



P.5 MATHEMATICAL SCHEME OF WORK FOR TERM THREE

E.L.O: The learner is able to solve practical problems related to utilization of Ugandan currency in everyday life.

The learner is able to use the number line to properly work out problems related to integers

The learner is able to solve mathematical problems and puzzles using the knowledge of algebra.

W K	P D	THEME	TOPIC	S/TO PIC	CONTENT	COMPETENCES		LSKIL LS	MET HODS	L/AID S	REF	R E M																			
						SUBJECT	LANGUAG E																								
1	1	Measurement	Money	Buyin g and sellin g	Examples Kamwine went shopping with 30,000/= and bought 2 tins of blue band at 3000 each. 4kg of rice at 2600/= per kg 3 loaves of bread at 3,300@ a) What was her total expenditure? <table><tr><td>Blue band</td><td>Rice</td><td>Bread</td></tr><tr><td>3000</td><td>2600</td><td>3300</td></tr><tr><td><u>X 2</u></td><td><u>x 4</u></td><td><u>x 3</u></td></tr><tr><td>6,000/=</td><td>10,400/=</td><td>9,900/=</td></tr><tr><td>10400</td><td></td><td></td></tr><tr><td>9,900</td><td></td><td></td></tr></table>	Blue band	Rice	Bread	3000	2600	3300	<u>X 2</u>	<u>x 4</u>	<u>x 3</u>	6,000/=	10,400/=	9,900/=	10400			9,900			The learner -explains expenditure -explains change -solves given problems involving buying and selling	the learner -gives correct sentences involving new words	Logical thinki ng Interp retatio n Proble m solving	Expla nation Guide d discus sion	Price tags Shopp ing list 6	Mk Pri Mtc Bk 5 pag e 237		
Blue band	Rice	Bread																													
3000	2600	3300																													
<u>X 2</u>	<u>x 4</u>	<u>x 3</u>																													
6,000/=	10,400/=	9,900/=																													
10400																															
9,900																															

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					<u>+ 6000</u> <u>26,300/=</u>						
	2			Simpl e rates	<u>Examples</u> 1. Find the cost of 8 books if each costs 700/=. 1 book costs 700/= 8 books will costs 700/= <u>X 8</u> <u>5600/=</u> 2. 3 cakes cost 2400/= what is the cost of one cake 3 cake cost 2400 1 cake will cost 2400÷3 = 800/=	interprets given problems correctly	reads given problems correctly	Critical thinking Interpretation Interpretation Problem solving	Exposition Guided discovery Question and answer	Chalk board illustration	Mk Pri Mtc bk 5 Pg 238
	3				<u>Examples</u> 5 books cost of 1,000/=. Find the cost of 12 similar books 5 books cost 1000/= 1 book will cost <u>1000</u> 5 =200/= 12 book will cost 200 <u>X 12</u> 400 <u>+ 200</u> <u>2,400/=</u>	-interprets given problems -solves given problems	-reads given problems correctly	Logical thinking Interpretation Problem solving	Explanation Guided discovery	Chalk board illustration	Mk Pri bk 5 page 239

					2. 10 mangoes cost 5000/= what is the cost of 7 mangoes? 10 mangoes cost 5000/= 1 mango will cost 10 = 500/= 7 mangoes will cost 500 <u> X 7 </u> <u>3,500/=</u>																						
	4			Shopping bills and change	Example A man had sh. 7000 and bought the following 2½kg of sugar at 1200/= @ kg 3 bars of soap at 700/= per bar How much change did he have <table><tr><td>Sugar</td><td></td><td>soap</td><td></td></tr><tr><td>2½ = <u>2 x 2 + 1</u></td><td>700</td><td>1800</td><td></td></tr><tr><td>2</td><td><u> x 3 </u></td><td><u>+2100</u></td><td></td></tr><tr><td></td><td><u>2100</u></td><td><u>3900</u></td><td></td></tr></table> 3 x 600 =1800/= Change 71000 <u>- 3900</u> <u>3100/=</u>	Sugar		soap		2½ = <u>2 x 2 + 1</u>	700	1800		2	<u> x 3 </u>	<u>+2100</u>			<u>2100</u>	<u>3900</u>		-interprets given problems correctly	-reads given bills correctly	Critical thinking	Exposition	Chalk board illustration	Mk Pri Mtc Bk5 page 240
Sugar		soap																									
2½ = <u>2 x 2 + 1</u>	700	1800																									
2	<u> x 3 </u>	<u>+2100</u>																									
	<u>2100</u>	<u>3900</u>																									
					-solves given problems involving bill tables	-completes given bill tables correctly	Interpretation	Question and answer																			
							Problem solving																				

