RATIONALISED CBE LESSON PLANS

GRADE : 4

TERM : THREE

YEAR :2025

LEARNING AREA: MATHEMATICS

TEACHERS NAME: ……..

SCHOOL:…….

WEEK 1

LESSON 1

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** MEASUREMENT
- **SUB-STRAND:** Money
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Convert shillings into cents and cents into shillings.
  - Participate in shopping activities involving money.
  - Appreciate the use of money in day-to-day activities.
- **KEY INQUIRY QUESTION(S):** How do we use money in daily activities?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 130-133
  - Real money (coins and notes) or classroom replicas
  - Charts showing conversion between shillings and cents
- **ORGANISATION OF LEARNING:** Learners will work in pairs and small groups for role-playing activities.

INTRODUCTION The teacher will start a discussion about shopping, asking learners what they buy at the local kiosk and what they use to pay for the items. This will lead to identifying different denominations of coins and notes.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Identify and name the different coins and notes used in Kenya.
- **STEP 2:** Discuss the relationship between shillings and cents (1 shilling = 100 cents).
- **STEP 3:** Practice converting given amounts of shillings into cents (e.g., Sh. 5 = 5 x 100 = 500 cents).
- **STEP 4:** Practice converting given amounts of cents into shillings (e.g., 300 cents = 300 / 100 = Sh. 3).

CONCLUSION The teacher will summarize the conversion process and give a few oral questions to test understanding, such as "How many cents are in 2 shillings?" and "How many shillings are in 500 cents?"

EXTENDED ACTIVITIES Learners to ask their parents or guardians for different coins and notes, and practice converting their values to cents at home.

REFLECTION ON THE LESSON

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LESSON 2

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** MEASUREMENT
- **SUB-STRAND:** Money
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Convert shillings into cents and cents into shillings.
  - Participate in shopping activities involving money.
  - Appreciate the use of money in day-to-day activities.
- **KEY INQUIRY QUESTION(S):** How do we use money in daily activities?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 130-133
  - Classroom shop with priced items
  - Play money
- **ORGANISATION OF LEARNING:** Learners will engage in a role-playing activity in groups.

INTRODUCTION Review the conversion between shillings and cents from the previous lesson. Ask learners to share their experiences from the extended activity.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Set up a classroom shop with various items, each with a price tag.
- **STEP 2:** In groups, learners take turns being the shopkeeper and the customer.
- **STEP 3:** The customer chooses an item, pays for it using play money, and the shopkeeper must calculate and give the correct balance.
- **STEP 4:** The activity will involve prices in both shillings and cents to practice conversion and calculation.

CONCLUSION The teacher will lead a discussion on the importance of being able to calculate balance correctly when shopping. Each group will share one of their shopping experiences with the class.

EXTENDED ACTIVITIES Learners to create a list of 5 items they would buy from a shop and calculate the total cost.

REFLECTION ON THE LESSON

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LESSON 3

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** MEASUREMENT
- **SUB-STRAND:** Money
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Convert shillings into cents and cents into shillings.
  - Participate in shopping activities involving money.
  - Appreciate the use of money in day-to-day activities.
- **KEY INQUIRY QUESTION(S):** How do we use money in daily activities?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 130-133
  - Worksheets with word problems involving money
- **ORGANISATION OF LEARNING:** Learners will work individually on written exercises.

INTRODUCTION The teacher will present a simple word problem on the board, e.g., "Amina had Sh. 50. She bought a pen for Sh. 20. How much balance did she get?" This will introduce solving money-related problems.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Read and understand word problems involving addition, subtraction, and conversion of money.
- **STEP 2:** Work through examples with the teacher's guidance.
- **STEP 3:** Complete a worksheet with various problems, such as calculating total costs, finding the balance, and converting between shillings and cents within a problem context.
- **STEP 4:** Peer-mark the worksheets to discuss different approaches to solving the problems.

CONCLUSION The teacher will review the answers to the worksheet, clarifying any common mistakes. The importance of reading questions carefully will be emphasized.

EXTENDED ACTIVITIES Learners to create their own simple word problem about money and solve it.

REFLECTION ON THE LESSON

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LESSON 4

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** MEASUREMENT
- **SUB-STRAND:** Money
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify needs and wants.
  - Practice saving in real-life situations.
  - Appreciate the use of money in day-to-day activities.
- **KEY INQUIRY QUESTION(S):** What is the difference between needs and wants?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 134-135
  - Charts with pictures of different items (e.g., food, water, toys, video games)
  - Manila paper and markers
- **ORGANISATION OF LEARNING:** Learners will work in groups for a discussion and classification activity.

INTRODUCTION The teacher will ask learners to name one thing they absolutely cannot live without and one thing they would like to have but could live without. This will introduce the concepts of needs and wants.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In groups, discuss the meaning of "needs" (things essential for survival) and "wants" (things we desire but are not essential).
- **STEP 2:** Look at pictures of various items and classify them as either needs or wants, justifying their choices.
- **STEP 3:** Create a two-column chart on manila paper, listing examples of needs and wants.
- **STEP 4:** Discuss why it is important to spend money on needs before wants.

CONCLUSION Each group will present their chart of needs and wants to the class. The teacher will summarize the key differences and reinforce the importance of prioritizing needs.

EXTENDED ACTIVITIES Learners to make a list of their family's needs and wants.

REFLECTION ON THE LESSON

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LESSON 5

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** MEASUREMENT
- **SUB-STRAND:** Money
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify needs and wants.
  - Practice saving in real-life situations.
  - Appreciate the use of money in day-to-day activities.
- **KEY INQUIRY QUESTION(S):** What is the difference between needs and wants?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 134-135
  - A simple story about saving money
  - Piggy banks or empty containers
- **ORGANISATION OF LEARNING:** Class discussion and individual reflection.

INTRODUCTION Review the concepts of needs and wants. Ask learners, "If you want to buy something expensive, like a bicycle (a want), but you don't have enough money, what can you do?" This leads to the topic of saving.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Listen to a story about a character who saves money to buy something they want.
- **STEP 2:** Discuss the importance of saving money.
- **STEP 3:** Brainstorm different ways to save money (e.g., using a piggy bank, putting money aside from their pocket money, reducing spending on wants).
- **STEP 4:** Learners will set a personal savings goal for a small item they want and discuss how they can achieve it.

