate.
- Must define the title or key terms used.
- Must have at least two examples.
- Must not be longer than three minutes.
- There should be pictures or images.
- There should be a short explanation.
- Presenters should answer questions from the class.

Phase 3: End of task

Check that all learners have had an opportunity to do their presentations for their peers.

Low-resource school

Refer to the relevant Learner's Book pages and ask the learners to make summaries of the section **Digital Systems in the Community.**

Extension activity

Ask the learners to imagine what their dream toy or recreational hobby appliance could look like using the latest digital systems that's possible. They can search for relevant videos on YouTube.

Task: 6 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.1 Identify and list common examples of energy-efficient gadgets and techniques used in homes, in schools and in the local communities.
Performance indicator: **ALL** learners will be able to identify how digital systems are used and could be used at home. **SOME** learners will be able to identify how digital systems are used and could be used at home and at school. **FEW** learners will be able to identify how digital systems are used and could be used at home, in school and the local community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: energy-efficient gadgets, solar heating

In this task:

Use the video for information on how an energy-efficient washing machine can be used in the community.

Learners should research the latest energy-efficient gadgets on the internet and complete their worksheet.

Resources required

On CD

- Worksheet Task 6_B4.1.4.1.2 Energy-efficient gadgets.pdf

Phase 1: Start of task

Watch this exciting prospect for a real energy-efficient washing machine of the future:
https://www.youtube.com/watch?v=LYp8R_CuMl0

Phase 2: Main

(New learning, including assessment)
Learners should research the latest energy-efficient gadgets on the internet and complete their worksheet.

Phase 3: End of task

As a whole class, go through the correct answers and allow learners to say how well they think they have mastered the work.

Low-resource school

If the learners do not have access to the internet to research the latest energy-efficient gadgets, they can refer to magazines or newspapers, or do research in a library. They can also talk to family members or other adults who may be able to give them information.

Answers to Activity 1.14

1. Learners complete the table based on their own opinion.
2. There are many possible responses. Accept any reasonable answers. Possible answers include the following:
   - Reduce the temperature of water heated in a hot water cylinder.
   - Make sure that all electrical gadgets and appliances are turned off at night and when not in use.
   - Don't switch on lights unless you really need them.
   - Seal your home against draughts and leaks.

Extension activity

Ask the learners to imagine what their dream community could look like, using the latest, most energy-efficient technologies possible.

Task: 7 of 16	
Strand 1: Introduction to computing	
Sub-strand 4: Technology in the community	
Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.4 Identify technological changes in the community.
Performance indicator: **ALL** learners will be able to identify some technological changes in the community. **SOME** learners will be able to identify many technological changes in the community. **FEW** learners will be able to identify most technological changes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: automated irrigation, eco-friendly pesticides and manure, drones	

In this task:

Divide the learners into groups who should prepare short movies on their assigned topic. Ensure that learners have access to the resources they require to prepare good short movies.

Learners should research the changes in the technologies used in agricultural practices in the community. Collect images and pictures on the internet and use them to create a short movie.

Resources required

On CD

- Worksheet Task 7_B4.1.4.1.4 Identify tech changes in community.pdf

Phase 1: Start of task

Groups of learners will be gathering images and drawing their story line to create their short movies for their topics.

Phase 2: Main

(New learning, including assessment)
- Learners should prepare by collecting and saving pictures on their topics in a folder on their computers.
- The topics are:
  Group 1 – Automated Irrigation
  Group 2 – Eco-friendly pesticides and manure
  Group 3 – The use of drones in agriculture
  Group 4 – Hydroponics
  Group 5 – Greenhouse farming
  Group 6 – Fish farming
  Group 7 – Vertical farming
  Group 8 – Robots in agriculture
- In the tasks that follow, the learners will use ane valuation sheet to give a score to the other groups when they are presenting their movies to the whole class.

Evaluation criteria:
- Topic pictures or images must match the theme.
- Must define the title or key terms used.
- Must have some audio or sound.
- There should be pictures or images.
- There should be a short explanation.
- Movies should pose two questions and also answer these questions as part of the movie.

Phase 3: End of task

Check that all the learners have had an opportunity to do their presentations for their peers.

Low-resource school

Refer to page 50 in the Learner's Book. Ask the learners to make summaries of the section 'Digital systems in the community'.

Extension activity

Ask the learners to describe their dream school, which would use the latest digital systems.

Task: 8 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1
Demonstrate the use of technology in the community.

Indicator: B4.1.4.1.4
Identify technological changes in the community.

Performance indicator:

ALL learners will be able to identify some technological changes in the community.

SOME learners will be able to identify many technological changes in the community.

FEW learners will be able to identify most technological changes in the community.

Core competencies:
1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: automated irrigation

In this task:
Allow Group 1's movie to be screened. Ask the rest of the class to use the evaluation sheet to evaluate the movie. Use the presentation to provide further information to generate discussion and allow learners to complete the worksheet on the topic of automated irrigation.

Learners should use the information from Group 1's movie and the information in the Learner's Book on this topic to complete the worksheet.

Resources required

Learner's Book page 50

On CD

- Worksheet Task 8_Automated irrigation systems.pdf
- Worksheet Tasks 8-15_B4.1.4.1.4 Evaluation of movie.pdf

Phase 1: Start of task

Screen Group 1's movie now. Ask the learners to use the evaluation sheet to evaluate the movie.

Phase 2: Main

(New learning, including assessment)
- Follow the link and let the learners watch the video to find out more about identifying technological changes in automated irrigation in the community.
  https://www.youtube.com/watch?v=O5alY311d1A
- Learners should do the following:
  - Evaluate the short movie.
  - Watch the short video about automated irrigation.
  - Refer to page 50 of the Learner's Book.
  - Complete the worksheet on automated irrigation systems.

Phase 3: End of task

Allow the learners more time to complete all the activities.

Answers to worksheet: Automated irrigation systems

1. It is a way to ensure that crops are watered only when needed. It doesn't need anyone to open the taps because sensors and motors are programmed to open the taps and close them according to need.
2. It saves the farmer a lot of time and labour costs because it doesn't rely on watching the weather and checking the dryness of the soil. When the crop is dry it will automatically water the crops and when it has enough water, it will stop the watering. This is also good for a good yield and ensures the economic survival of the crop.
3. All crops could benefit from using automated irrigations systems.
4. Costs of setting up; proximity to water sources – farms closer to water sources would spend less on watering than those that are further away.

Extension activity

Here is an interesting video. Learners could perhaps build the system as part of the extension activity:
https://www.youtube.com/watch?v=IEXIoSWGcVY

Task: 9 of 16	
Strand 1: Introduction to computing	
Sub-strand 4: Technology in the community	
Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.4 Identify technological changes in the community.
Performance indicator: **ALL** learners will be able to identify some technological changes in the community. **SOME** learners will be able to identify many technological changes in the community. **FEW** learners will be able to identify most technological changes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: eco-friendly pesticides, organic, ecosystems	
In this task: Allow Group 2's movie to be screened. Ask the rest of the class to use the evaluation sheet to evaluate the movie. Use the video to provide further information to generate discussion and allow learners to complete the worksheet on the topic of Eco-friendly pesticides in the community. **Learners should** use the information from Group 2's movie and the information in the Learner's Book on this topic to complete the worksheet.	

Resources required

On CD

- Worksheet Task 9_B4.1.4.1.4 Using smartphones to assess need for pesticides.pdf

- Worksheet Tasks 8-15_B4.1.4.1.4 Evaluation of movie.pdf

Phase 1: Start of task

Screen Group 2's movie now. Ask the learners to use the evaluation sheet to evaluate the movie.

Phase 2: Main

(New learning, including assessment)
- Let the learners watch these two videos to find out more about identifying technological changes in Eco-friendly pesticides and manure in the community.
  https://www.youtube.com/watch?v=PxQcnxSbivQ and https://www.youtube.com/watch?v=5ga_Af-Gs4c
- Learners should do the following:
  - Evaluate the short movie.
  - Refer to page 50 of the Learner's Book.
  - Complete the worksheet on eco-friendly pesticides and manure.

Phase 3: End of task

Allow the learners more time to complete all the activities.

Extension activity

Ask the learners to imagine what a highly mechanised and technologically advanced farm could look like using the latest digital systems in the community that's possible.

Task: 10 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.4 Identify technological changes in the community.
Performance indicator: **ALL** learners will be able to identify some technological changes in the community. **SOME** learners will be able to identify many technological changes in the community. **FEW** learners will be able to identify most technological changes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: drone, automation, monitoring

In this task:

Allow Group 3's movie to be screened. Ask the rest of the class to use the evaluation sheet to evaluate the movie. Use the video to provide further information to generate discussion and allow learners to complete the worksheet on the topic of drones in farming.

