REPUBLIC OF SOUTH SUDAN

Pastoral Livelihoods & Education Field Schools (PLEFS)

Mathematics for Primary School

Pupil's Book 2

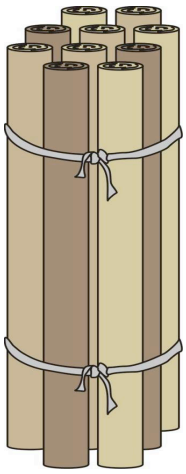
LIST OF CONTENTS

UNIT 1: NUMBERS

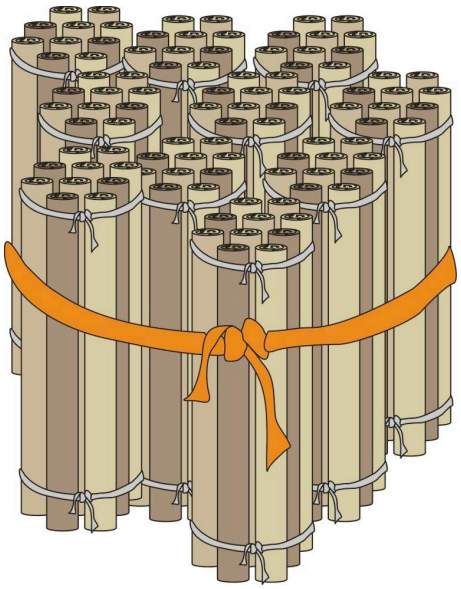
1. 1: NUMBERS UP TO THREE DIGIT:

1.1.1: Reading, counting and writing :

Using bundle of sticks; put 10 ones in bundle to make 1 tens.

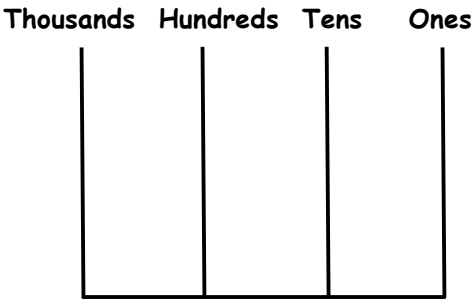


Now use same counting and put 10 tens together in a bundles to make up 1 hundreds.



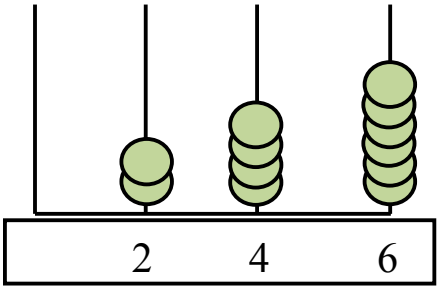
Ten bundles of ten is equal to one hundreds

10 tens = 100

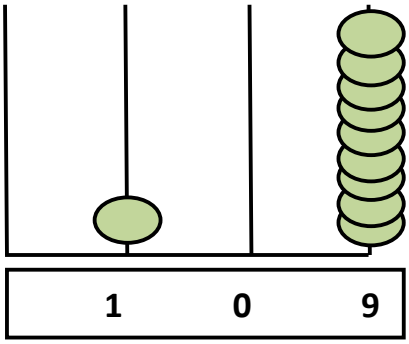


Example:

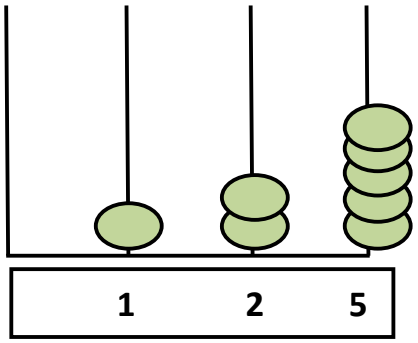
1.