CONCLUSION The teacher will summarize the benefits of saving. Learners will be encouraged to start their own savings plan, perhaps by decorating an empty container to use as a money box.

EXTENDED ACTIVITIES Learners to start saving a small amount of money each week and keep a record of how much they have saved.

REFLECTION ON THE LESSON

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WEEK 2

LESSON 1

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** MEASUREMENT
- **SUB-STRAND:** Money
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify needs and wants.
  - Practice saving in real-life situations.
  - Appreciate the use of money in day-to-day activities.
- **KEY INQUIRY QUESTION(S):** What is the difference between needs and wants?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 134-135
  - Charts, manila paper, marker pens
- **ORGANISATION OF LEARNING:** Learners will work in groups to discuss and classify items.

INTRODUCTION The teacher will review the previous lesson on saving money and ask learners if they have started their savings plan. This will lead to a discussion on what they are saving for, which can be classified as needs or wants.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In groups, brainstorm and list items they would like to buy.
- **STEP 2:** Discuss and categorize each item on their list as either a 'need' (essential for survival, like food) or a 'want' (something nice to have, like a toy).
- **STEP 3:** Create a T-chart on manila paper to present their classified list of needs and wants to the rest of the class.
- **STEP 4:** Discuss why it is important to budget for needs before spending on wants.

CONCLUSION The teacher will summarize the importance of differentiating between needs and wants for good financial planning and saving habits.

EXTENDED ACTIVITIES Learners to create a personal budget for their pocket money, allocating funds for needs, wants, and savings.

REFLECTION ON THE LESSON

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LESSON 2

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** MEASUREMENT
- **SUB-STRAND:** Money
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Work out questions involving money.
  - Identify money people pay to the county government using digital devices.
  - Appreciate the use of money in day-to-day activities.
- **KEY INQUIRY QUESTION(S):** How can you save money?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 135-138
  - Worksheets with word problems
  - Tablets or computers with internet access (optional)
- **ORGANISATION OF LEARNING:** Individual work on exercises, followed by a group discussion.

INTRODUCTION The teacher will pose a question: "Besides buying things, what else do adults use money for?" This will lead to a discussion about paying for services and taxes.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Work out word problems from the textbook or a worksheet involving addition, subtraction, multiplication, and division of money.
- **STEP 2:** Discuss what taxes and fees are. The teacher will introduce terms like market fee, cess, parking fee, and business permit.
- **STEP 3:** If digital devices are available, learners can search for examples of services their local county government provides and how people pay for them.
- **STEP 4:** Discuss why it is important for citizens to pay these fees to the government (e.g., to fund public services like roads and hospitals).

CONCLUSION The teacher will review the solutions to the word problems and summarize the different types of payments people make to the county government.

EXTENDED ACTIVITIES Learners to ask their parents or guardians about one type of fee or tax they pay and what service it is for.

REFLECTION ON THE LESSON

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LESSON 3

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** MEASUREMENT
- **SUB-STRAND:** Money
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Work out questions involving money.
  - Use appropriate digital devices to identify money people pay to the county government.
  - Appreciate the use of money in day-to-day activities.
- **KEY INQUIRY QUESTION(S):** How can you save money?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 135-138
  - Written exercises
- **ORGANISATION OF LEARNING:** Learners will work individually and in pairs to solve problems.

INTRODUCTION Review the county government fees discussed in the previous lesson (market fee, parking fee, etc.). The teacher will write a few simple calculation problems on the board based on these fees.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Complete a written exercise involving calculations with money. The problems will be a mix of shopping scenarios and simple calculations related to county fees.
- **STEP 2:** In pairs, learners will check each other's work and discuss the steps they took to find the answers.
- **STEP 3:** The teacher will facilitate a class discussion, inviting pairs to present their solutions to challenging problems on the board.
- **STEP 4:** Discuss practical ways of saving money, such as comparing prices before buying or making a shopping list to avoid impulse purchases.

CONCLUSION The teacher will emphasize the connection between earning, spending, paying for services, and saving as key components of managing money.

EXTENDED ACTIVITIES Learners to create a poster illustrating one way to save money.

REFLECTION ON THE LESSON

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LESSON 4

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Position and direction
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Demonstrate a clockwise and anti-clockwise turn in the environment.
  - Demonstrate a quarter turn, half turn, and full turns in the environment.
  - Appreciate the use of position and direction in real-life situations.
- **KEY INQUIRY QUESTION(S):** How do we turn clockwise?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 139-141
  - A large clock face or a drawing on the board
  - Open space in the classroom
- **ORGANISATION OF LEARNING:** A practical, whole-class activity.

INTRODUCTION The teacher will ask learners to look at the classroom clock and observe the direction the hands move. This direction will be introduced as **clockwise**.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Stand up in an open space. The teacher will give instructions like "Turn clockwise." Learners will practice turning in the same direction as the hands of a clock.
- **STEP 2:** The teacher will introduce the opposite direction as **anti-clockwise** and have learners practice turning anti-clockwise.
- **STEP 3:** The teacher will introduce a **quarter turn** (like turning from facing 12 to 3 on a clock), a **half turn** (facing the opposite direction), and a **full turn** (ending up in the starting position).
- **STEP 4:** Learners will follow a series of commands combining the direction and amount of turn, e.g., "Make a quarter turn clockwise," "Make a half turn anti-clockwise."

CONCLUSION The teacher will use the clock face to review the different types of turns. Learners will be asked to describe the turn needed to get from one number to another on the clock.

EXTENDED ACTIVITIES Learners to observe and identify examples of clockwise and anti-clockwise turns at home (e.g., turning a tap, unscrewing a bottle cap).

REFLECTION ON THE LESSON

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LESSON 5

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Position and direction
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Demonstrate a clockwise and anti-clockwise turn in the environment.
  - Demonstrate a quarter turn, half turn, and full turns in the environment.
  - Appreciate the use of position and direction in real-life situations.
- **KEY INQUIRY QUESTION(S):** How do we turn anti-clockwise?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 139-141
  - Written exercises
  - Classroom objects
- **ORGANISATION OF LEARNING:** Pair activities and individual written work.