5			Completing bill tables	Examples S father gave a shopping bill below to his children Study it and complete it. <table><tr><th>Item</th><th>Q'ty</th><th>U.C</th><th>Total</th></tr><tr><td>b. band</td><td>½kg</td><td>Sh.4000a</td><td>2000</td></tr><tr><td>bread</td><td>3</td><td>kg</td><td>2400</td></tr><tr><td>t leaves</td><td>loaves</td><td>Sh800per</td><td>Sh.1200</td></tr><tr><td>sugar</td><td>¼kg</td><td>Sh 4800</td><td>Sh.4800</td></tr><tr><td></td><td>4kg</td><td>Sh1200</td><td>10400</td></tr></table> b.band bread ½x4000 800 1200÷¼ =2000/= x 3 1200x¼ 	Item	Q'ty	U.C	Total	b. band	½kg	Sh.4000a	2000	bread	3	kg	2400	t leaves	loaves	Sh800per	Sh.1200	sugar	¼kg	Sh 4800	Sh.4800		4kg	Sh1200	10400
Item	Q'ty	U.C	Total																									
b. band	½kg	Sh.4000a	2000																									
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t leaves	loaves	Sh800per	Sh.1200																									
sugar	¼kg	Sh 4800	Sh.4800																									
	4kg	Sh1200	10400																									

					2. How much will a man, his wife and 3 children pay? 1 person pays sh. 500 5 people pay sh. $500 \times 5 = 2500/=$						
	7			RELATING GRAPHS OF DISTANCE AND CHARGES	Example The graph below shows bus transport along Bombo – Gulu Road. (pg 244)	-solves given problems involving graphs	-reads given information correctly	Analysis Interpretation Problem solving	Demonstration Question and answer	Chalk board illustration	Mk Pri Mtc Bk 5 Page 244
2	1			Finding profit	Example 1. Mathew bought a goat at sh 20000 and sold it at sh 27000. What profit did Mathew get? Profit = selling Price – Buying Price $= 27,000 - 20,000 = 7,000/=$ 2. Adeke sold a suit at sh. 150,000/= if he bought it at 80,000/= what was his profit ? Profit = S.P – B.P	finds profit correctly	reads given information correctly -constructs correct sentences using profit	Identification Problem solving Logical thinking	Exposition Explanation	Text books Chalk board illustration	Mk pri mtc bk 5 page 245

					$=150,000 - 80,000$ $=70,000/=$						
	2			FINDING LOSS	EXAMPLE Loss B.P – S.P 1. A tailor bought a dress at 48,000= . Find the loss made. Loss = B.P – S.P $= 48,000 - 35,000$ $= 13,000=$	-interprets given information correctly -finds loss correctly using given information	-reads given information correctly	Identification Critical thinking Problem solving	Exposition Guided discovery	Chalk board illustration	Mk Pri Mtc Bk 5 page 245
	3			Finding the cost price when given profit and selling price	Example Nabisere sold a radio set at sh. 50,000. She made a profit of 10,000/= Find the cost price $C.P = S.P - \text{Profit}$ $50,000 - 10,000$ $= 40,000=$	-studies given information correctly -finds the cost price correctly	-reads given information correctly -constructs sentences using cost price	Identification Logical thinking Problem solving	Explanation Question and answer	Chalk board illustration	Mk Pri Mtc Bk 5 P 246
	4			Finding the cost price when given loss	Example Okech sold a goat at 15,000/= and made a loss of 3,000/=. How much did he buy price = S.P + Loss $= 15,000 + 3,000/=$ $= 18,000/$	-interprets given information correctly -calculates the cost	-compares loss and cost price correctly	Critical thinking Problem solving	Exposition Question and	Chalk board illustration	Mk Pri Mtc Bk 5 Page

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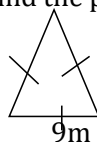
					2. Nakikoba sold 4 sacks of sim sim at 220,500/= and made a loss of 13,500/=. What was the cost price of simsim. C.P = S.P + Loss = 220,500+13,500= =234,000/=	price correctly			answer Guided discussion		e 247
	5			METRIC CONVERSIONS	Changing cm to mm Example How many millimeters are in 8cm? 1cm = 10mm 8cm = 8x10 =80mm 2.Express 180cm as mm 1cm = 10mm 180x10 =1800mm	-interprets given information correctly -changes cm to mm	-reads given problems correctly	Logical thinking Problem solving Accuracy	Exposition Question and answer	Chalk board illustration	Mk Pri Mtc Bk5 Page 153
	6				Expressing MM as CM Examples 1. Express 120mm as cm 10mm = 1 cm 120mm = <u>120</u> 10 =12cm 2. How many centimeters are in 210mm? 10mm = 1 cm 210mm = 210 10	-compares mm and cm correctly changes mm to cm correctly	reads sentences involving mm and cm	Critical thinking Problem solving	Explanation Guided discussion	Chalk board illustration	MK Pri Mtc Bk 5 Pg 153