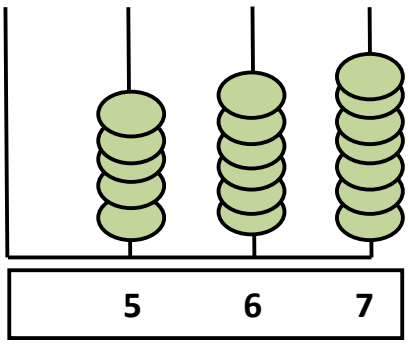
246= 2 hundreds+ 4 tens + 6 ones



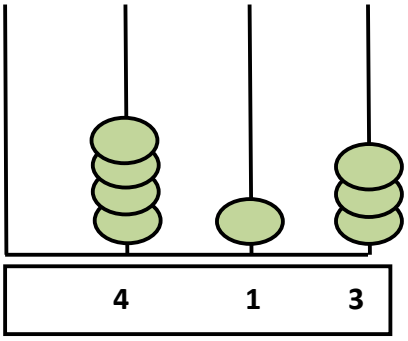
109= 1hundred , 0 tens and 9 ones



125= 1 hundred , 2 tens and 5ones



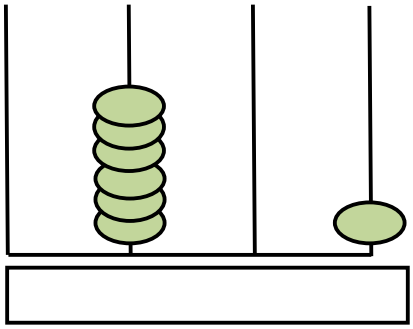
567= 5 hundreds , 6 tens and 7 ones

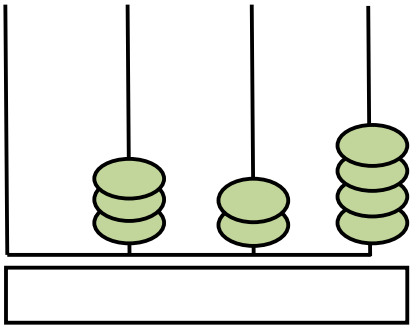


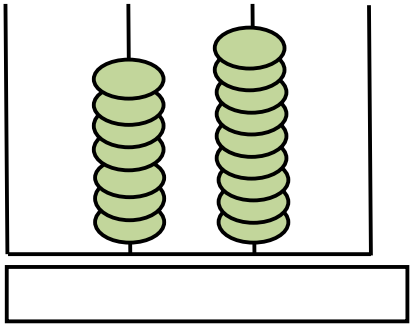
413= 4 hundreds , 1 tens and 3 ones

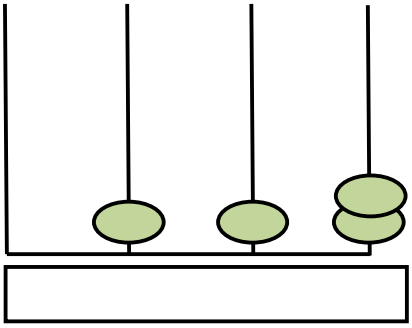
EXERCISE 1:

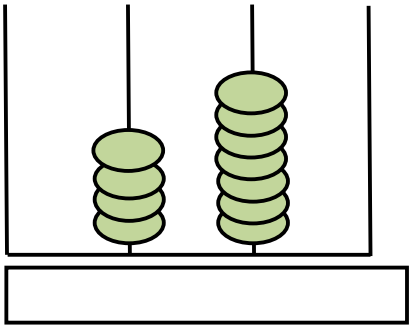
Write the number shown on each abacus below:

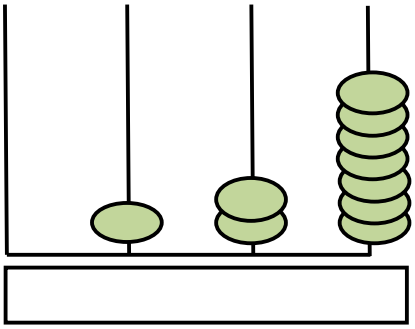


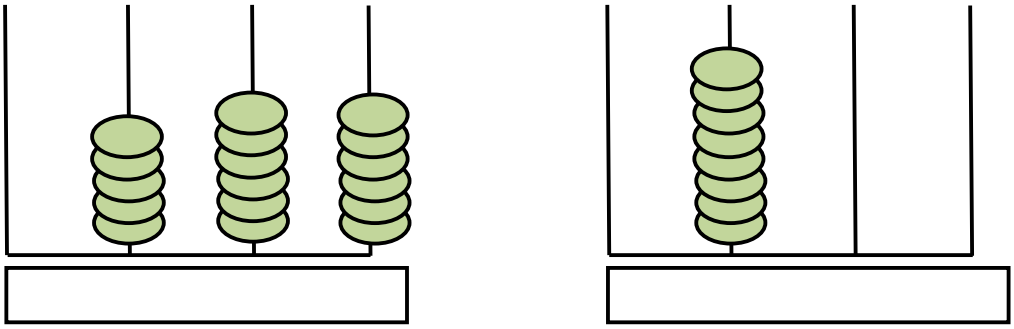












SEQUENCES:

Read and Write numbers:

100	Hundred
200	Two Hundred
300	Three Hundred
400	Four hundred
500	Five hundred
600	Six hundred
700	Seven hundred
800	Eight hundred
900	Nine hundred
1000	Thousand

READ AND WRITE:

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Exercise 2:

1. Draw abacus and write the following numbers

1) 2 3 4 2) 7 9 0 3) 1 4 1 4) 8 4 1 5) 1 0 0

2. Complete the missing numbers

67			70		72					77
81	82				86			89		91

1.2: PLACE VALUE

Identifying place value of numbers up to three digits.

Look at these numbers:

1) **321** = 3 hundreds, 2 tens, 1 ones

2) **901** = 9 hundreds, 0 tens, 1 ones

3) **78** = 0 hundreds, 7 tens, 8 ones

Exercise 3:

A) Copy and complete the following:

1) **419** = ☐ hundreds, ☐ tens, ☐ ones

2) **623**= ☐ hundreds, ☐ tens, ☐ ones

3) **771**= ☐ hundreds, ☐ tens, ☐ ones

4) **408**= ☐ hundreds, ☐ tens, ☐ ones

5) **9**= ☐ hundreds, ☐ tens, ☐ ones

B) Copy and compete the following:

1) 4 hundreds, 0 tens, 7 ones = ☐

2) 3 hundreds, 3 tens, 3 ones = ☐

3) 0 hundreds, 9 tens, 0 ones = ☐

4) 8 hundreds, 2 tens, 1 ones = ☐

5) 5 hundreds, 0 tens, 4 ones = ☐

1. 3: ADDING 3-DIGIT NUMBERS

Adding numbers up to three digits involving carrying one operation

Examples:

1)

	T	O
	4	5
+	3	3
	7	8

We say 5 and 3 ones is 8 ones, and we write 8 in the ones column

4 and 3 tens is 7 tens and we write in the tens column.

2)

	H	T	O
		7	9
+		5	7
	1	3	6

We say
9 and 7 is 16 ones. The 16 ones is 1 tens and 6 ones
We write 6 in ones column and carry 1 tens to tens column will become 1, 7 and 5 tens is 13 tens mean 1 hundreds, 3 tens Write 3 in the tens column than write 1 in the hundred column.

3)

	H	T	O
	4	5	7
+	2	6	4
	7	2	1

We say
7 + 4 ones is 11 ones.
11 ones is 1 tens and 1 ones,
Write 1 ones in the column of ones and carry 1 tens.
1, 5 and 6 tens is 12 tens. 12 tens is 1 hundreds and 2 tens
Write 2 tens in the tens column. Carry 1 hundreds.
1, 4 and 2 hundreds is 7 hundreds. Write 7 hundreds in the column of hundreds

Exercises 4:

A) Copy and complete the following additions

1)

	H	T	O
	1	6	9
+	3	5	2

2)

	H	T	O
	4	5	7
+	1	5	3

3)

	H	T	O
	1	8	2
+	2	3	9

4)

	H	T	O
	5	3	7
+	3	8	2

5)

	H	T	O
	1	2	9
+	8	9	4

B) Arrange in vertical format and add:

1) 4 4 5 + 6 6 6 =

2) 9 3 8 + 3 7 3 =

3) 5 3 4 + 1 3 8=

4) 5 1 8 + 5 4 3 =

5) 2 3 4 + 1 5 6 =

1. 4: SUBTRACTING 3-DIGIT NUMBERS

Subtract numbers up to three digits

with borrowing one operation

Examples of vertical subtraction

1)

	H	T	O
	9	6	3
-	4	3	4
	5	2	9

2)

	H	T	O
	2	9	4
-	1	7	3
	1	2	1

We say:

- 3 ones take away 4 ones is not one because 3 is less than 4; so you borrow 1 tens from 6tens, become 1tens and 3ones that you take away 4 ones remain 9 ones, write 9 in the ones column.
- Remain 5 tens in tens column you take away 3 tens is 2 tens; and write 2 in the tens columns
- 9 hundreds take away 4 hundreds is 5 hundreds; and write 5 in the hundreds column.