INTRODUCTION Review the terms from the previous lesson: clockwise, anti-clockwise, quarter turn, half turn, and full turn. The teacher will perform a turn and ask learners to describe it using the correct vocabulary.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In pairs, give each other instructions for turning. For example, one learner instructs the other to "Face the door, then make a half turn clockwise."
- **STEP 2:** The teacher will place objects in the four corners of the room (e.g., North, South, East, West). Learners will practice making turns to face different objects from a central starting point.
- **STEP 3:** Complete a written exercise with questions like, "If you are facing North and make a quarter turn anti-clockwise, which direction are you now facing?"
- **STEP 4:** Discuss real-life situations where understanding turns is important (e.g., giving directions, dancing, marching).

CONCLUSION The teacher will review the answers to the written exercise and ask learners to demonstrate a few turns to check for understanding.

EXTENDED ACTIVITIES Learners to draw a simple map of their journey from their desk to the classroom door, using arrows and describing the turns they make.

REFLECTION ON THE LESSON

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WEEK 3

LESSON 1

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Position and direction
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Demonstrate a clockwise and anti-clockwise turn in the environment.
  - Demonstrate a quarter turn, half turn, and full turns in the environment.
  - Appreciate the use of position and direction in real-life situations.
- **KEY INQUIRY QUESTION(S):** How do we turn clockwise and anti-clockwise?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 139-141
  - Hoops or chalk circles on the ground
  - Instruction cards
- **ORGANISATION OF LEARNING:** A game-based group activity.

INTRODUCTION The teacher will quickly recap the four main turns (quarter, half, full) and the two directions (clockwise, anti-clockwise). The lesson will be framed as a game to practice these skills.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In small groups, learners play a game like "Simon Says." The teacher or a learner leader gives commands involving turns, e.g., "Simon says make a full turn anti-clockwise."
- **STEP 2:** The teacher will create instruction cards (e.g., "1/4 turn clockwise"). Learners will pick a card and perform the action.
- **STEP 3:** Using hoops or circles on the ground as reference points, learners can practice turning from one point to another, describing the turn they made.
- **STEP 4:** The groups will create a short sequence of three turns (e.g., a dance or a march) and demonstrate it to the class.

CONCLUSION The teacher will praise the groups for their participation and creativity, reinforcing the vocabulary by describing the sequences the learners created.

EXTENDED ACTIVITIES Learners to teach a family member how to make a quarter turn and a half turn, both clockwise and anti-clockwise.

REFLECTION ON THE LESSON

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LESSON 2

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Position and direction
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify quarter, half, and full turns in the environment.
  - Use appropriate digital devices with assistive software for learning and enjoyment.
  - Appreciate the use of position and direction in real-life situations.
- **KEY INQUIRY QUESTION(S):** How do we turn a quarter turn?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 139-141
  - Tablets or computers with a simple maze or drawing application
- **ORGANISATION OF LEARNING:** Individual or pair work using digital devices.

INTRODUCTION The teacher will focus on the **quarter turn**. Using their arms, learners will demonstrate a quarter turn clockwise (like moving from 12 to 3 on a clock) and anti-clockwise (like moving from 12 to 9).

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** The teacher will demonstrate how a quarter turn changes the direction one is facing (e.g., from North to East, or North to West).
- **STEP 2:** Learners will practice making quarter turns from a standing position to face different walls of the classroom.
- **STEP 3:** Using a digital device, learners can play a simple maze game where the character moves and makes quarter turns.
- **STEP 4:** Alternatively, using a drawing program, learners can draw a shape, and then try to draw the same shape after it has made a quarter turn.

CONCLUSION The teacher will lead a discussion on how quarter turns are used in games and computer programs. Learners will be asked to identify objects in the classroom that have made a quarter turn from their usual position.

EXTENDED ACTIVITIES Learners to find and draw three objects at home that are at a right angle (a quarter turn) to each other.

REFLECTION ON THE LESSON

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LESSON 3

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Position and direction
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify quarter, half, and full turns in the environment.
  - Use appropriate digital devices with assistive software for learning and enjoyment.
  - Appreciate the use of position and direction in real-life situations.
- **KEY INQUIRY QUESTION(S):** How do we turn a half turn?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 139-141
  - Mirrors
  - Worksheets
- **ORGANISATION OF LEARNING:** Practical activities in pairs and individual written work.

INTRODUCTION The teacher will review the quarter turn and then introduce the **half turn**. The teacher will demonstrate a half turn, showing that it results in facing the exact opposite direction.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In pairs, learners stand back-to-back. This demonstrates the result of a half turn. Then they will practice making a half turn to face each other.
- **STEP 2:** Discuss that a half turn is the same whether it is made clockwise or anti-clockwise, as the end position is identical.
- **STEP 3:** Learners will identify objects in the environment that are symmetrical, where one half is a mirror image of the other, relating this to a half turn.
- **STEP 4:** Complete a worksheet that involves drawing the position of an object after it has made a half turn.

CONCLUSION The teacher will summarize the properties of a half turn. A quick activity will be done where the teacher points in one direction and asks learners to point in the direction that is a half turn away.

EXTENDED ACTIVITIES Learners to write their name in block letters and see which letters look the same after a half turn (e.g., S, H, I, O, N, Z, X).

REFLECTION ON THE LESSON

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LESSON 4

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Angles
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify angles in the environment.
  - Identify different types of angles in the environment.
  - Appreciate the use of angles in real-life situations.
- **KEY INQUIRY QUESTION(S):** Name angles which you know?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 142-145
  - Two strips of cardboard joined by a pin to make a model angle
  - Classroom objects
- **ORGANISATION OF LEARNING:** A whole-class discovery and discussion session.

INTRODUCTION The teacher will connect the previous topic of turns to angles, explaining that a turn creates an angle. The teacher will make a quarter turn and show the right angle formed between the starting and ending direction.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** The teacher will use the cardboard strips to show how an angle is the amount of turn between two lines.
- **STEP 2:** The teacher will introduce the **right angle** (exactly a quarter turn, like the corner of a book). Learners will go on an "angle hunt" to find as many right angles as they can in the classroom.
- **STEP 3:** The teacher will introduce an **acute angle** (smaller than a right angle, "a cute little angle") and an **obtuse angle** (larger than a right angle).
- **STEP 4:** Learners will use their arms or the cardboard model to make and identify acute, right, and obtuse angles.