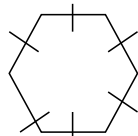
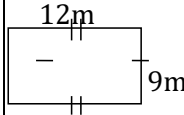
					21cm						
	7				Converting metres to centimeters Example Convert 11m to cm $1\text{m} = 100\text{cm}$ $11\text{m} = 11 \times 100$ $= 1100\text{cm}$	-compares metres to centimetres -changes metres to centimetres	-reads given information correctly -gives sentences involving metres and centimeter	Effective communication Accuracy	Exposition Guided discovery	Chalk board illustration	Mk Pre cise Mtc Bk 5 page 154
3	1				Change 12.8m to cm $1\text{m} = 100\text{cm}$ $12.8 = 12.8 \times 100$ $= \underline{128} \times 100$ 10 $= 1280\text{cm}$	-compares metres and centimeters correctly. changes metres involving decimals correctly	-reads given information correctly				
	2				Changing centimeters to metres Example Change 900cm to metres $100\text{cm} = 1\text{m}$ $1\text{cm} = \underline{1}$ 100 $900\text{cm} = \underline{1} \times 900$ 100 1x9 $= 9\text{m}$	-compares metres to cm correctly -changes cm to metres correctly	-reads given information correctly	Critical thinking Problem solving Accuracy	Guided discovery Exposition	Chalk board illustration	Mk Pri Bk 5 Page 154

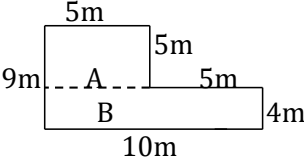
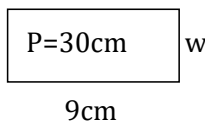
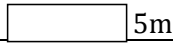
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					2. Express 4520cm as m $100\text{cm} = 1\text{m}$ $4520\text{cm} = \frac{1}{100} \times 4520$ $\frac{452}{10}$ $= 45.2$ metres						
	3				Converting kilometers to metres Example 1. Change 15km to metres $1\text{km} = 1000\text{m}$ $15\text{km} = 15 \times 1000$ $15,000\text{m}$ 2. Convert 0.15km to metres $1\text{ km} = 1000\text{m}$ $0.15\text{km} = 0.15 \times 1000$ $\frac{15}{100} \times 1000$ $= 15 \times 10$ 150m	-changes km to metres correctly	compares km and metres orally	Critical thinking Problem solving Accuracy	Guided discussion Exposition	Chalk board illustration	Mk pri mtc bk 5 page 155
	4				Expressing metres as kilometers Example Change 8000m to km $1000\text{m} = 1\text{ km}$ $1\text{m} = \frac{1}{1000}$	-changes metres to kilometres correctly	make oral sentences involving metres and kilometres	Logical thinking Problem solving	Question and answer	Chalk board illustration	Mk Pri Mtc Bk 5 pag

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					8000m = $\frac{1}{1000} \times 8000$ 1000 1x 8 = 8km 2. Convert 17,500m to km 1000m = 1 km 1m = $\frac{1}{1000}$ 17500m = $\frac{1}{1000} \times 17500$ 1000 <u>175</u> 10 = 17.5km			Effecti ve comm unicati on	Expos ition		e 156
	5				Comparing metric units using >, < or = example 1. 60mm < 20cm 1cm = 20x10 -200mm 60< 200mm 2. $\frac{1}{2}$ km _____ 300m $\frac{1}{2} \times 1000 = > 300\text{m}$	compares units of length using symbols	-reads given symbols correctly -names given symbols correctly	Logical thinki ng	Analy sis Probl em solvin g	Chalk board illustr ation	Mk Pri Mtc Bk 5 Pag e 156
	6		Perim eter is the total distan ce round	Perimeter is the total distance round a polygon Example Find the perimeter of  9m =27m $P=s + s + s$ $=9\text{m}+9\text{m}+9\text{m}$ $=18\text{m}+9$	-defines perimeter correctly	makes sentences involving perimeter	Identif ication Critical thinki ng	Guide d discus sion Expla nation	Chalk board illustr ation	Mk Pri Mtc Bk 5 pag e 157	