Learners should use the information from Group 3's movie and the information in the Learner's Book on this topic to complete the worksheet.

Resources required

On CD

- Worksheet Task 10_B4.1.4.1.4 Drones.pdf
- Worksheet Tasks 8-15_B4.1.4.1.4 Evaluation of movie.pdf

Phase 1: Start of task

Screen Group 3's movie now. Ask the learners to use the evaluation sheet to evaluate the movie.

Phase 2: Main

(New learning, including assessment)
- Let the learners watch the videobelow to find out more about identifying technological changes in drones used in farming.
  https://www.youtube.com/watch?v=du7wJX6hEP4
- Learners should do the following:
  - Evaluate the short movie.
  - Watch the video on drones in farming.
  - Refer to page 52 of the Learner's Book.
  - Complete the worksheet.

Phase 3: End of task

Allow the learners more time to complete all the activities.

Answers to worksheet: Drones

1. The learners must use their own words to explain what a drone is.
   Sample answer:
   An agricultural drone is a device that is controlled from a distance so that it can fly. It can be used to improve crops and monitor how crops grow. The drone has sensors and can take photographs to give the farmers a clear picture of their fields. A drone can also do regular surveys of the farmer's land.

2. Yes, because it highlights certain parts of the field where a problem might be starting. The farmer can act on this information and do something about it before it spreads to the other plants around the problem area. This helps to produce better crop yields.

3. Farmers are alerted to problems as soon as they arise, thereby giving the farmer an opportunity to act and save the rest of his crop. Farmers get higher yields per crop than if not using a drone for early detection of problems.

4. Drone technology might be too expensive; it might require specialist training to use the drone and the computer system that goes with it; There may not be internet connectivity or GPS tracking availability.

Extension activity

Ask the learners to imagine what a highly mechanised and technologically advanced farm that uses drones effectively could look like using the latest digital systems in the community that's possible.

Task: 11 of 16
Strand 1: Introduction to computing
Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.4 Identify technological changes in the community.
Performance indicator: **ALL** learners will be able to identify some technological changes in the community. **SOME** learners will be able to identify many technological changes in the community. **FEW** learners will be able to identify most technological changes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: hydroponics, nutrients, water-based, solar-powered machinery

In this task:

Allow Group 4's movie to be screened. Ask the rest of the class to use the evaluation sheet to evaluate the movie. Use the video to provide further information to generate discussion and allow learners to complete the worksheet on the topic of hydroponics in farming.

Learners should use the information from Group 4's movie and the information in the Learner's Book on this topic to complete the worksheet.

Resources required

On CD

- Worksheet Task 11_Digital technology in hydroponics.pdf
- Worksheet Tasks 8-15_B4.1.4.1.4 Evaluation of movie.pdf

Phase 1: Start of task

Screen Group 4's movie now. Ask the learners to use the evaluation sheet to evaluate the movie.

Phase 2: Main

New learning, including assessment)
- Let the learners watch the video below to find out more about technological changes in hydroponics:
  https://www.youtube.com/watch?v=gVylIilQ1ts
- Learners should do the following:
  - Evaluate the short movie.
  - Watch the video on hydroponics.
  - Refer to the Learner's Book on page 50.
  - Complete the worksheet.

Phase 3: End of task

Allow the learners more time to complete all the activities.

Extension activity

Ask the learners to imagine what a highly mechanised and technologically advanced farm that uses hydroponics effectively could look like using the latest digital systems in the community that's possible.

Task: 12 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.4 Identify technological changes in the community.
Performance indicator: **ALL** learners will be able to identify some technological changes in the community. **SOME** learners will be able to identify many technological changes in the community. **FEW** learners will be able to identify most technological changes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: controlled temperatures, moisture control

In this task:

Allow Group 5's movie to be screened. Ask the rest of the class to use the evaluation sheet to evaluate the movie. Use the video to provide further information to generate discussion and allow learners to complete the worksheet on the topic of green house farming.

Learners should use the information from Group 5's movie and the information in the Learner's Book on this topic to complete the worksheet.

Resources required
Learner's Book page 50

On CD

- Worksheet Task 12_B4.1.4.1.4 Digital technologies in greenhouse farming.pdf
- Worksheet Tasks 8-15_B4.1.4.1.4 Evaluation of movie.pdf

Phase 1: Start of task

Screen Group 5's movie now. Ask the learners to use the evaluation sheet to evaluate the movie.

Phase 2: Main

(New learning, including assessment)
- Let the learners watch the video below to find out more about technological changes in greenhouse farming.
  https://www.youtube.com/watch?v=7SzB84fw0q4
- Learners should do the following:
  - Evaluate the short movie.
  - Watch the video on green-house farming technologies.
  - Complete the worksheet.

Phase 3: End of task

Allow the learners more time to complete all the activities.

Extension activity

Ask the learners to imagine what a highly mechanised and technologically advanced farm that uses greenhouse farming could look like using, the latest digital systems in the community.

Task: 13 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.4 Identify technological changes in the community.
Performance indicator: **ALL** learners will be able to identify some technological changes in the community. **SOME** learners will be able to identify many technological changes in the community. **FEW** learners will be able to identify most technological changes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: controlled temperatures, moisture control

In this task:

Allow Group 6's movie to be screened. Ask the rest of the class to use the evaluation sheet to evaluate the movie. Use the video to provide further information to generate discussion and allow learners to complete the worksheet on the topic of fish farming.

Learners should use the information from Group 6's movie and the information in the Learner's Book on this topic to complete the worksheet.

Resources required

On CD

- Worksheet Task 13_B4.1.4.1.4 Digital technologies in fish farming.pdf
- Worksheet Tasks 8-15_B4.1.4.1.4 Evaluation of movie.pdf

Phase 1: Start of task

Screen Group 6's movie now. Ask the learners to use the evaluation sheet to evaluate the movie.

Phase 2: Main

(New learning, including assessment)
- Let the learners watch the video below to find out more about technological changes in Fish Farming:
  https://www.youtube.com/watch?v=0VKbdIKmPac
- Learners should do the following:
  - Evaluate the short movie.

- Watch the video on fish farming.
- Complete the worksheet.

Phase 3: End of task

Allow the learners more time to complete all the activities.

Extension activity

Ask the learners to imagine what a highly mechanised and technologically advanced fish farm could look like, using the latest digital systems in the community.

Task: 14 of 16

Strand 1: Introduction to computing

Sub-strand 4: Technology in the community

Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.4 Identify technological changes in the community.
Performance indicator: **ALL** learners will be able to identify some technological changes in the community. **SOME** learners will be able to identify many technological changes in the community. **FEW** learners will be able to identify most technological changes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: controlled temperatures, moisture control

In this task:

Allow Group 7's movie to be screened. Ask the rest of the class to use the evaluation sheet to evaluate the movie. the video to provide further information to generate discussion and allow learners to complete the worksheet on the topic of vertical farming.

Learners should use the information from Group 7's movie and the information in the Learner's Book on this topic to complete the worksheet.

Resources required
Learner's Book page 50

On CD

- Worksheet Task 14_B4.1.4.1.4 Digital technologies in vertical farming.pdf
- Worksheet Tasks 8-15_B4.1.4.1.4 Evaluation of movie.pdf

Phase 1: Start of task

Screen Group 7's movie now. Ask the learners to use the evaluation sheet to evaluate the movie.

Phase 2: Main

(New learning, including assessment)
- Let the learners watch the video below to find out more about technological changes in Vertical Farming
  https://www.youtube.com/watch?v=-_tvJtUHnmU
- Learners should do the following:
  - Evaluate the short movie.
  - Watch the video on vertical farming.
  - Refer to page 50 of the Learner's Book.
  - Complete the worksheet.

Phase 3: End of task

Allow the learners more time to complete all the activities.

Answers to worksheet: Vertical farming

1. A vertical farm is a high-rise building that grows crops indoors stacking the growing boxes high up vertically. Traditional farms are usually spread out over many hectares of ground space, but a vertical farm uses a much smaller area.

2. Food can be produced closer to where it is needed such as in the heart of large cities; it reduces the need to be transported over long distances.

3. Mostly fruits, salad greens, mushrooms, etc. Grains and potatoes would not be ideal crops in vertical farms because they are heavier than most fruits, salad greens and mushrooms.