CONCLUSION The teacher will draw the three types of angles on the board and have learners label them. A quick recap will be done by pointing at different angles in the room and having the class identify them.

EXTENDED ACTIVITIES Learners to find and draw one example of an acute, a right, and an obtuse angle from objects at home.

REFLECTION ON THE LESSON

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LESSON 5

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Angles
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify angles in the environment.
  - Identify different types of angles in the environment.
  - Appreciate the use of angles in real-life situations.
- **KEY INQUIRY QUESTION(S):** Name angles which you know?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 142-145
  - Drawing paper, rulers, pencils
- **ORGANISATION OF LEARNING:** Individual drawing activity.

INTRODUCTION Review the three types of angles learned in the previous lesson: acute, right, and obtuse. The teacher will quickly draw them on the board and ask learners to name them.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** The teacher will demonstrate how to draw a right angle using the corner of a ruler or book.
- **STEP 2:** The teacher will demonstrate how to draw an acute angle (by drawing a right angle and then a line inside it) and an obtuse angle (by drawing a right angle and then a line outside it).
- **STEP 3:** Learners will practice drawing and labeling several examples of each type of angle in their exercise books.
- **STEP 4:** Learners will then draw a simple picture (like a house or a star) and label all the different types of angles they can find in their drawing.

CONCLUSION Learners will display their drawings. The teacher will lead a gallery walk where learners can see each other's work and identify the angles.

EXTENDED ACTIVITIES Learners to create a poster with the title "Angles Around Us," featuring their drawings of objects with different angles labeled.

REFLECTION ON THE LESSON

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WEEK 4

LESSON 1

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Angles
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify angles in the environment.
  - Identify different types of angles in the environment.
  - Appreciate the use of angles in real-life situations.
- **KEY INQUIRY QUESTION(S):** Name angles which you know?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 142-145
  - Chart with pictures of real-world objects
- **ORGANISATION OF LEARNING:** Group discussion and identification activity.

INTRODUCTION The teacher will start with a quick quiz: show different angles (using arms or drawings) and have learners shout out "acute," "right," or "obtuse."

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In groups, learners will look at a chart with various pictures (a slice of pizza, a ladder against a wall, an open book, a clock showing 2 o'clock).
- **STEP 2:** They will discuss and identify all the different types of angles they can see in the pictures.
- **STEP 3:** Each group will list down the objects and the types of angles they found.
- **STEP 4:** The groups will present their findings to the class, pointing out the angles on the chart.

CONCLUSION The teacher will lead a discussion on how angles are everywhere in our environment, from the way buildings are constructed to the design of everyday objects.

EXTENDED ACTIVITIES Learners to take a walk around the school compound and list 5 different places where they can see right angles.

REFLECTION ON THE LESSON

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LESSON 2

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Angles
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify angles in the environment.
  - Compare angles using a right angle.
  - Appreciate the use of angles in real-life situations.
- **KEY INQUIRY QUESTION(S):** Where can you find angles in the environment?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 146-147
  - A piece of paper for each learner to make a right-angle tester
- **ORGANISATION OF LEARNING:** A hands-on practical activity.

INTRODUCTION The teacher will ask, "How can we be sure if an angle is a right angle, or if it's slightly bigger or smaller?" This will introduce the need for a tool to compare angles.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Each learner will take a piece of paper and fold it in half, then fold it in half again to create a perfect right angle at the corner. This will be their "right-angle tester."
- **STEP 2:** Learners will use their right-angle tester to check various angles in the classroom (corners of desks, books, windows, door frames).
- **STEP 3:** They will use the tester to compare other angles. If the angle is smaller than their tester, it's acute. If it's larger, it's obtuse.
- **STEP 4:** Learners will draw three angles in their books and use their tester to label them as acute, right, or obtuse.

CONCLUSION The teacher will ask learners to share their findings. A discussion will be held on why having a standard measure like a right angle is useful for comparison.

EXTENDED ACTIVITIES Learners to use their right-angle tester at home to find and list 3 acute angles, 3 right angles, and 3 obtuse angles.

REFLECTION ON THE LESSON

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LESSON 3

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Angles
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify angles in the environment.
  - Compare angles using a right angle.
  - Appreciate the use of angles in real-life situations.
- **KEY INQUIRY QUESTION(S):** Where can you find angles in the environment?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 146-147
  - Right-angle testers made in the previous lesson
  - Worksheets with various angles drawn
- **ORGANISATION OF LEARNING:** Individual practice and peer assessment.

INTRODUCTION The teacher will quickly review how to use the paper right-angle tester. Learners will be asked to demonstrate how to check if an angle is acute or obtuse with their tester.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Learners will receive a worksheet containing many different angles of various sizes and orientations.
- **STEP 2:** Individually, they will use their right-angle tester to classify each angle on the worksheet as acute, right, or obtuse and write down their answer.
- **STEP 3:** Once finished, learners will swap worksheets with a partner and check each other's work using their own testers.
- **STEP 4:** Any disagreements will be discussed in pairs, and if they cannot agree, they will ask the teacher for clarification.

CONCLUSION The teacher will go over the worksheet answers with the whole class, asking learners to explain how they determined the type of each angle.

EXTENDED ACTIVITIES Learners to draw a clock face showing a time when the hands make an acute angle, a time they make a right angle, and a time they make an obtuse angle.

REFLECTION ON THE LESSON

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LESSON 4

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Angles
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify angles in the environment.
  - Compare angles using a right angle.
  - Appreciate the use of angles in real-life situations.
- **KEY INQUIRY QUESTION(S):** Where can you find angles in the environment?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 146-147
  - Sticks or straws
- **ORGANISATION OF LEARNING:** A creative, hands-on group activity.

INTRODUCTION The teacher will hold up two sticks and form an angle, asking learners to identify it. The teacher will change the angle and ask again. This will lead into an activity where learners create their own angles.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In groups, learners will be given a set of sticks or straws.
- **STEP 2:** The teacher will give instructions, and the groups must use their sticks to form the correct angle on their desks (e.g., "Show me an obtuse angle," "Show me a right angle").
- **STEP 3:** The groups will then be challenged to create a shape or a letter of the alphabet using their sticks that contains at least one of each type of angle (acute, right, obtuse).
- **STEP 4:** Each group will present their creation to the class and point out the different angles they have formed.