					 $P= s+s+s+s$ $(10.5+10.5+10.5+10.5+10.5$ $)\text{cm}$ $21.0 +21.0+10.5$ $42.0+10.5$ $=52.5\text{cm}$			Proble m solving			
	7			Perim eter of rectan gle and squer es	Example Find the perimeter of the rectangle below  $P=L+W+L+W$ $=12\text{m}+9\text{m}+12\text{m}+9\text{m}$ $=21\text{m}+21\text{m}$ $=42\text{m}$ $P= s+s+s+s$ $=(13+13+13+13)\text{cm}$ $=52\text{cm}$	-identifies rectangles correctly -finds perimeter of a given rectangle correctly	describes a rectangle correctly explains the word “perimeter ”	Creativ e thinki ng Proble m solving	Expos ition Questi on and answe r	Chalk board illustr ation	Mk Pri Mtc Bk 5 pag e 157
4	1			Findin g Perim	Examples Find the perimeter of the figure below.	finds distance around	-spells common words in	Interp retatio n	Expos ition	Chalk board	Mk Pri Mtc

			etre of other polygi n	 $P = s+s+s+s+s+s$ $= (10+4+5+5+5+9)m$ $(14+10+14)m$ $= 38m$	combined rectangles correctly	the lesson correctly	Critical thinki ng Proble m solving	Questi on and answe r Demo nstrat ion	illustr ation	Bk 5 pag e
	2		Findin g the missi ng side of a rectan gle wen given the perim eter	Example The perimeter of a rectangle is 30cm. if its length is 9cm, find the width  Let the width be w	-finds the missing side of a rectangle given perimeter	-reads given informatio n correctly	Interp retatio n Logical thinki ng Proble m solving	Questi on and answe r Expos ition	Chalk board illustr ation	Mk Pri Mtc Bk5 Pag e 158
	3		Findin g te area of of suar es rectan gle	Area is the total space covered or occupied by an object Examples Calculate the area of a rectangle whose length is 9cm and width 5m 	-interprets given information correctly -finds area of a given triangle correctly	names given triangles correctly	Critical thinki ng Interp retatio n	Expla nation Guide d discus sion	Chalk board illustr ation	mK Pri Mtc Bk 5 Pag e 159

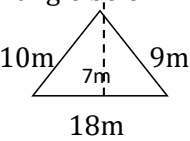
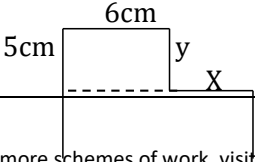
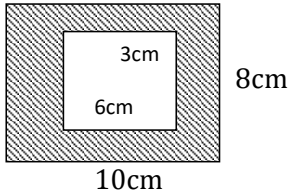
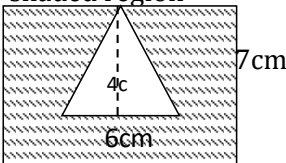
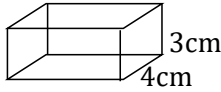
				9m $A = L \times W$ $= 9m \times 5m$ $= 45m^2$ 2. Find the area of the square below  8m $8m \quad A = s \times s$ $= 8m \times 8m$ $= 64m^2$			Problem solving			- 160
	4		Findin g the area of triang le	Example Calculate the area of the triangle below. 	names parts of a given triangle correctly -finds area of a given triangle correctly	names given triangles correctly	Effecti ve comm unicati on Proble m solving	Expos ition Guide d discus sion	Chalk board illustr ation	Mk Pri Mtc Bk5 pag e 161
	5		Findin g the area of combi ned	Example Find the area of the figure below 	-recognizes combined figures -finds area of combines	reads given informatio n correctly	Logical thinki ng	Demo nstrat ion Expos ition	Chalk board illustr ation	Mk Pri Mtc Bk 5

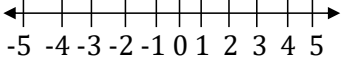
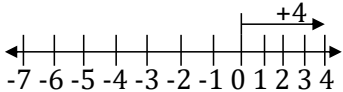
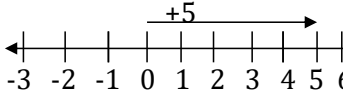
			figure s	3cm _____ 9cm Step1 find the value of the unknown sides X= 9cm-6cm y= 5cm – 3cm =3cm =2cm Split 1 divide the figure e.g 6cm 2cm 3m 9cm A= L x W A= L x W 6cm x 2cm 9cm x 3cm =12cm² = 27cm² Total area = A + B = 12cm² + 27cm² = <u>39cm²</u>	figures correctly		Proble m solving Accura cy			Pag e 164 - 165
	6		Word probl ems involv ing area	<u>Examples</u> The area of a triangle is 48cm². If its base is 12cm, find the height. Let the height be k A = ½ x b x h 48 = ½ x 12 x k <u>48</u> = <u>6</u>k	-reads given word problems involving area correctly -finds the missing side	-reads given word problems correctly	Interp retatio n Logical thinki ng	Demo nstrat ion Expos ition	Chalk board illustr ation	Mk Pri Mtc Bk 5 Pag e 165