4. Technical know-how; costs of setting up

Extension activity

Ask the learners to imagine what a highly mechanised and technologically advanced farm that uses vertical farming effectively could look like, using the latest digital systems in the community.

Task: 15 of 15	
Strand 1: Introduction to computing	
Sub-strand 4: Technology in the community.	
Content standard: B4.1.4.1 Demonstrate the use of technology in the community.	**Indicator:** B4.1.4.1.4 Identify technological changes in the community.
Performance indicator: **ALL** learners will be able to identify some technological changes in the community. **SOME** learners will be able to identify many technological changes in the community. **FEW** learners will be able to identify most technological changes in the community.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: programmed	

In this task:

Allow Group 8's movie to be screened while the rest of the class evaluate it using the evaluation sheet. Use the video to provide further information to generate discussion and allow learners to complete the worksheet on the topic of robots in farming.

Learners should use the information from Group 8's movie and the information in the Learner's Book on this topic to complete the worksheet.

Resources required

On CD

- Worksheet Task 15_B4.1.4.1.4 Robots in agriculture.pdf
- Worksheet Tasks 8-15_B4.1.4.1.4 Evaluation of movie.pdf

Phase 1: Start of task

Ask learners to make a list of all the things robots can do. As a whole class discussion, compare some of these together.

Phase 2: Main

(New learning, including assessment)
- Let the learners watch the video below to find out more about how robots are being used in farming
  https://www.youtube.com/watch?v=vtwNKga6thw
  https://www.youtube.com/watch?v=tLjI_eixBQk
- Learners should do the following:
  - Evaluate the short movie
  - Watch the video on Robots in farming
  - Complete the worksheet

Phase 3: End of task

Allow the learners more time to complete all the activities.

Answers to worksheet: Robots in agriculture

1. Robots can be programmed to carry out most of the jobs previously done by farm labourers. Jobs such as planting seeds, thinning out and re-planting, etc. can all be done by robots.

2. Robots can work for as long as their batteries or power source is on, so production increases. Automation reduces the number of farm labourers. Crop yields improve.

3. Dairy farming because it is very limiting if you haven't got enough guaranteed staff to help milk the cows regularly. You may be able to wait another day to pick most crops, but you cannot delay for long when a cow needs to be milked.

4. Robots are very expensive technology at this point in its development and not many businesses can afford to buy them.

Extension activity

Ask the learners to imagine what a highly mechanised and technologically advanced farm that uses robots in farming effectively could look like, using the latest digital systems in the community.

Check your progress

The learners can use the checklist on page 54 of the Learner's Book to monitor their own progress.There are no correct or incorrect answers to these questions.

Strand 2: Presentation

Introduction

In Strand 2 – Presentation, teachers can expect to introduce Microsoft PowerPoint as a presentation software package and explore the tabs and ribbons in Microsoft PowerPoint.

The pedagogical approach to this strand is more exploratory because this strand is merely an introduction to the presentation software, Microsoft PowerPoint.

In the first of the three tasks, teachers should allow learners to become familiar with the key words relating to presentation software and to use the software to explore the extent of its capability.

In the second task, learners will create their own presentations and self-assess according to a set of pre-determined criteria.

In the last task, learners continue editing their own presentations.

The Extension Activities in the Course Book allow learners to practice their skills in creating presentations using the tabs and ribbons in Microsoft PowerPoint to a higher level, preferably for the more able learners. However, pairing and grouping learners with mixed abilities might prove be a more inclusive strategy, where the more able learners can assist the less able learners in a less formal setting.

Teachers are encouraged to reflect on what worked well and what did not work well in every task, in order to constantly improve their teaching practice. Reflect on how group work and presenting as a group helps to develop the learners' confidence to speak to larger groups. Are there any other strategies that might work better to assist learners of all abilities in future tasks?

In order to ascertain the prior knowledge that learners should have encountered before learning about the topics in this strand, teachers could use the set of TRUE or FALSE questions given in the Learner's Book. The questions could be used individually or in sets related to the sections being planned for learning.

Statements	True/False
Many slides make up one presentation.	True
Text on a slide must include full explanations and not just brief key words using bullet points.	False
Presentations without any animation are boring to watch.	True or False
There should always be sound or music in a presentation.	False
Slides are much more interesting with background colours or images.	True or False
You cannot use videos in presentations because they should be used on their own.	False
Presentation software, such as Microsoft PowerPoint has all the same tabs as any other Office 365 software package, except that the others cannot create slides shows with transitions and animations.	True

Task: 1 of 3

Strand 2: Presentation

Sub-strand 1: Introduction to MicrosoftPowerPoint (Tabs and ribbons of Microsoft PowerPoint)

Content standard: B4.2.1.1 Demonstrate how to use Microsoft PowerPoint.	**Indicator:** B4.2.1.1.1 Demonstrate the use of use of the Clipboard, Slides, Font, Paragraph and Editing groups on the Home tab.
Performance indicator: **ALL** learners will be able to demonstrate the use of Clipboard, Slides, Font, Paragraph and Editing on the Home tab. **SOME** learners will be able to demonstrate the use of Clipboard, Slides, Font, Paragraph and Editing on the Home tab. **FEW** learners will be able to demonstrate the use of Clipboard, Slides, Font, Paragraph and Editing on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: Ribbon, Clipboard, Font, Paragraph, Editing, Home tab, formatting, icon, save, repeat, open files, undo, Quick Access Toolbar, menu

In this task:

Refer to the Learner's Book to explore the use of the icons under each tab on the Home tab.

Learners should use the worksheet and screenshot their evidence of the icons for commands on the Home tab.

Resources required

On CD

• Worksheet Task 1_B4.2.1.1.1 Use of Clipboard, Slides, Fonts, Paragraph, Editing.pdf

Phase 1: Start of task

Play the game 'Clever ball' with the key words.
• Stick small bits of paper with a word from the key words list onto a large soft ball with sticky tape.
• Throw the ball around the class for each learner to take one paper with a word off.
• Open a Microsoft PowerPoint screen and display the Home tab.
• Enlarge and project it onto the board. Ask the learners to come up to point out where their word is on the board.

Phase 2: Main
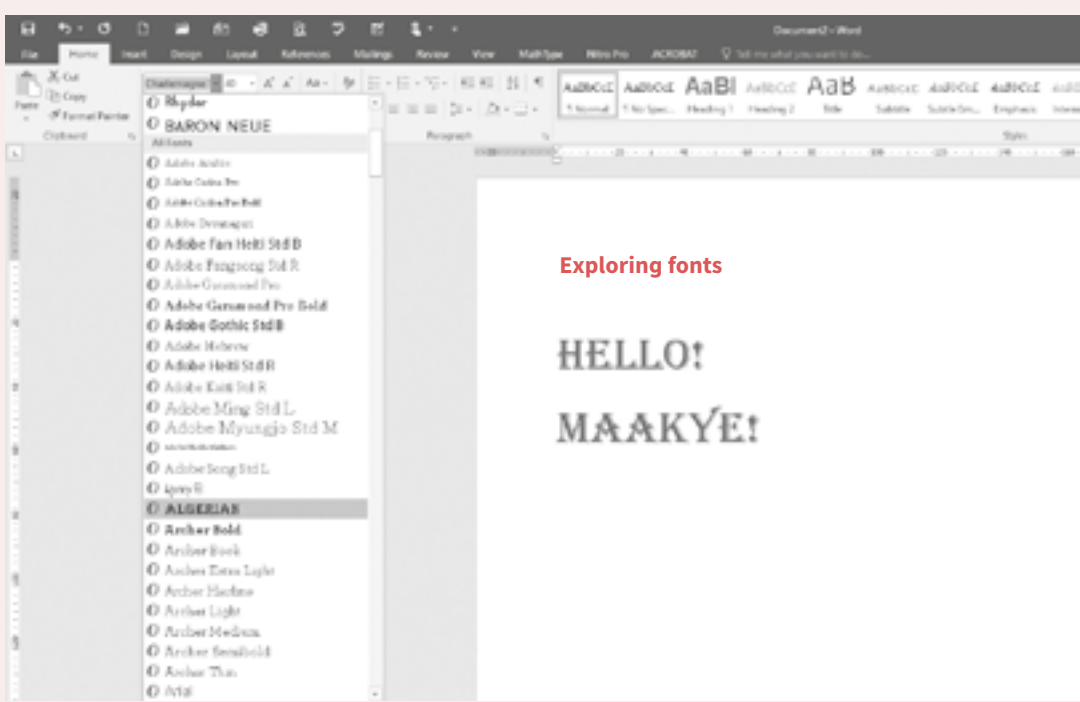
(New learning, including assessment)
Demonstrate by opening the Home tab. Allow learners to open their Microsoft PowerPoint applications and their worksheets and answer the questions on the worksheet. Ask them to screenshot their evidence and paste it on the on the worksheet, showing the location of the groups and commands on the Home tab.