CONCLUSION The teacher will praise the creativity of the groups and summarize how different angles are combined to create the shapes we see all around us.

EXTENDED ACTIVITIES Learners to look at the letters in their own name (written in capitals) and identify the types of angles present.

REFLECTION ON THE LESSON

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LESSON 5

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Angles
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify angles in the environment.
  - Compare angles using a right angle.
  - Appreciate the use of angles in real-life situations.
- **KEY INQUIRY QUESTION(S):** Where can you find angles in the environment?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 146-147
  - Outdoor space
- **ORGANISATION OF LEARNING:** An outdoor exploration activity.

INTRODUCTION The teacher will explain that the class is going on an "Angle Safari" around the school compound to find angles in nature and in the school buildings.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Learners will take their notebooks and pencils and walk around the school compound with the teacher.
- **STEP 2:** They will look for examples of acute, right, and obtuse angles in their surroundings (e.g., branches of a tree, corners of buildings, playground equipment, pathways).
- **STEP 3:** Learners will make a simple sketch of the object they find and label the type of angle.
- **STEP 4:** They should aim to find at least two examples of each type of angle.

CONCLUSION Back in the classroom, learners will share the most interesting angle they found on their safari. The teacher will create a class list on the board of all the places angles were found, highlighting their importance in the world around us.

EXTENDED ACTIVITIES Learners to design a playground that includes equipment with all three types of angles.

REFLECTION ON THE LESSON

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WEEK 5

LESSON 1

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Plane figures
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify rectangles, squares, triangles, circles, and ovals from objects in the environment.
  - Draw the shapes of rectangles, squares, triangles, circles, and ovals.
  - Appreciate using shapes in real life.
- **KEY INQUIRY QUESTION(S):** How do we draw the following shapes: rectangle, square, triangle?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 148-150
  - Chart with the five shapes clearly drawn and labeled
  - Real-world objects (e.g., a book, a clock, a coin, a triangular sign, an egg)
- **ORGANISATION OF LEARNING:** Whole-class discussion and identification.

INTRODUCTION The teacher will hold up different objects (a book, a coin, etc.) and ask learners to name the shape of the object. This will introduce the five basic plane figures for the week.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** The teacher will formally introduce the five shapes using a chart: rectangle, square, triangle, circle, and oval.
- **STEP 2:** The class will discuss the visual characteristics of each shape (e.g., a square has four equal sides, a circle is perfectly round).
- **STEP 3:** Learners will participate in a scavenger hunt in the classroom to find one object that matches each of the five shapes.
- **STEP 4:** The teacher will demonstrate on the board how to draw each shape, emphasizing key features (e.g., using a ruler for straight sides).

CONCLUSION The teacher will point to a shape on the chart and have the class name it. Learners will then practice drawing the five shapes in the air with their fingers.

EXTENDED ACTIVITIES Learners to find and list one object at home for each of the five shapes.

REFLECTION ON THE LESSON

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LESSON 2

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Plane figures
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify rectangles, squares, triangles, circles, and ovals from objects in the environment.
  - Draw the shapes of rectangles, squares, triangles, circles, and ovals.
  - Appreciate using shapes in real life.
- **KEY INQUIRY QUESTION(S):** How do we draw the following shapes: rectangle, square, triangle?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 148-150
  - Rulers, pencils, exercise books
  - Circular objects for tracing (e.g., bottle caps, coins)
- **ORGANISATION OF LEARNING:** Individual drawing practice.

INTRODUCTION Review the five shapes from the previous lesson by quickly drawing them on the board and having learners name them. Announce that today's lesson will focus on drawing them accurately.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Learners will use a ruler to practice drawing squares and rectangles, paying attention to straight lines and right-angled corners.
- **STEP 2:** Learners will use a ruler to practice drawing different types of triangles (e.g., some with a right angle, some with all sides different lengths).
- **STEP 3:** Learners will use circular objects to trace and draw perfect circles. They will then try to draw ovals freehand.
- **STEP 4:** Learners will create a picture using only the five basic shapes (e.g., a house from a square and triangle, a car from rectangles and circles).

CONCLUSION Learners will display their shape pictures. The teacher will highlight how complex images can be built from simple shapes, reinforcing their importance.

EXTENDED ACTIVITIES Learners to complete their shape picture, color it, and label at least one of each of the five shapes used.

REFLECTION ON THE LESSON

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LESSON 3

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Plane figures
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify rectangles, squares, triangles, circles, and ovals from objects in the environment.
  - Draw the shapes of rectangles, squares, triangles, circles, and ovals.
  - Appreciate using shapes in real life.
- **KEY INQUIRY QUESTION(S):** How do we draw the following shapes: rectangle, square, triangle?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 148-150
  - Playdough or clay
- **ORGANISATION OF LEARNING:** A hands-on, creative group activity.

INTRODUCTION The teacher will ask learners to describe the difference between a square and a rectangle, and a circle and an oval, to refresh their memory of the shapes' properties.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In groups, learners will be given playdough.
- **STEP 2:** The teacher will call out the name of a shape, and the groups will model that shape using the playdough.
- **STEP 3:** They will create all five shapes: square, rectangle, triangle, circle, and oval.
- **STEP 4:** The groups will then use their playdough shapes to create a 3D scene or model, for example, a garden with a house, trees, and a pond.

CONCLUSION Each group will present their playdough model to the class, explaining which shapes they used to build the different parts. This activity reinforces shape recognition in a tactile way.

EXTENDED ACTIVITIES Learners to look at food items during their next meal and identify the different shapes (e.g., a round chapati, a triangular samosa, a rectangular slice of bread).

REFLECTION ON THE LESSON

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LESSON 4

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Plane figures
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify lines of symmetry of different shapes.
  - Identify properties of plane figures.
  - Appreciate using shapes in real life.
- **KEY INQUIRY QUESTION(S):** Which are properties of plane figures?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 149-154
  - Paper cut-outs of squares, rectangles, and triangles
  - Mirrors (optional)
- **ORGANISATION OF LEARNING:** A practical, hands-on discovery activity.