					6 6 8cm = k	of a rectangle given area		Proble m solving	Guide d discov ery		
5	7			Findin g area of shade d region s/ parts	Examples 1. Find the area of the shaded part  Area of outer Figure area of the inner figure $A = L \times W$ $A = L \times W$ $10\text{cm} \times 8\text{cm}$ $6\text{cm} \times 3\text{cm}$ $= 80\text{cm}^2$ $= 18\text{cm}^2$ Shaded area $= 80\text{cm}^2$ $\underline{-18\text{cm}^2}$ $\underline{62\text{cm}^2}$	-recognizes given figures correctly -finds area of shaded regions in given rectangles	-names given regions correctly	observ ation analysi s proble m solving accura cy	guide d discus sion questi on and answe r	Chalk board illustr ation	Mk Pri Mtc Bk5 pag e 166 - 167

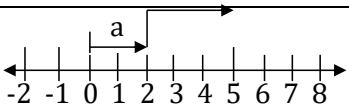
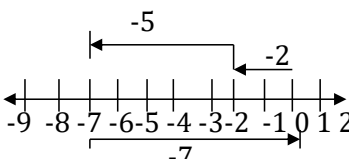
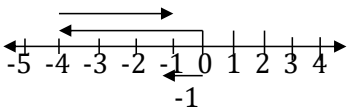
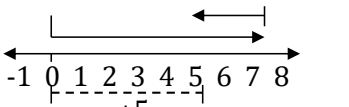
5	1				2. Find the area of the shaded region  12cm Area of $\square$ area of $\triangle$ $A = L \times W$ $A = \frac{1}{2} \times b \times h$ $12\text{cm} \times 7\text{cm}$ $\frac{1}{2} \times 6\text{cm} \times 4$ $= 84\text{cm}^2$ $1 \times 3 \times 4$ $= 12\text{cm}^2$ Area of shaded part $= 84\text{cm}^2$ $\underline{- 12\text{cm}^2}$ $\underline{72\text{cm}^2}$	recognizes given figures correctly -finds area of shaded regions in given rectangles	names given regions correctly				
	2	Length mass capacity	Total surface area	Find the total surface area  6cm $2(L \times W) + 2(L \times H) + 2(W \times H)$ $2(6 \times 3) + 2(6 \times 4) + 2(4 \times 3)$ $(2 \times 18) + (2 \times 24) + (2 \times 12)$ $36\text{cm} + 48\text{cm} + 24\text{cm}$ 108cm^2	-finds the total surface area of the cuboid writes the given units correctly	-reads and interprets the words problems involving surface area on a cuboid	recitation recognition critical thinking	Guided discussion Brain stormiest Question and	Chalk board illustration	Mk Pri Mtc Bk 5 Page 170	

									problem solving	answer															
	3			Changing kilometers to grams	Example Change 3½kg to grams <table><tr><td>KG</td><td>HG</td><td>DG</td><td>G</td><td>GG</td><td>CG</td><td>MG</td></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td></td><td></td><td></td></tr></table> 1kg = 1000g 3½= $\frac{7}{2}$ x1000 2 7x 500 =3,500	KG	HG	DG	G	GG	CG	MG	1	0	0	0				-identifies the order of metallic units -changes mixed numbers to improper fractions -converts kilograms to grans and vice versa	-reads and interprets word problems involving mass	Identification Analysis Problem solving	Guided discovery Guided discussion	Text books Chalk board illustration	Mk Pri Mtc Bk 5 262
KG	HG	DG	G	GG	CG	MG																			
1	0	0	0																						
	4			Expressing grams as kilograms	Example Change 300g to kg 1000g = 1 kg 1g = $\frac{1}{1000}$ 300g = $\frac{1}{1000}$ x 300 $\frac{3}{10}$ 10 =0.3kg 2. Express 3,250g to kg 100g =1kg =<u>325</u> 1g= $\frac{1}{100}$kg 100 1000	-expresses gramd as kilograms correctly	-reads and interprets word problems involving mass	Creative thinking Problem solving	Guided discussion Question and answer	Chalk board illustration	Mk Pri Mtc Bk 5 Page 262														