Phase 3: End of task

Ask the learners to write down two questions about what they learnt today. Let them swap their questions with a classmate for answering the questions. Return the answers and let learners assess and give feedback to their classmates. Allow discussion to correct any errors.

Answers to worksheet: Use of Clipboard, Slides, Fonts, Paragraph, Editing

Icon	Screenshot of where each tab is
Home tab	
Quick Access Toolbar	
Clipboard	
Font	Exploring fonts HELLO! MAAKYE!
Paragraph	
Editing group	

Save	
Repeat	
Undo	

Low-resource school

If you do not have a projector available to project the PowerPoint screen onto the board, make a simple drawing of the Home tab on the board.

Answers to Activity 2.1

Learners should have spent a little time discovering the type of functions available from the Ribbon.

Answers to Activity 2.2

abc	Strikethrough. Puts a line across any letters or words that have been highlighted.
A	Font colour. Clicking of the button with a red line under it would make any highlighted text red. Other colours can be chosen from the drop-down arrow. The line underneath would change to the chosen colour.
↑≡	Line and Paragraph spacing. Allows you to choose the amount of space between lines.

Task: 2 of 3

Strand 2: Presentation

Sub-strand 1: Introduction to Microsoft PowerPoint (Tabs and ribbons of Microsoft PowerPoint)

Content standard: B4.2.1.1	**Indicator:** B4.2.1.1.1
Demonstrate how to use Microsoft PowerPoint.	Demonstrate the use of use of the Clipboard, Slides, Font, Paragraph and Editing groups on the Home tab.

Performance indicator:

ALL learners will be able to demonstrate the use of the Clipboard, Slides, Font, Paragraph and Editing on the Home tab.

SOME learners will be able to demonstrate the use of Clipboard, Slides, Font, Paragraph and Editing on the Home tab.

FEW learners will be able to demonstrate the use of Clipboard, Slides, Font, Paragraph and Editing on the Home tab.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: multi-slide presentation, slide show

In this task:

Use **Presentation Task 2_B4.2.1.1.2 Creating a 3-slide presentation.pptx** to illustrate the use of clipboard, slides, fonts, paragraph and editing in the Home tab in this task.

Learners should create a three-slide presentation titled 'My favourite food' that shows the use of Clipboard, Slides, Font, Paragraph and Editing on the Home tab.

Resources required

On CD

• Presentation Task 2_B4.2.1.1.2 Create a 3-slide presentation.pptx

Phase 1: Start of task

Use the **Presentation Task 2_B4.2.1.1.2 Create a 3-slide presentation.pptx** and allow learners to use Clipboard, Slides, Font, Paragraph and Editing on the Home tab.

Phase 2: Main

(New learning, including assessment)
Refer learners to the Learner's Book pages 70–71and use the presentation to talk learners through the stages of inserting images, selecting the slide layouts and selecting fonts.

Phase 3: End of task

Select one of best presentations in the class and ask the learners to evaluate it against the criteria listed below:

• Create a three-slide presentation titled 'My favourite food'.
• It must be colourful.
• It must include shapes or drawings.
• It must include text.
• It must include different fonts, in different colours and sizes.

Low-resource school

If the learners do not have computers available, ask them to design three slides on paper. They must add annotation that explains what each element would have been in a digital file, and how they would have applied each function if they had been working with slides.

Answers to Activity 2.3 Learner's Book page 71

1. The Clipboard, Slides, Font, Paragraph, Drawing
2. Answers will vary based on the groups' presentations

Task: 3 of 3

Strand 2: Presentation

Sub-strand 1: Introduction to Microsoft PowerPoint (Tabs and ribbons of Microsoft PowerPoint)

Content standard: B4.2.1.1 Demonstrate how to use Microsoft PowerPoint.	**Indicator:** B4.2.1.1.2 Show a three-slide presentation using the Clipboard, Slides, Font, Paragraph and Editing groups on the Home tab.
Performance indicator: **ALL** learners will be able to demonstrate the use of the Clipboard, Slides, Font, Paragraph and Editing groups on the Home tab. **SOME** learners will be able demonstrate the use of the Clipboard, Slides, Font, Paragraph and Editing groups on the Home tab. **FEW** learners will be able to demonstrate the use of the Clipboard, Slides, Font, Paragraph and Editing groups on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: replace, font, WordArt, align

In this task:

Use slides 7 and 8 in **Presentation Task 2_B4.2.1.1.2 Create a 3-slide presentation.pptx** to illustrate the function ofthe Home tab in this task. Allow learners to continue where they left off in the previous task.

Learners should continue to create a three-slide presentation titled 'My favourite food', that shows the use of the Clipboard, Slides, Font, Paragraph and Editing groups on the Home tab

Resources required Learner's Book pages 71–72

On CD

- Presentation Task 2_B4.2.1.1.2 Create a 3-slide presentation.pptx

Phase 1: Start of task

Use the **Presentation Task 2_B4.2.1.1.2 Create a 3-slide presentation.pptx** and to recap how learners can use Clipboard, Slides, Font, Paragraph and Editing in the Home tab.Revise the key words.

Phase 2: Main

(New learning, including assessment)
Refer learners to the Learner's Book page 71. Use the presentation focusing on the last two slides, 7 and 8, to

talk learners through the stages of editing their slides.

Phase 3: End of task

Select one of best presentations in the class and ask the learners to evaluate it against the criteria listed below: Award 1 point for each of the criteria that have been met and allow learners to feedback to each other. Allow discussion about how to improve to take place.

Extension activity

Ask the more able learners to create a five-slide presentation on any topic that interests them.

Answers to Activity 2.4
Learner's Book pages 73–75

This activity is to test the appreciation of the needs of two different audiences for the same presentation. The first file will be suitable for a young audience, the second for a much older audience. There will need to be a check on both files to give feedback.

- design has been drawn to include (most of):
  - size, style and colour of font
  - position of text, right left or centre
  - a bullet point list
  - name of the template you have chosen.
- three slides will have been created
  - the first slide contains the title
  - the second slide has a list of subjects to be addressed in the presentation
  - the third slide has some (correct) information about the chosen subject
- suitable language, style, colours for learners aged 10–13 years
- presentation saved, then re-saved, using the Save As function to call the file 'Audience 2'
- notes made of the changes to make to the presentation for the older audience
- changes made and file saved.

Answers to Activity 2.5
Learner's Book page 75

Read the text in the Learner's Book with the class and guide them to follow the instructions.

1. There should be a paper copy of the typical audience.
2. The name of the cinema plus at least one of the following: address of cinema, phone number or email address appears on one of the slides.
3.–5. The learners should provide a notes and drawings on paper that include details of the intended formatting techniques. The completed presentation should match the design on paper.

Check your progress

Learners use the self-assessment questions on page 78 of the Learner's Book to check their progress.

Introduction

In Strand 3 – Word Processing, is merely an introduction to using Microsoft Word and the commands in the Home tab on the Ribbon. In particular, learners will explore how to use the commands in the Clipboard, Styles, Font, Paragraph and Editing groups.

Strand 3 is set out as follows:
- teacher demonstration presentations with worksheets for learners to use at the beginning of each section, such as the clipboard, styles, etc.
- learners try to create and edit their own word-processed documents using the worksheets provided
- assessments to consolidate learning for each section
- extension activities are included to challenge the more able learners but grouping learners into mixed ability groups and pairs to give learners opportunities for collaborative work and peer-reviews

The pedagogical approaches are varied but focuses on developing learners' skills for life, active learning, and peer and self-assessment opportunities. Task plans include ideas of providing evidence using screenshots to illustrate their ability to use the features in a word-processor.

Reflective practice on what worked well and what did not work well in every task is highly recommended in order to constantly improve teaching practices. Consider the impact of teacher demonstrations followed by learners creating and editing their own documents.

In order to ascertain the prior knowledge that learners should have encountered before learning about the topics in this strand, teachers could use the set of TRUE or FALSE questions given in the Learner's Book. The questions could be used individually or in sets related to the sections being planned for learning.