Exercise 5:

A) Copy and complete the following subtractions

1)

H	T	O
5	3	9
-1	0	6

2)

H	T	O
8	3	7
-3	2	4

3)

H	T	O
	7	2
	-5	1

4)

H	T	O
3	8	9
-2	7	2

5)

H	T	O
1	8	3
	-6	2

B) Arrange in place value columns and subtract

1) 5 2 8 - 3 1 5= 2) 7 0 4 - 5 0 2= 3) 8 8 8 - 8 4 2=

4) 6 3 8 - 3 1 5= 5) 9 7 8 - 3 5 6= 6) 6 8 5 - 4 2 1=

C) Subtract:

a) 3 6 2 - 4 7	**b)** 1 8 3 -1 7 8	**c)** 5 3 7 - 2 3 8	**d)** 8 2 4 -7 1 9	**e)** 2 5 2 -2 4 8
f) 5 6 8 - 1 3 6	**g)** 2 4 3 -1 3 5	**h)** 7 1 5 - 5 2 4	**i)** 9 3 4 -6 0 6	**j)** 4 2 3 -2 2 1

1. 5: MISSING NUMBERS IN 3-DIGITS

Finding missing numbers in addition and subtraction up to three digits

Here are 2 examples for finding missing numbers in addition and subtraction operation.

The numbers in the boxes are the ones missing and should be written in red

a)

	H	T	O
	7	2	3
-	4	1	3
	3	1	0

b)

	H	T	O
	2	2	1
+	5	3	3
	7	5	4

c)

	H	T	O
	6	7	3
-		4	1

Exercise 6:

Copy and find the values of missing numbers in the following:

a)

	H	T	O
	□	□	□
-	5	6	6
	3	2	1

b)

	H	T	O
	8	2	9
-	□	□	□
	2	0	5

c)

	H	T	O
	5	7	3
+	3	1	6
	□	□	□

d)

	H	T	O
	□	□	□
+	□	□	□
	4	2	5

e)

	H	T	O
	6	4	6
–	□	□	□
	4	3	2

1. 6: NUMBERS IN ASCENDING AND DESCENDING ORDERS

Arrange numbers in ascending and descending and determining the order of two or more numbers by comparison

A) Ascending order: (from smallest to largest number)

For example put the following numbers in the correct ascending order

99, 84, 123, 78, 92, 120, 90.

The numbers in ascending order are:

78, 84, 90, 92, 99, 120, and 123.

Write the number with the smallest tens digit: 78

The next number: 84

The next number is 99, 92, and 90 (if there are two or more numbers with the same tens, then arrange them in the order of ones digit: 90, 92, and 99)

The next number: 120, 123 (the two numbers have their tens and hundreds the same, so arrange them in ones also)

B) Descending order: from largest to smallest

Arrange the numbers 99, 84, 123, 78, 92, 120, and 90 in descending order:

The number in descending order are:

123, 120, 99, 92, 90, 84, and 78.

We write the number with the largest hundreds digit: 120, 123 (if two or more numbers have the same tens and hundreds digit, arrange them in the order of ones digit. the number with a biggest one digit comes first): 123. 120

Continue to the smallest tens digit.