					$3250 = \frac{1}{1000} \times 3250 = 3.25\text{kg}$																				
	5			Expressing litres as milliliters	Examples <table><tr><td>KL</td><td>HL</td><td>DL</td><td>L</td><td>DL</td><td>CL</td><td>ML</td></tr><tr><td></td><td></td><td></td><td>1</td><td>0</td><td>0</td><td>0</td></tr></table> 1. Change 4l to millilitres $1\text{L} = 1000\text{ml}$ $4\text{l} = 4 \times 1000 = 4000\text{ml}$ 2. Express 0.25L as ml $1\text{l} = 1000\text{m}$ $0.25\text{l} = 0.25 \times 1000$ $\frac{25}{100} \times 1000$ 100 $= 250\text{ml}$	KL	HL	DL	L	DL	CL	ML				1	0	0	0	-compares litres with mililitres expresses litres as mililitres and vice versa	reads and interprets word problems involving capacity	Recognition Logical thinking Problem solving	Exposition Guided discovery	Text books Chalk board illustration	Mk Pri Mtc Bk 5 page 263
KL	HL	DL	L	DL	CL	ML																			
			1	0	0	0																			
	6			Expressing millilitres as litres	Example Change 5000ml as litres $1000\text{ml} = 1\text{l}$ $1\text{ml} = \frac{1}{1000}$ $5000\text{ml} = \frac{1}{1000} \times 5000$ 1000 $= 5\text{l}$ 2. Express 4,200ml as l $1000\text{ml} = 1\text{l}$ $1\text{ml} = \frac{1}{1000}$ $4200\text{ml} = 1 \times 4200$ 42	-compares litres with mililitres expresses litres as mililitres and vice versa	reads and interprets word problems involving capacity	Critical thinking Guided discussion	Exposition Guided discussion	Text books Chalk board	Mk Pri Mtc Bk 5 Page 263														

					10 =4.21						
	7	Numeracy	Integer	showing integers on a number line	<u>A numberline</u> zero (neutral) -ve integers +ve integers  -5 -4 -3 -2 -1 0 1 2 3 4 5 We count spaces to know the movement and follow the arrows.  -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 2. Show +5 on a number line  -3 -2 -1 0 1 2 3 4 5 6	-describes a number line -draws a number line -identifies positive and negative integers	describes positive and negative integers on a number lines orally	Effective communication Exposition	Explanation Guided discussion	Chalk board illustration	Mk Pri Mtc Bk 5 Page 98
6	1	numeracy	integer	composition of integers	use ., < or = to compare integers examples i) $-5 < 5$ ii) $0 > -18$ iii) $+10 = 10$ note: zero and all positive intergers are greater than all negative integers	uses symbols >, < or = to compare integers	explains less than or equal to to compare given part of integers	accuracy effective communication	exposition demonstration question and	chalk board illustration	Mk Pri m Book 5 page 99

								problem solving confidence	answer illustration		
	2			composition of Integers	Arranging integers Arrange e.g 0, -2, 2, 4, -1, 3, 5, in ascending order. ← -3 -2 -1 0 1 2 3 4 5 6 → Correct order. -2 -1 0 1 2 3 4 5 Note: Any number on the left of the other is smaller than the one to the right	arranges integers in order -arranges integers in ascending or descending order	-describes what “ordering of integers” is explains ascending and descending order	Effective communication Problem solving Accuracy	Exposition Demonstration Question and answer	Chalk board illustration	Mk Pri Mtc Bk 5 page 99
	3			Inverses of integers	Inverse is the opposites of a given integers Example Find the inverse of +6 Let the inverse be j J + 6 =0 J+6 -6 = 0-6 J = -6	-finds the inverse of given integers correctly	-defines the term “inverse” correctly	Effective communication Problem solving	Explanation Question and answer	Chalk board illustration	Mk Pri Mtc Bk 5 page 100
	4			Addition of integers	Example 1.add +2 + +3 b	adds integers using	-describes the addition of	Critical thinking	Guided	Chalk board	Mk Pri Mtc

			rs on a numb er line	 2. $+2 + -5$ 	number lines	integers on a number line	Proble m solving Accura cy	discov ery Questi on and answe r	illustr ation	Bk5 pag e 103 - 104
	5		SUBT RACTI ON OF INTE GERS ON A NUMB ERLIN E	Examples Subtract $-4 - -3$  2. Subtract: $+7 - +2$  $+7 - +2 = +5$	-subtracts integers using number lines	-describes the subtraction of integers on a number line	Effecti ve comm unicati on Logical thinki ng Proble m solving	Guide d discus sion Expos ition Demo nstrat ion	Chalk board illustr ation	Mk Pri Mtc Boo k 5 pag e 105
	6		Solvin g simpl e word probl em	Examples Show these expressions using integers 1. A shopkeeper lost sh. 10. $-10/=$ 2. Annet did not have any money 0	-solves simple word problems involving integers	-reads and interprets questions -shows the expression using integers	Interp retatio n Logical thinki ng	Demo nstrat ion Questi on and	Chalk board illustr ation	Mk Pri Mtc Bk 5 Pag