Statements	True/False
The Home tab includes the Clipboard, Font, Paragraph, Styles and Editing groups.	True
The Paragraph commands allow you to edit the layout in your paragraphs, by setting the indentation and line spacing.	True
The Font group allows you to change the font type, font size, font colour and insert WordArt.	False
The Home tab allows you to insert pictures, shapes and headers and footers.	False
The Stylesgroup allows you to customise the images and text in a document.	False
Clipboard allows you to see all the items that you've copied.	True

Task: 1 of 18

Strand 3: Word processing

Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)

Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.1 Demonstrate how to use the clipboard.
Performance indicator: **ALL** learners will be able to create a new document and use the commands in the Home tab. **SOME** learners will be able to create a new document and use the commands in the Home tab. **FEW** learners will be able to create a new document and use the commands in the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: Start screen, file, template, create, blank, letterhead

In this task:

The teacher should demonstrate how to create a new document and how to use a template.

Learners should watch the presentation by the teacher, refer to pages 79–83 in the Learner's Book.

Resources required

On CD

- Worksheet Task 1_B4.3.1.1.1 Create a new document.pdf

Phase 1: Start of task

This is an introductory activity to introduce the learners to Microsoft Word. Refer to pages 79–83 in the Learner's Book and make sure that the learners understand the procedure of creating a new document.

Phase 2: Main

(New learning, including assessment)
- Use Worksheet Task 1_B4.3.1.1.1 Create a new document.pdf
- Explain the procedure of creating a new document In Microsoft Word.

Phase 3: End of task

- Let the learners refer answer the questions on the worksheet.

Answer for worksheet: Create a new document
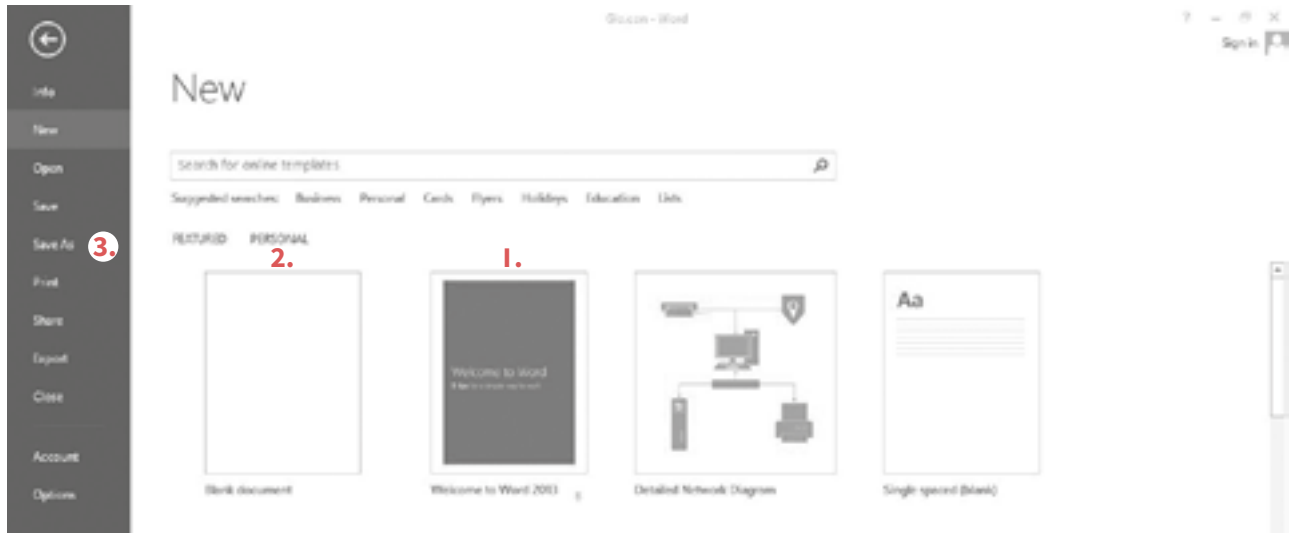
Answers to Activity 3.1

1. Open the template called 'Basic cover letter'.

FIRST NAME

SURNAME

Address | Phone Number | Email Address

Date

Recipient Name
Title
Company
Address
City, County/Region, Postcode

Dear Recipient,

To get started straight away, simply tap any placeholder text (such as this) and start typing.

Wondering what to include in your cover letter? It's a good idea to include key points about why you're a great fit for the company and the best choice for the specific job. Of course, don't forget to ask for the interview – but keep it brief! A cover letter shouldn't read like a novel, no matter how great a plot you have.

Sincerely

Your Name

2. Click once where it says
   FIRST NAME
   SURNAME
   Notice that the words have become highlighted or selected. Do what the template says and type your imaginary sister's first name, followed by a surname (last name) underneath.

3. Do the same where it says Address / Phone number / Email address. Don't worry if you don't want to put a phone number, or haven't got an email address; just put in your address or the address of your school.

4. Click on 'Date' and type in the date.

5. Do the same for the rest of the details. Note that the Recipient means the person you are writing to followed by their address.

6. Copy the text in the Learner's Book for the main body of the letter.

7. Check your work carefully to make sure it is correct.

Task: 2 of 18

Strand 3: Word processing

Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)

Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.1 Demonstrate how to use the clipboard.
Performance indicator: **ALL** learners will be able to locate the clipboard and understand its basic function. **SOME** learners will be able to locate the clipboard and understand its functions. **FEW** learners will be able to locate the clipboard and understand its function and to customize their toolbar to include quick access to their clipboard.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing

In this task:

The teacher should demonstrate how to use the clipboard, where it can be located and what its functions are.

Learners should watch the presentation. Let them refer to pages 87–90 of the Learner's Book. Ask them to use the worksheet to answer the questions about the Clipboard.

Resources required

On CD

- Worksheet Task 2_B4.3.1.1.1 Using the Clipboard.pdf
- Presentation Task 2_B4.3.1.1.1 Using the Clipboard.pptx

Phase 1: Start of task

Create flash cards with all the key words on them and their meanings on the back of them. Divide the class into two groups and ask each group, in turn, to try to explain what each word might mean. If group A gets it wrong, then group B can try. If group A got it wrong and group B got their question right, then group B gets 2 points. If a group gets their own question right, then they get just 1 point. The group with the most points wins.

Phase 2: Main

(New learning, including assessment)
- Use **Presentation Task 2_B4.3.1.1.1 Using the Clipboard.pptx**.
- Learners must complete the worksheet as you go through the presentation with the class.

Phase 3: End of task

Let the learners refer to slide 7 of **Presentation Task 2_B4.3.1.1.1 Using the Clipboard.pptx** to check their answers.

Answer for worksheet: Using the Clipboard in the Home tab of Microsoft Word

1. I'd be buying a plastic board with a clip at the top to hold my pieces of paper that I can write on. I'd usually place an exam pad under the clip. It would serve to hold my paper in place while I can write on it, especially if I have to walk around and keep writing. It's better than writing in a book while trying to walk around and write.

2. A clipboard in a software package is a temporary storage place to store anything I have copied or cut and need to paste somewhere else.

3. One is a physical item that I can touch and hold onto with my hands and the other is software which is on my computer and I cannot touch it with my bare hands. Their functions are similar in that the papers being held down by the clip on the hard clipboard eventually get filed in a file and so it also acts like a temporary storage while I am working on a project at that time but it does not stay on the clipboard forever. It must be taken off the clipboard and placed in the correct place where it will remain on a permanent basis, like a book or file or as in the software clipboard, in a presentation or another software document.

> ## Low-resource school
> **Use the worksheet and the answers together with the presentation as printed handouts.**

> ## Answers to Activity 3.2   Learner's Book page 88
> Learners will have practised selecting text.

What to select	How to select it
One word	move the cursor until it is on a word, then double click
The whole document	move the cursor until it is on a word, then double click
Two sentences next to eachother	move the cursor to the start of the text and drag the mouse over it to the end of the last word to be selected
One paragraph	move the cursor into the middle of a paragraph and click three times

One line	put the cursor into the left margin and click once
One sentence	move the cursor to anywhere in a sentence, then, hold down the Control or Ctrl key on your keyboard and click once.

Task: 3 of 18

Strand 3: Word processing

Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)

Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.1 Demonstrate how to usethe Fonts group on the Home tab.
Performance indicator: **ALL** learners will be able to identify styles. **SOME** learners will be able to create styles. **FEW** learners will be able to create and apply new styles.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: serif, sans serif, script, decorative

In this task:

Discuss different types of fonts that learners should research. Refer to pages 90–92 of the Learner's Book.

Learners should use **Worksheet Task 3_B4.3.1.1.1 Using the Font group.pdf** and pages 90–92 of the Learner's Book for information on what fonts are, and how to choose the most appropriate font for a document.