INTRODUCTION The teacher will fold a piece of paper in half, draw half a heart shape along the fold, and cut it out. When unfolded, it reveals a perfectly symmetrical heart. This will introduce the concept of a **line of symmetry**.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Learners will be given paper cut-outs of a square, a rectangle, and different types of triangles.
- **STEP 2:** They will experiment with folding each shape to see if they can make two halves that match exactly. The fold line is the line of symmetry.
- **STEP 3:** They will discover that a square has 4 lines of symmetry, a rectangle has 2, and some triangles have 1 or 3, while others have none.
- **STEP 4:** The class will discuss the properties of the shapes, such as a square having 4 equal sides and 4 right angles, and a rectangle having opposite sides equal.

CONCLUSION The teacher will summarize the findings on the board, drawing the shapes and their lines of symmetry. The definition of a line of symmetry as a "mirror line" will be reinforced.

EXTENDED ACTIVITIES Learners to find and draw one symmetrical object from nature (e.g., a leaf, a butterfly).

REFLECTION ON THE LESSON

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LESSON 5

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** GEOMETRY
- **SUB-STRAND:** Plane figures
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify lines of symmetry of different shapes.
  - Identify properties of plane figures.
  - Make patterns using squares, rectangles, and triangles.
  - Appreciate using shapes in real life.
- **KEY INQUIRY QUESTION(S):** How can you make patterns using shapes?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 149-154
  - Paper cut-outs of squares, rectangles, and triangles in different colors
  - Glue, manila paper
- **ORGANISATION OF LEARNING:** A creative pattern-making activity.

INTRODUCTION The teacher will show examples of patterns in the classroom, such as on a piece of fabric (kitenge), the floor tiles, or a book cover, and point out the repeating shapes.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In groups, learners will be given colored paper shapes (squares, rectangles, triangles).
- **STEP 2:** They will discuss and plan a repeating pattern they want to create.
- **STEP 3:** They will arrange and glue their shapes onto a piece of manila paper to create their pattern.
- **STEP 4:** The pattern should have a clear sequence that repeats (e.g., square-triangle-square-triangle...).
- **STEP 5:** While creating, the teacher will encourage discussion about the properties of the shapes they are using (e.g., "Make sure the sides of the squares are all equal").

CONCLUSION Each group will display their pattern. The class will identify the repeating unit in each group's design. The teacher will highlight how patterns are a fundamental part of art, design, and mathematics.

EXTENDED ACTIVITIES Learners to design a border for a page in their exercise book using a repeating pattern of two different shapes.

REFLECTION ON THE LESSON

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WEEK 6

LESSON 1

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** DATA HANDLING
- **SUB-STRAND:** Data
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify materials for data collection and recording.
  - Collect data of at most 10 items within the school environment.
  - Show data using tally marks.
  - Appreciate the use of tables in representing data in real-life situations.
- **KEY INQUIRY QUESTION(S):** How can you represent data?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 155-157
  - Notebooks, pencils
  - Classroom objects
- **ORGANISATION OF LEARNING:** Whole-class discussion followed by a practical data collection activity.

INTRODUCTION The teacher will ask a question like, "How many learners in our class are wearing blue shirts today?" and ask for ideas on how to find out and record the answer accurately. This will introduce the concept of collecting data.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Discuss what "data" is (information) and why we collect it (to answer questions).
- **STEP 2:** List materials used for collecting data (e.g., pen, paper, observation).
- **STEP 3:** As a class, choose a simple topic for data collection, for example, "Types of pens in the classroom (blue, black, red)."
- **STEP 4:** The teacher will introduce **tally marks** as a quick way to record data. The "five-bar gate" method (||||) will be demonstrated.
- **STEP 5:** Learners will walk around the class, observe the color of each learner's pen, and record the data using tally marks in their notebooks.

CONCLUSION The teacher will collect the data from the class on the board, creating a simple tally chart. The class will then count the tallies to find the total for each color.

EXTENDED ACTIVITIES Learners to use tally marks to record the number of chairs and tables in one room of their house.

REFLECTION ON THE LESSON

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LESSON 2

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** DATA HANDLING
- **SUB-STRAND:** Data
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify materials for data collection and recording.
  - Collect data of at most 10 items within the school environment.
  - Show data using tally marks.
  - Appreciate the use of tables in representing data in real-life situations.
- **KEY INQUIRY QUESTION(S):** How can you represent data?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 155-157
  - A collection of different items (e.g., leaves, bottle caps, stones)
- **ORGANISATION OF LEARNING:** A group-based data collection activity.

INTRODUCTION Review the use of tally marks from the previous lesson. The teacher will write a number (e.g., 8) on the board and ask a learner to represent it using tallies.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In groups, learners will be given a mixed bag of items (e.g., 5 red bottle caps, 7 green ones, 4 blue ones).
- **STEP 2:** Their task is to sort the items into categories (by color).
- **STEP 3:** They will then count the items in each category and record the number using tally marks in their notebooks.
- **STEP 4:** The groups will then swap their bags of items with another group and repeat the exercise, checking the previous group's work.

CONCLUSION Each group will report their findings to the class. The teacher will emphasize how sorting and tallying helps to organize information and make it easier to understand.

EXTENDED ACTIVITIES Learners to sort their clothes at home by type (shirts, trousers, shorts, etc.) and make a tally chart to show how many of each they have.

REFLECTION ON THE LESSON

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LESSON 3

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** DATA HANDLING
- **SUB-STRAND:** Data
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Identify materials for data collection and recording.
  - Collect data of at most 10 items within the school environment.
  - Show data using tally marks.
  - Appreciate the use of tables in representing data in real-life situations.
- **KEY INQUIRY QUESTION(S):** How can you represent data?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 155-157
  - Survey question
- **ORGANISATION OF LEARNING:** A whole-class survey activity.

INTRODUCTION The teacher will explain that data can also be collected by asking people questions. This is called a survey.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** As a class, decide on a simple survey question with a few possible answers. For example, "What is your favorite fruit? (Apple, Banana, Orange, Mango)."
- **STEP 2:** The teacher will draw a chart on the board with the four fruit options.
- **STEP 3:** Each learner will come to the board and place a tally mark next to their favorite fruit.
- **STEP 4:** Once everyone has voted, the class will count the tallies to find out which fruit is the most popular and which is the least popular.

CONCLUSION The teacher will lead a discussion on what the data tells them (the results of the survey). This introduces the idea of interpreting data.