					3. Two steps forward +2 4. 3 metres below the ground -3			Problem solving Effective communication	answer		e 96															
7	1		Writing mathematical statements	Write the mathematical statements A=+3 B=-5 C=-2 Mathematical statement A + b = c +3 + - 5 = -2	-recognizes the arrow -identifies the first movement that starts from zero -writes the mathematical statement	-names the drawn arrows on a number line -writes the integers represented by arrows correctly	Identifying integers Problem solving	Chalk board illustration Guided discussion	Chalk board illustration Guided discussion	Mk Pri Mtc Bk 5 Page 109																
7	1		Addition of integers	Addition of integers without a number line Note: (-) x (-) = + (+) x (+) = + (-) x (+) = - (+) x (-) = - Work out <table><tr><td></td><td></td><td>-ve</td><td>+ve</td></tr><tr><td>+3 + (-) 4</td><td>-8 + (+) 12</td><td>--</td><td>++</td></tr><tr><td>+3 - 4</td><td>-8 + 12</td><td>--</td><td>++</td></tr><tr><td>= -1</td><td>= +4</td><td>--</td><td>++</td></tr></table>			-ve	+ve	+3 + (-) 4	-8 + (+) 12	--	++	+3 - 4	-8 + 12	--	++	= -1	= +4	--	++	adds integers without number lines -multiplies signs correctly	identifies the signs properly and correctly names the signs correctly	Critical thinking Accuracy	Observation Question and answer	Chalk board illustration	Mk Pri Mtc Bk 5 page 111
		-ve	+ve																							
+3 + (-) 4	-8 + (+) 12	--	++																							
+3 - 4	-8 + 12	--	++																							
= -1	= +4	--	++																							

					+			Proble m solving				
	2		Intege r	Subtr action of intege rs	Subtraction of integers without using a number line -3— -3 -4 - +11 -3+3 -4 -11 0 -15 +27 —+ 5 +18— -12 27 - 5 18 + 12 =22 = 30 Working +ve ve +7+-4 ++ - - 7-4 ++ - - +3 + + + +3	-multiplies the signs to get a single sign	-identifies the signs properly and correctly	Critical thinki ng Proble m solving	Guide d discus sion Expla nation	Text books Chalk board illustr ation	Mk Pri Mtc Boo k 5 pag e 112	
	3	ALGEBR A		COLL ECTIN G LIE TERM S	<u>Collecting like terms</u> e.g 5 trees + 7 trees – 3 trees = 12t -3t = 9t II 6 eggs + 8 eggs – 4eggs 6e + 8e – 4e = 14e – 4e =10e	identifies the like and un like terms together -adds and subtracts like terms	-identifies like and unlike terms -reads like terms and un like terms correctly	Identif ication Explan ation	Questi on and answe r	Real object s e.g pens books Chalk board illustr ation	Mk Pri Mtc boo k5 pag e 267	

	4			Forming algebraic Expressions	<u>Forming algebraic expressions</u> -4 more than $a = a + 4$ -x less than $12 = 12 - x$ A number added to 10 $10 + n$ 3 subtracted from a number $n - 3$	-forms algebraic expression	-reads mathematical expression -writes the algebraic expression	Interpretation Logical thinking	Demonstration Exposition	Chalk board illustration	Mk Pri Mtc Book 5 page 270
	5			Substitution	<u>To substitute to replace</u> Given that $a=2$ $b=3$ $c=4$ Find the value of the following. a) $2a+3c$ b) $4b + c$ $2xa+3xc$ $4 \times b + c$ $2x2 + 3x4$ $4 \times 3 + 4$ 16 16 c) $(ab) - c$ d) $a + b + 2c$ $axb - c$ $a + b + 2xc$ $(2 \times 3) - 4$ $2 + 3 + (2 \times 4)$ $6 - 4$ $5 + 8$ $= 2$ $= 13$	-replaces the letters with their values carries out the operations	-explains substitution reads the questions correctly	Critical thinking Identifies values of letters	Guided discussion	Text book Chalk board illustration	Mk Pri Mtc Book 5 page 271
	6	Algebra	Addition	Solving equation with addition	An equation is an algebraic expression Sign between <u>Solve the equation with addition</u> $N + 6 = 13$ $N + 6 - 6 = 13 - 6$ $N = 7$ $15 + x = 38$	identifies the operation on given equation -uses the inverse to solve the equation	-reads the equation -interprets the given equations correctly	Interpretation Logical thinking	Explanation Question and answer	Real objects Chalk board illustration	Mk Pri Mtc Bk 5 Page 272

					$15 - 15 + x = 38 - 15$ $X = 23$						
	7			Word problem	<u>Word problems involving addition</u> The sum of 2 numbers is 32 one of them is 19 find the second number. Let the number be k $19 + k = 32$ $19 - 19 + k = 32 - 19$ $K = 13$	forms the equation solves the equation find the value of unknown	reads and interprets word problems involving algebra	Problem solving Effective communication	Observation Guided discussion	Chalk board illustration	Mk Pri Mtc Page 273
8	1			Subtraction	<u>Solving equations with subtraction</u> Solve i) $n - 8 = 3$ $N - 8 + 8 = 3 + 8$ $N = 11$ ii) $M - 83 = 47$ $M - 83 + 83 = 47 + 83$ $M = 130$ iii) $D - 20 = 13$ $D - 20 + 20 = 13 + 20$ $D = 33$	-identifies the subtraction operation -solves the equation by addition	-reads and interprets the given equation correctly	Problem solving Accuracy	Demonstration Guided discussion	Text books Chalk board illustration	Mk Pri Mtc book 5 page 274
	2		Word problem	Solving word problem with	In a class, 12 pupils were absent and 48 present How many pupils are in the class? Let the pupils in class be x $X - 12 = 48$	solves simple word problems involving algebra	reads and interprets statements involving algebra	Critical thinking	Explanation Guided	Text books Chalk board	Mk Pri Mtc Book 5 page