Resources required

On CD

- Worksheet Task 3_B4.3.1.1.1 Using the Font group.pdf

Phase 1: Start of task

Ask the learners to create a Wordle using the names of various fonts.

Phase 2: Main

(New learning, including assessment)
- Refer the learners to pages 90–92 of the Learner's Book.
- Allow learners to complete their worksheets on Fonts.

Phase 3: End of task

Ask the learners to swap their worksheets to be assessed by their peers. They should give constructive feedback regarding what went well and just one item that could be improved next time.

Answers to worksheet: Using fonts

1. A font is the name given to the style of the text.
2. **a)** Serif, sans serif, script, decorative
   b) A serif font has a little 'tail' on the ends of each character.
   c) Serif fonts.
   d) Answers will vary. Possible examples: On posters, in advertisements.

3.

Font name	Font type	Example
Helvetica	Sans serif	Hello
Times New Roman	Serif	Hello
Calibri	Sans serif	Hello
Tahoma	Sans serif	Hello
Comic Sans	Sans serif	Hello
Impact	Sans serif	**Hello**
Brush Script	Script	*Hello*
Jokerman	decorative	Hello

6.

Font name	Example of where it can be used
Helvetica	For general writing, for examples letters and essays
Times New Roman	In newspapers
Garamond	In textbooks
Calibri	In business documents
Tahoma	On websites
Comic Sans	In documents aimed at children
Impact	In headlines
Brush Script	In advertisements or brochures
Jokerman	On greeting cards

Answers to Activity 3.3

This is a practical activity. Guide the learners to follow the instructions in the Learner's Book.

Task: 4 of 18
Strand 3: Word processing
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)

Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.1 Demonstrate how to use the Paragraph group on the Home tab.
Performance indicator: **ALL** learners will be able use the Paragraph group on the Home tab. **SOME** learners will be able to create styles. **FEW** learners will be able to create and apply new styles.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: indents, spacing, line breaks and page breaks, bullet points, numbering, text direction, alphabetise or sort information, show paragraph marks, alignment, borders
In this task: **Guide the** learners to deliver the teach-backs that they started in the previous task. **Learners should** create posters with the meanings of the key words for the classroom display boards and for a teach-back session to the rest of the class.

Resources required

On CD

- Worksheet Task 4_B4.3.1.1.1 Using the Paragraph group.pdf

Phase 1: Start of task

Introduce all the key words and divide the class into small groups of three to four learners. Each group will have any four key words to create a poster for the classroom display board and to explain in a teach-back to the rest of the class.

Phase 2: Main

(New learning, including assessment)
Allow learners enough time to research the meanings of their words which they will prepare to do a teach-back to the rest of the class. Their posters will remain on the class display boards. Learners should use the internet and refer to pages 91–93 in the Learner's Bookfor more information on the key words.

Phase 3: End of task

Each group of learners must do a teach-back, explaining their four key words to the rest of the class.

> ## Low-resource school
> For Activity 3.4, if the learners do not have a computer available, they can write out what to do, or explain the different processes to a classmate.

Extension activity

Let the learners prepare short videos of the teach-backs and share them with their peers.

Answers to Activity 3.4

Two paragraphs have been typed into the word processor and after formatting will look like this:
WILDLIFE is made up of mammals, insects, birds, reptiles and marine species living in the sea. They all live in different habitats mainly the natural forests and protected areas in Ghana. Mammals include:
- elephants
- leopards
- hippos
- monkeys
- hyenas
- and many more small animals.

The major wildlife parks are Mole and Kakum National Parks.
BUTTERFLIES Ghana has around 1,000 different types of butterflies. The butterflies are everywhere, but also there is the Bobiri Forest Butterfly Sanctuary where many ancient trees are growing that attract specific types of butterflies.

Task: 5 of 18

Strand 3: Word processing

Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)

Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.1 Demonstrate how to use the Styles group on the Home tab.
Performance indicator: **ALL** learners will be able to identify styles. **SOME** learners will be able to create styles. **FEW** learners will be able to create and apply new styles.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: styles, font type, font size, font colour, bold, italic, underline

In this task:
Use **Presentation Task 5_B4.3.1.1.1 Demonstrate using styles.pptx** to teach the learners what styles are, how to create new styles and how to apply new styles.

Learners should use the worksheet on styles together with the presentation. They should refer to page 69 of the Learner's Book for information on what styles are, how to create new styles and how to apply styles.

Resources required

On CD

- Presentation Task 5_B4.3.1.1.1 Using styles.pptx
- Worksheet Task 5_B4.3.1.1.1 Using the Styles group.pdf

Phase 1: Start of task

- Ask a male and a female learner to volunteer to describe their styles. Ask the class to describe each learner's style.
- Ask the class: "What does 'style' mean when we talk about computer documents?" Discuss their answers briefly.

Phase 2: Main

(New learning, including assessment)

- Use **Presentation Task 6_B4.3.1.1.1 Demonstrate using styles.pptx**.
- Refer the learners to pages 94–96 of the Learner's Book.
- Allow learners to complete their worksheets while you present to them.

Phase 3: End of task

Ask the learners to swap their worksheets to be assessed by their peers. They should give constructive feedback regarding what went well and also just one item that could be improved next time.

Task: 6 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.1 Demonstrate how to use the Clipboard, Styles and Font groups on the Home tab.
Performance indicator: **ALL** learners will be able to use the Clipboard, Styles and Font groups on the Home tab. **SOME** learners will be able to use the Clipboard, Styles and Font groups on the Home tab. **FEW** learners will be able to use the Clipboard, Styles and Font groups on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: styles, ribbon, tab, group	
In this task: Assist the learners to prepare for the e-assessment. - **Learners should** use the worksheet on Assessment. Learners must open their e-assessment document, **Worksheet Task 6_B4.3.1.1.1 Using the Home tab_Assessment_1.pdf.** They should also ensure their internet connection is on because the assessment is online. It will be marked automatically and generates the result immediately.	

Resources required

On CD

- Worksheet Task 6_B4.3.1.1.1 Using the Home tab_Assessment_1.pdf

Phase 1: Start of task
- Ask the learners to open their assessment document, **Worksheet Task 6_B4.3.1.1.1 Using the Home tab_ Assessment_1.pdf**.
- They should ensure that they have an internet connection, because the assessment is online. It will be marked automatically and generates the result immediately.

Phase 2: Main
(New learning, including assessment)
Allow learners to work through the e-assessment document and to screenshot their result to share with you.

Phase 3: End of task
Ask the learners to discuss their results and share their experience of doing an online assessment.

Answers to Activity 3.5

File from activity 3.3 has been altered:
The title 'WILDLIFE IN GHANA' was added, with a blank line after it.
The title was styled as Heading 1.
The sub-heading WILDLIFE was styled as Heading 2.

Answers to Activity 3.6

The learners must follow the instructions in the Learner's Book. Check that they have done the following:
- Text about copyright entered correctly
- File saved as 'Copyright'
- Heading styled as Heading 4
- Paragraph 2 moved to the end of the document
- Heading inserted above second paragraph: 'What is a copyright owner?'
- Heading above third paragraph ('Permission') is bold and centred.

Task: 7 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.1 Demonstrate how to use the Editing group on the Home tab.

Performance indicator:

ALL learners will be able to use the Editing group on the Home tab to find specific text in a document.

SOME learners will be able to use the Editing group on the Home tab to replace specific words in a document.

FEW learners will be able to use the Editing group on the Home tab to find, replace and select specific text in documents.

Core competencies:

1. Creativity and innovation
2. Communication and collaboration
3. Cultural identity and global citizenship
4. Personal development and leadership
5. Digital literacy

Key words: replace, select objects, formatting

In this task:

Demonstrate how to use the Editing group on the Home tab to find, select and replace specific text in documents.

Learners should use **Document for Editing Task 7.pdf** and **Worksheet Task 7_B4.3.1.1.1 The Editing group.pdf** to find, select and replace specific words and sections of text in the given document.

Resources required

On CD

- Worksheet Task 7_Document for Editing.pdf
- Worksheet Task 7_ B4.3.1.1.1 The Editing group.pdf
- Presentation Task 7_B4.3.1.1.1 Using the Editing group.pptx

Phase 1: Start of task

Ask the learners to look at the document and to find how many times the word 'the' appears in the text. How long did it take them to find the answer? How many students got the correct number?