EXTENDED ACTIVITIES Learners to conduct a small survey at home with their family members on a simple topic (e.g., favorite color) and record the results using a tally chart.

REFLECTION ON THE LESSON

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LESSON 4

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** DATA HANDLING
- **SUB-STRAND:** Data
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Draw a table for recording data.
  - Record data in the table.
  - Interpret the raw data from the table.
  - Appreciate the use of tables in representing data.
- **KEY INQUIRY QUESTION(S):** How can you draw a table for recording data?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 155-157
  - Rulers, pencils, exercise books
  - Data from a previous lesson (e.g., the favorite fruit survey)
- **ORGANISATION OF LEARNING:** A guided whole-class activity on data representation.

INTRODUCTION The teacher will show the tally chart from the previous lesson and explain that while tallies are good for collecting data, a **table** is a neater way to present the final results.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** The teacher will demonstrate how to draw a simple table with two columns: one for the category (e.g., 'Fruit') and one for the number, which is called **frequency** (e.g., 'Number of Learners').
- **STEP 2:** Using the data from the fruit survey, the teacher will fill in the table with the class.
  - The 'Fruit' column will list Apple, Banana, Orange, Mango.
  - The 'Number of Learners' column will have the total count for each fruit.
- **STEP 3:** Learners will practice drawing and filling in a similar table in their notebooks using data from another activity (e.g., the pen colors).
- **STEP 4:** The class will discuss how the table makes it very easy to see the results at a glance.

CONCLUSION The teacher will summarize the parts of a frequency table (title, columns, headings) and its purpose.

EXTENDED ACTIVITIES Learners to present the data they collected from their family survey in a neat frequency table.

REFLECTION ON THE LESSON

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LESSON 5

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** DATA HANDLING
- **SUB-STRAND:** Data
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Draw a table for recording data.
  - Record data in the table.
  - Interpret the raw data from the table.
  - Appreciate the use of tables in representing data.
- **KEY INQUIRY QUESTION(S):** How can you draw a table for recording data?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 159-161
  - A simple story or paragraph with numerical data
  - Worksheets
- **ORGANISATION OF LEARNING:** Individual work on data extraction and representation.

INTRODUCTION The teacher will ask, "Where can we get data from?" leading to the idea that data can be found in stories, reports, and observations.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** Learners will read a short paragraph containing data, for example: "In a farm, there are 5 cows, 8 chickens, 3 goats, and 5 sheep."
- **STEP 2:** Their first task is to identify the categories (the types of animals) and the frequency for each (how many of each animal).
- **STEP 3:** They will then draw a frequency table with the headings 'Animal' and 'Number'.
- **STEP 4:** They will fill in the table with the data extracted from the paragraph.
- **STEP 5:** Learners will then answer simple questions about the data in the table, such as "Which animal is the most common?" and "How many animals are there in total?"

CONCLUSION The teacher will review the exercise, emphasizing the skill of reading information carefully to extract data and the importance of creating a clear and accurate table.

EXTENDED ACTIVITIES Learners to write three sentences describing the data from the table they created in class.

REFLECTION ON THE LESSON

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WEEK 7

LESSON 1

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** DATA HANDLING
- **SUB-STRAND:** Data
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Draw a table for recording data.
  - Record data in the table.
  - Interpret the raw data from the table.
  - Appreciate the use of tables in representing data.
- **KEY INQUIRY QUESTION(S):** How can you draw a table for recording data?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 159-161
  - Data collected by learners (e.g., from family surveys)
- **ORGANISATION OF LEARNING:** A group activity focusing on data presentation and interpretation.

INTRODUCTION Learners will be asked to take out the data they collected from their family surveys (extended activity from Week 6). Today's lesson is about presenting and understanding that data.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In small groups, learners will share the data they collected.
- **STEP 2:** Each group will choose one member's data to work with.
- **STEP 3:** The group will work together to draw a large, neat frequency table on manila paper to present the chosen data. The table must have a title and clear headings.
- **STEP 4:** The group will then write two or three sentences below the table that interpret the data (e.g., "In our survey, blue was the most popular color," "A total of 5 people were surveyed").
- **STEP 5:** Each group will present their poster to the class.

CONCLUSION The teacher will facilitate a discussion comparing the results from different groups, highlighting how data handling helps us understand information about the world around us.

EXTENDED ACTIVITIES Learners to look for a table of data in a newspaper or book and explain what it shows.

REFLECTION ON THE LESSON

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LESSON 2

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** ALGEBRA
- **SUB-STRAND:** Use of letters
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Represent information using letters.
  - Form algebraic expressions.
  - Appreciate the use of algebraic expressions.
- **KEY INQUIRY QUESTION(S):** Why do we represent information using letters?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 165-168
  - A box and some counters/stones
- **ORGANISATION OF LEARNING:** A guided discovery activity.

INTRODUCTION The teacher will show the class an empty box and say, "I have some stones in this box, but I'm not going to tell you how many. How can we write this down?" This introduces the idea of using a letter to represent an unknown number.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** The teacher will explain that in mathematics (algebra), we can use any letter (like x, y, or n) to stand for a number we don't know. So, the number of stones in the box can be called 'x'.
- **STEP 2:** The teacher will then take 3 more stones and place them next to the box. The teacher will ask, "Now, how can we write the total number of stones?" Learners will be guided to the expression **x + 3**.
- **STEP 3:** This will be introduced as an **algebraic expression**.
- **STEP 4:** The class will practice forming simple expressions. For example, "I have 'y' books and I buy 2 more. The total is y + 2." or "There are 'p' pencils in a packet. I take away 4. The number left is p - 4."

CONCLUSION The teacher will summarize that using letters helps us write down mathematical ideas even when we don't know all the exact numbers. A few oral questions will be given to practice forming expressions.

EXTENDED ACTIVITIES Learners to write an algebraic expression for the following: "I had 'm' mangoes and I ate 1. How many are left?"

REFLECTION ON THE LESSON

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LESSON 3

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** ALGEBRA
- **SUB-STRAND:** Use of letters
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Represent information using letters.
  - Form algebraic expressions.
  - Appreciate the use of algebraic expressions.
- **KEY INQUIRY QUESTION(S):** Why do we represent information using letters?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 165-168
  - Picture cards showing groups of items
- **ORGANISATION OF LEARNING:** Group work and presentations.