				subtr action	x-12+12 = 48+12 x = 60	-forms equations -finds the value of unknown		Proble m solving	discus sion	illustr ation	e 275						
	3		Divisio n	Solvin g equati on with divisi on	<u>Solving equations by dividing</u> Solve 4x = 16 Divide each side by 4 <u>4x = 16</u> 4 4 X = 4	-solves equations by dividing -divides the two sides by the	-identifies the number multiplied by the letter	Accura cy Logical thinki ng	Demo nstrat ion	Text books Chalk board illustr ation	Mk Pri Mtc boo k 5 pag e 276						
	4		DIVISI ON	WOR D PROB LEMS WITH DIVISI ON	A pen costs sh 2p and a book costs sh.p. if the total cost of a book and a pen is sh. 300 Find the cost of each <table><tr><td>Pen</td><td>Book</td><td>Total</td></tr><tr><td>2p</td><td>P</td><td>300</td></tr></table> 2t-p+p =300/= <u>3p= 300</u> 3 3 P = 100/= Pen = 2x100 = 200/= Book = 1 x 100 = 100/=	Pen	Book	Total	2p	P	300	-forms the equations -solves word problems involving division in algebra	-reads and interprets statements involving division in algebra	Critical thinki ng Proble m solving	Guide d discus sion Expla nation Questi on and answe r	Text books Chalk board illustr ation	Mk Pri Mtc Bk 5 pag e 276
Pen	Book	Total															
2p	P	300															
	5		Multipl ication	Solvin g equati	Solve x + x = 10 2x = 10 Divide each side by 2	collects like terms	-reads the equations correctly	Logical thinki ng	Guide d	Chalk board	Mk Pri Mtc						

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				on with multi plicati on	$2x = \frac{10}{2}$ $X = 5$ $7p + p = 56$ $8p = \frac{56}{8}$ $P = 6$	-solves equations with multiplicati on			discus sion	illustr ation	Boo k 5 pag e 277
	6			Word probl em	One of the 4 sides of a square is xcm. if the perimeter is 48cm, find x cm $P = 4x$ $\frac{48cm}{4} = \frac{4x}{4}$ $12cm = x$ $x = 12cm$	-solves word problems involving algebra -finds the value of unknown numbers	-reads the equations correctly	Critical thinki ng Proble m solving	Expla nation	Text books Chalk board illustr ation	Mk Pri Mtc Bk 5 pag e 277
	7		More quatio ns	Solvin g more equati on with additi on	Solve $2x + 5 = 17$ $2x + 5 - 5 = 17 - 5$ $2x = 12$ Divide by 2 on both sides $\frac{2x}{2} = \frac{12}{2}$ $X = 6$ Li a 9 $2a + 1 = 7$ $3a + 1 = 7$ $3a = 7 - 1$ $3a = \frac{6}{3}$ $a = 2$	-adds the like terms -subtracts the known numbers	-identifies unknown in the given equation -finds the value of unknown	Proble m solving Accura cy	Demo nstrat ion Guide d discus sion	Text books Chalk board illustr ation	Mk Pri Mat hs Bk Pag e 278

9	1			Solving more equations with subtraction	<u>Solve the equation</u> $5a - 2a - 3 - 12 = 0$ $3a - 15 = 0$ $3a - 15 + 15 = 0 + 15$ $3a = 15$ $3 \div 3$ $a = 5$	collects like terms -subtracts like terms -finds the value of unknown	identifies unknown in the given equation	Problem solving Accuracy	Demonstration Guided discussion	Text book Chalkboard illustration	MK Pri Maths Bk 5 page 279
	2		Fractions	Solving equations involving fractions	Solve $a = \frac{9}{4}$ $a = 9 \div 4$ Using L.C.D of 4 and 1 $\frac{4}{4} \times a = \frac{9}{4} \times 4$ $4 \div 4$ $a = 9 \times 4$ $a = 36$	changes the whole number to a fraction solves equations involving fractions -multiplies the two sides by L.C.D	-identifies the fraction -finds the value of unknown	Logical thinking Identification Problem solving	Explanation Guided discussion	Text books Chalkboard illustration	Mk Pri Maths bk 5 page 282