Phase 2: Main

(New learning, including assessment)

- Use **Presentation Task 7_B4.3.1.1.1 Using the Editing group.pptx** to demonstrate how to find specific words in a document, how to replace them and how to select all or only just specific parts.
- Ask the learners to complete **Worksheet Task 7_ B4.3.1.1.1 The Editing group.pdf**.
- When they have completed the worksheet, ask them to explain how they carried out their editing techniques.

Phase 3: End of task

Ask the learners if there are any other way they could possibly achieve the same outcomes but by using different methods. Go over the possible answers with the learners.

Answers to worksheet: The Editing group

1.–3.   The learners follow the instructions on the worksheet.
4.   'It is important that we have this information as soon as possible so we can make adequate'.
5.   Yes. Editing means to correct mistakes in a text and to improve it.
6.   <u>Uniforms are available to all learners.</u>
   Each learner will <u>receive</u> a voucher that entitles them to one free uniform school: girls get two shirts

and one dress and boys get two shirts and <u>one pair of trousers</u>. In order to know the exact size of your uniform, you are welcome to visit the school to fit the sample uniforms before purchasing them online. <u>Once</u> you've ordered your uniforms, they will send it directly to <u>your</u> house. You will be able to track the arrival of your parcel.

Task: 8 of 18

Strand 3: Word processing

Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)

Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.1 Assessment of how to use the Editing group on the Home tab.
Performance indicator: **ALL** learners will be able to use the Editing group on the Home tab to find specific text in a document. **SOME** learners will be able to use the Editing group on the Home tab to replace specific words in a document. **FEW** learners will be able to use the Editing group on the Home tab to find, replace and select specific text in documents.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: Home tab, editing, find, replace

In this task:

Test the learners' knowledge of how to use the Editing group on the Home tab.

Learners should do the test on how to use the Editing group on the Home tab.

Answers to Activity 3.7 Learner's Book pages 104–105

This is a practical activity. The learners must follow the instructions in the Learner's Book.

Resources required Learner's Book pages 94–101

On CD

- Worksheet Task 6_B4.3.1.1.1 Using the Home tab_Assessment_2.pdf

Phase 1: Start of task

Ask the learners to use all their previous worksheets and their Learner's Book and to compile a set of 10 questions for their friends to answer. The questions must follow the style set out in the Assessment Worksheet.

Phase 2: Main

(New learning, including assessment)
- Allow learners to compile 10 questions in pairs.

- They are to pass their question paper to another pair of learners to find the answers and to return it to them for marking. It must be marked be the pair of learners who set the questions.

Phase 3: End of task

Ask the learners to discuss their results by giving each other constructive feedback and sharing their experiences of doing an assessment in this way.

Task: 9 of 18

Strand 3: Word processing

Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)

Content standard: B4.3.1.1	**Indicator:** B4.3.1.1.2
Demonstrate understanding of the use of word processing application.	Illustrate the use of the Clipboard, Styles, Font, Paragraph and Editing groups.

Performance indicator:	**Core competencies:**
ALL learners will be able to locate and use the Clipboard, Styles, Font, Paragraph and Editing groupsand understand their basic function.	1. Creativity and innovation
	2. Communication and collaboration
SOME learners will be able to locate and use the Clipboard, Styles, Font, Paragraph and Editing groups and understand their basic function.	3. Cultural identity and global citizenship
	4. Personal development and leadership
	5. Digital literacy
FEW learners will be able to locate and use the Clipboard, Styles, Font, Paragraph and Editing groups and understand their basic function, and customise the Quick Access Toolbar.	

Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing

In this task:

Revise the work covered in this strand. make sure that the learners are able to find ad use the commands on the Home tab.

Learners should watch your presentation. They can refer to the Learner's Book for more information.

Resources required

On CD

- Task 9_Example of plan for newsletter.pdf
- Worksheet B4.3.1.1.2_Scenario_Tasks 9-12_Using the Home tab.pdf
- Worksheet_B4.3.1.1.2 Tasks 9-12_Home tab commands_Evaluation.pdf

Phase 1: Start of task

Ask the learners to use the keywords to create a word bank for similar words in the Ghanaian language.

Phase 2: Main

(New learning, including assessment)
- Introduce the scenario described in the worksheet and support learners to carry out the tasks in the worksheet.

- In this set of tasks, Task 9 should focus more on the planning stage, i.e. drawing the newsletter and deciding on the styles, paragraph and fonts to be used. Learners should not use their computers in this task, it is purely for the planning stage.

If you notice that many learners are struggling with any aspect of the planning stage, stop to intervene and explain that section again for clarification purposes. You may refer learners to the Learner's Book for further information as well.

Phase 3: End of task

Ask the learners to work in pairs to evaluate their planned drawings, using the evaluation worksheet and give feedback to each other.

> ## Low-resource school
> **The learners can produce the newsletter as hard copy. They must be able to explain how they would have applied each step on a computer.**

Task: 10 of 18
Strand 3: Word processing
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)

Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the commands on the Home tab. **FEW** learners will be able to illustrate their use of all the commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy

Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing
In this task: Explain the scenario and briefly recap how to use the styles, where it can be located and what its functions are. Allow learners to continue with their scenario and to progress from the drawing plans to their computers to execute their plans.   **Learners should** work on their computers executing their hand-drawn plans from the previous task.

Resources required

On CD
- Worksheet B4.3.1.1.2_Scenario_Tasks 9-12_Using the Home tab.pdf
- Worksheet_B4.3.1.1.2 Tasks 9-12_Home tab commands_Evaluation.pdf

Phase 1: Start of task

Ask the learners to discuss what they understood from their peer-evaluations from the previous task and how they intended to progress in today's task.

Phase 2: Main

(New learning, including assessment)
- Recap the scenario described in the worksheet and support learners to carry out the tasks in the worksheet.
- In this set of tasks, task 10 should focus more on executing the hand-drawn plan from the previous task. Learners should use their computers in this task.
- If you notice that many learners are struggling with any aspect of the work, stop to intervene and explain that section again for clarification purposes. You may refer learners to the Learner's Book for further information as well.

Phase 3: End of task

Ask the learners to work in pairs to evaluate their own work (self-evaluation) only in this task using the evaluation worksheet. Ask the learners how they wish to proceed in the next task.

Task: 11 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the Commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the Commands on the Home tab. **FEW** learners will be able to illustrate their use of all of the Commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing	
In this task: Briefly recap how to use the paragraph tools, where it can be located and what its functions are. Allow learners to continue with their scenario and to progress from the drawing plans to their computers to execute their plans. **Learners should** work on their computers executing their hand-drawn plans from the previous task.	

Resources required

Learner's Book pages 85–103

On CD

- Worksheet B4.3.1.1.2_Scenario_Tasks 9-12_Using the Home tab
- Worksheet_B4.3.1.1.2 Tasks 9-12_Home tab commands_Evaluation

Phase 1: Start of task

Ask the learners to discuss what they understood from their self-evaluations from the previous task and how they intended to progress in today's task.

Phase 2: Main

(New learning, including assessment)
- Recap the scenario described in the worksheet and support learners to carry out the tasks in the worksheet.
- In this set of tasks, Task 11 should focus more on executing the hand-drawn plan from the previous task. Learners should use their computers in this task.
- If you notice that many learners are struggling with any aspect of the work, stop to intervene and explain that section again for clarification purposes. You may refer learners to the Learner's Book for further information as well.

Phase 3: End of task

Ask the learners to work in pairs to evaluate their peer's work (peer-evaluation) only in this task using the evaluation worksheet. Ask the learners how they wish to proceed in the next task.

Task: 12 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the Commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the Commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the Commands on the Home tab. **FEW** learners will be able to illustrate their use of all of the Commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing	
In this task: Explain the scenario to the learners. Briefly recap how to use the editing tools, where it can be located and what its functions are. Allow learners to continue with their scenario and to progress from the drawing plans to their computers to execute their plans. **Learners should** work on their computers executing their hand-drawn plans and improving their previous efforts. They should be thinking about their particular way of working and how they might approach working on such projects in different ways next time.	

Resources required

On CD

- Worksheet B4.3.1.1.2_Scenario_Tasks 9-12_Using the Home tab.pdf
- Worksheet_B4.3.1.1.2 Tasks 9-12_Home tab commands_Evaluation.pdf

Phase 1: Start of task

Ask the learners to discuss what they understood from their peer-evaluations from the previous task and how they intended to progress in today's task.

Phase 2: Main

(New learning, including assessment)
- Recap the scenario described in the worksheet and support learners to carry out the tasks in the worksheet.
- In this set of tasks, Task 12 should focus more on executing the hand-drawn plan and improving any aspects from their previous task.
- If you notice that many learners are struggling with any aspect of the work, stop to intervene and explain that section again for clarification purposes. You may refer learners to the Learner's Book for further information as well.