INTRODUCTION Review the concept of using a letter for an unknown number. The teacher will write an expression like 'a + 5' on the board and ask learners to create a short story for it. (e.g., "I had 'a' apples and my friend gave me 5 more.")

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** In groups, learners will be given picture cards (e.g., a picture of 3 bags, a picture of 2 loose balls).
- **STEP 2:** The teacher will explain that each bag contains the same unknown number of balls, which we can call 'b'.
- **STEP 3:** The groups must write an algebraic expression for the total number of balls shown in their pictures. (e.g., 3 bags would be b+b+b or 3b. The example above would be 3b + 2).
- **STEP 4:** The groups will practice with different scenarios, such as removing a bag or adding more loose balls.
- **STEP 5:** Each group will draw one of their scenarios on manila paper and write the correct algebraic expression next to it.

CONCLUSION The groups will present their posters. The teacher will highlight how letters can represent groups of items, leading to expressions involving multiplication (like 3b).

EXTENDED ACTIVITIES Learners to draw a picture and write an algebraic expression for "4 boxes of 'x' crayons each, plus 5 extra crayons."

REFLECTION ON THE LESSON

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LESSON 4

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** ALGEBRA
- **SUB-STRAND:** Use of letters
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
  - Form algebraic expressions.
  - Simplify algebraic expressions.
  - Appreciate the use of algebraic expressions.
- **KEY INQUIRY QUESTION(S):** How do we simplify algebraic expressions?
- **LEARNING RESOURCES:**
  - KLB Visionary Grade 4 page 167-169
  - Counters of two different colors (e.g., red and blue)
- **ORGANISATION OF LEARNING:** A hands-on activity to discover simplification.

INTRODUCTION The teacher will write on the board: "2 apples + 3 bananas + 4 apples + 1 banana." The teacher will ask, "Can we write this in a shorter, simpler way?" This will lead to combining the apples and combining the bananas (6 apples + 4 bananas). This introduces the idea of simplifying.

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** The teacher will explain that in algebra, we can only add or subtract terms that are alike. "Like terms" are those with the same letter.
- **STEP 2:** Learners will use counters. Red counters can represent 'x' and blue counters can represent 'y'.
- **STEP 3:** The teacher will write an expression on the board, e.g., **3x + 2y + 2x + 4y**.
- **STEP 4:** Learners will model this by taking 3 red, 2 blue, 2 red, and 4 blue counters. They will then group the colors together.
- **STEP 5:** By counting the grouped counters, they will find the simplified expression: **5x + 6y**. They will practice this with several examples.

CONCLUSION The teacher will summarize the rule: "You can only combine the terms that have the same letter." The process is called **simplifying** or **collecting like terms**.

EXTENDED ACTIVITIES Learners to simplify the expression: 7a + 5b + 3a - 2b.

REFLECTION ON THE LESSON

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LESSON 5

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** ALGEBRA
- **SUB-STRAND:** Use of letters
- **SPECIFIC LEARNING OUTCOMES:** By the end of the lesson, the learner should be able to:
    - Form algebraic expressions.
    - Simplify algebraic expressions.
    - Appreciate the use of algebraic expressions.
- **KEY INQUIRY QUESTION(S):** How do we simplify algebraic expressions?
- **LEARNING RESOURCES:**
    - KLB Visionary Grade 4 page 167-169
    - Worksheets with simplification problems
- **ORGANISATION OF LEARNING:** Individual practice.

INTRODUCTION Review the concept of "like terms" from the previous lesson. The teacher will write two terms on the board (e.g., 4p and 6p) and ask if they are like terms (Yes). Then write two more (e.g., 3a and 5b) and ask again (No).

LESSON DEVELOPMENT The learner is guided to:

- **STEP 1:** The teacher will work through one or two examples of simplifying expressions on the board, showing how to identify and circle or underline the like terms before combining them.
    - Example: <u>5k</u> + 4m + <u>2k</u> - m = 7k + 3m
- **STEP 2:** Learners will be given a worksheet with a variety of algebraic expressions to simplify.
- **STEP 3:** They will work individually to solve the problems in their exercise books.
- **STEP 4:** The teacher will walk around the classroom, providing support and guidance to learners who are struggling.

CONCLUSION The teacher will write the answers to the worksheet on the board. Learners will self-mark their work. The teacher will address any common errors or misconceptions.

EXTENDED ACTIVITIES Learners to create their own algebraic expression with at least four terms, and then simplify it.

REFLECTION ON THE LESSON

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WEEK 8 - 9

SCHOOL	LEARNING AREA	GRADE	ROLL	TIME
	Mathematics	4		

- **STRAND:** ALL
- **SUB-STRAND:** ALL
- **ACTIVITY:** REVISION / END OF YEAR ASSESSMENT
- **LEARNING RESOURCES:**
  - Revision textbooks
  - Past assessment papers
  - Worksheets covering all Term 3 topics
- **ORGANISATION OF LEARNING:** A combination of individual work, group revision, and formal assessment.

LESSON ACTIVITIES (spread across the two weeks):

- **Topic-based Revision:** Dedicate lessons to revising the key topics covered in Term 3:
  - **Money:** Calculations, needs vs. wants, saving.
  - **Position and Direction:** Clockwise/anti-clockwise turns, quarter/half/full turns.
  - **Angles:** Identifying and comparing acute, right, and obtuse angles.
  - **Plane Figures:** Identifying shapes, properties, symmetry, and patterns.
  - **Data Handling:** Tallying, frequency tables, and interpretation.
  - **Algebra:** Using letters and simplifying expressions.
- **Group Quizzes:** Organize learners into teams and conduct a quiz covering all topics. This makes revision interactive and fun.
- **Practice Papers:** Learners will work through practice assessment papers individually under timed conditions to prepare for the format of the final test.
- **Q&A Sessions:** Allow learners to ask questions about any topics they find difficult. The teacher can re-teach concepts based on the learners' needs.
- **End of Year Assessment:** Administer the formal end-of-year examination.

CONCLUSION The teacher will mark the assessments and provide feedback to the learners on their performance, highlighting areas of strength and areas for improvement for the next grade.

REFLECTION ON THE TERM'S WORK

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