Phase 3: End of task

Ask the learners think about their approach to this project and to discuss better ways of working next time.

Task: 13 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the Commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the Commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the Commands on the Home tab. **FEW** learners will be able to illustrate their use of all of the Commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing	
In this task: Explain the scenario and gauge how far learners are regarding completing the project. Support those learners who are lagging behind a bit and introduce the extension activity to those who are finished and require extra work to be occupied productively. **Learners should** work on their computers be completing or improving their newsletters by the end of this task.	

Resources required

On CD

- There are no files on the CD for this task.

Phase 1: Start of task

Check the progress of the learners and support those who are far from completing their newsletters.
Introduce the extension activity to those learners whose newsletters are completed or almost completed.

Phase 2: Main

(New learning, including assessment)
Allow learners to put the finishing touches to their newsletters and to complete their self-evaluations and peer-evaluations by the end of this task.

Phase 3: End of task

Ask the learners write down things they enjoyed about doing this project and one thing they didn't like very much. Briefly discuss a few ideas.

Task: 14 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the Commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the Commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the Commands on the Home tab. **FEW** learners will be able to illustrate their use of all of the Commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing	
In this task: Explain the scenario and briefly recap how learners drew their previous hand-drawn plans. Explain that learners need to apply their improved skills in planning this next project. **Learners should** focus on planning by hand-drawing detailed plans for the project described in the Scenario worksheet.	

Resources required

On CD

- Worksheet B4.3.1.1.2_Scenario_Tasks 14-18_Create an invitation.pdf
- Worksheet_B4.3.1.1.2 Tasks 14-18_Evaluation.pdf

Phase 1: Start of task
- Ask the learners to think of different types of documents that they could create using a word processor. Guide them to think of brochures, greeting cards, letters, flyers, forms, invoices, labels, etc.
- Show them how to use the Open, New and New Document commands in any word processing program.

Phase 2: Main

(New learning, including assessment)
- Introduce the scenario described in the worksheet and support learners to carry out the tasks in the worksheet.
- In this set of tasks, Task 14 should focus more on the planning stage, i.e. drawing the invitation ticket and deciding on the styles, paragraph and fonts to be used. Learners should not use their computers in this task. It is purely for the planning stage.
- If you notice that many learners are struggling with any aspect of the planning stage, stop to intervene and explain that section again for clarification purposes. You may refer learners to the Learner's Book for further information as well.

Phase 3: End of task

Ask the learners to work in pairs to evaluate their planned drawings using the evaluation worksheet and give feedback to each other.

Task: 15 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the Commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the Commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the Commands on the Home tab. **FEW** learners will be able to illustrate their use of all of the Commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing	
In this task: Briefly recap how to use the Styles group, where it is located and what its functions are. Allow learners to continue with their scenario and to progress from the drawing plans to their computers to execute their plans. **Learners should** work on their computers executing their hand-drawn plans from the previous task.	

Resources required

On CD

- Worksheet_Scenario_Using the Home tab commands.pdf
- Worksheet_Using the Home tab commands_Evaluation.pdf

Phase 1: Start of task

Ask the learners to discuss what they understood from their peer-evaluations of their drawing plans from the previous task and how they intended to progress in today's task.

Phase 2: Main

(New learning, including assessment)
- Recap the scenario described in the worksheet and support learners to carry out the tasks in the worksheet.
- In this set of tasks, task 15 should focus more on executing the hand-drawn plan from the previous task. Learners should use their computers in this task.
- If you notice that many learners are struggling with any aspect of the work, stop to intervene and explain that section again for clarification purposes. You may refer learners to the Learner's Book for further information as well.

Phase 3: End of task

Ask the learners to work in pairs to evaluate their own work (self-evaluation) only in this task using the evaluation worksheet. Ask the learners how they wish to proceed in the next task.

Task: 16 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the Commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the Commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the Commands on the Home tab. **FEW** learners will be able to illustrate their use of all of the Commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing	
In this task: Remind the learners to incorporate their new ways of working in order to produce a much-improved product in this project. **Learners should** work on their computers executing their hand-drawn plans from the previous task.	

Resources required

On CD

- Worksheet B4.3.1.1.2_Scenario_Tasks 9-12_Using the Home tab.pdf
- Worksheet_B4.3.1.1.2 Tasks 9-12_Home tab commands_Evaluation.pdf

Phase 1: Start of task

Ask the learners to discuss what they understood from their self-evaluations from the previous task and how they intended to progress in today's task.

Phase 2: Main

(New learning, including assessment)
- Recap the scenario described in the worksheet and guide learners to carry out the tasks in the worksheet.
- In this set of tasks, Task 16 should focus more on executing the hand-drawn plan from the previous task. Learners should use their computers in this task.
- If you notice that many learners are struggling with any aspect of the work, stop to intervene and explain that section again for clarification purposes. You may refer learners to the Learner's Book for further information as well.

Phase 3: End of task

Ask the learners to work in pairs to evaluate their peer's work (peer-evaluation) only in this task using the evaluation worksheet. Ask the learners how they wish to proceed in the next task.

Task: 17 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the Commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the Commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the Commands on the Home tab. **FEW** learners will be able to illustrate their use of all of the Commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing	
In this task: Briefly recap how to use the Editing group, where it is located and what its functions are. Allow learners to continue with their scenario and to progress from the drawing plans to their computers to execute their plans. **Learners should** work on their computers executing their hand-drawn plans and improving their previous efforts. They should be thinking about their particular way of working and how they might approach working on such projects in different ways next time.	

Resources required

On CD

- Worksheet B4.3.1.1.2_Scenario_Tasks 9-12_Using the Home tab.pdf
- Worksheet_B4.3.1.1.2 Tasks 9-12_Home tab commands_Evaluation.pdf

Phase 1: Start of task

Ask the learners to discuss what they understood from their peer-evaluations from the previous task and how they intended to progress in today's task.

Phase 2: Main

(New learning, including assessment)
- Recap the scenario described in the worksheet and support learners to carry out the tasks in the worksheet.
- In this set of tasks, Task 17 should focus more on executing the hand-drawn plan and improving any aspects from their previous task.
- If you notice that many learners are struggling with any aspect of the work, stop to intervene and explain that section again for clarification purposes. You may refer learners to the Learner's Book for further information as well.

Phase 3: End of task

Ask the learners think about their approach to this project and to discuss better ways of working next time.

Task: 18 of 18	
Strand 3: Word processing	
Sub-strand 1: Introduction to word processing (Tabs and ribbons of word processing)	
Content standard: B4.3.1.1 Demonstrate understanding of the use of word processing application.	**Indicator:** B4.3.1.1.2 Illustrate the use of the Commands on the Home tab.
Performance indicator: **ALL** learners will be able to illustrate their use of most of the Commands on the Home tab. **SOME** learners will be able to illustrate their use of some of the Commands on the Home tab. **FEW** learners will be able to illustrate their use of all of the Commands on the Home tab.	**Core competencies:** 1. Creativity and innovation 2. Communication and collaboration 3. Cultural identity and global citizenship 4. Personal development and leadership 5. Digital literacy
Key words: Clipboard, Quick Access Toolbar, Home tab, Clipboard, Font, Paragraph, Styles, Editing	
In this task: Gauge how far learners are with the project. Support learners who are lagging behind. Introduce the extension activity to those who are finished and require extra work to be occupied productively. **Learners should** work on their computers by completing or improving their newsletters by the end of this task.	

Resources required

On CD

- Worksheet B4.3.1.1.2_Scenario_Tasks 9-12_Using the Home tab.pdf
- Worksheet_B4.3.1.1.2 Tasks 9-12_Home tab commands_Evaluation.pdf

Phase 1: Start of task

Check the progress of the learners and support those who are far from completing while introducing the extension activity to those who have completed or are nearly completed.

Phase 2: Main

(New learning, including assessment)
Allow learners to put the finishing touches to their newsletters and to complete their self-evaluations and peer-evaluations by the end of this task.

Phase 3: End of task

Ask the learners write down things they enjoyed about doing this project and one thing they didn't like very much. Briefly discuss a few ideas.

Extension activity

Encourage the learners to create a birthday card for a friend in Microsoft Word.

Check your progress

The learners can complete the table on page 107 of the Learner's Book to check their own progress and consolidate their knowledge. They can refer to page 103 of the Learner's Book for the shortcuts.