Exercise 7:

A) Write the following numbers in **ascending** order:

1) 21, 72, 35, 15, 58, 90, 64, 40, 28

……

2) 29, 92, 48, 37, 61, 76, 15, 40, 77

……

3) 47, 10, 34, 88, 30, 39, 60, 27, 62

……

B) Write the following numbers in **descending** order:

1) 20, 33, 78, 40, 24, 46, 10, 67, 55

……

2) 61, 69, 53, 21, 36, 79, 60, 24, 43

……

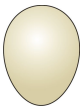
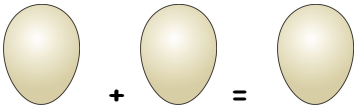
3) 13, 97, 65, 84, 43, 27, 41, 52, 90

……

1. 8: MULTIPLING FACTS OF 1,2,3,4,5,10:

A) The multiples of 1 is simply the table 1 by all the numbers

Table:

1 	**= 1 x 1 =1**
1 + 1 **= 1 x 2 =2** 	
1+1+1 **=1 x 3 =3**	
1+1+1+1	**=1 x 4 = 4**
1+1+1+1+1	**=1 x 5 = 5**
1+1+1+1+1+1	**=1 x 6 = 6**
1+1+1+1+1+1+1	**=1 x 7 = 7**
1+1+1+1+1+1+1+1	**=1 x 8 = 8**
1+1+1+1+1+1+1+1+1	**=1 x 9 = 9**
1+1+1+1+1+1+1+1+1+1	**=1 x 10 =10**

1 x 1 = 1

1 x 2 = 2

1 x 3 = 3

1 x 4 =4

1 x 5 = 5

1 x 6 = 6

1 x 7 =7

1 x 8 =8

1 x 9 =9

1x10 =10

Exercise 8:

Copy and complete:

Table of one

1 x 1 = ☐

2 x 1 = ☐

3 x 1 = ☐

4 x 1 = ☐

5 x 1 = ☐

6 x 1 = ☐

7 x 1 = ☐

8 x 1 = ☐

9 x 1 = ☐

10 x 1 = ☐

B) Multiplication tables of 2, 3 and 4:

Table of 2

2  = 2 x 1 =2
 2 + 2 = 2 x 2 =4
2+2+2 =2 x 3 =6
2+2+2+2 =2 x 4 = 8
2+2+2+2+2 =2 x 5 =10
2+2+2+2+2+2 =2 x 6 = 12
2+2+2+2+2+2+2 =2 x 7 = 14
2+2+2+2+2+2+2+2 = 2 x 8 =16
2+2+2+2+2+2+2+2+2 = 2 x 9 = 18
2+2+2+2+2+2+2+2+2+2 = 2 x 10 =20

2 x 1 = 2

2 x 2 = 4

2 x 3 = 6

2 x 4 =8

2 x 5 = 10

2 x 6 = 12

2 x 7 =14

2 x 8 =16

2 x 9 =18

2x10 =20

Table of 3

3 x 1 = 3

3 x 2 = 6

3 x 3 = 9

3 x 4 = 12

3 x 5 = 15

3 x 6 = 18

3 x 7 = 21

3 x 8 = 24

3 x 9 = 27

3 x 10= 30

Table of 4

4 x 1 = 4

4 x 2 = 8

4 x 3 = 12

4 x 4 = 16

4 x 5 = 20

4 x 6 = 24

4 x 7 = 28

4 x 8 = 32

4 x 9 = 36

4 x 10 = 40

Exercise 9:

Copy and complete:

2 x 1 = 2

2 x 2 = ☐

2 x 3 = ☐

2 x 4 = ☐

2 x 5 = ☐

2 x 6 = ☐

2 x 7 = ☐

2 x 8 = ☐

2 x 9 = ☐

2 x 10 = ☐

3 x 1 = 3

3 x 2 = ☐

3 x 3 = ☐

3 x 4 = ☐

3 x 5 = ☐

3 x 6 = ☐

3 x 7 = ☐

3 x 8 = ☐

3 x 9 = ☐

3 x 10 = ☐

4 x 1 =4

4 x ☐ =8

4 x 3 = ☐

☐ x 4 =16

4 x 5 = ☐

4 x ☐ =24

4 x ☐ =28

☐ x 8 =32

4 x 9 = ☐

☐ x 10 =40

C) Multiples of 5 and 10:

Table of 5

5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10= 50

Table 10

10 x 1 = 10
10 x 2 = 20
10 x 3 = 30
10 x 4 = 40
10 x 5 = 50
10 x 6 = 60
10 x 7 = 70
10 x 8 = 80
10 x 9 = 90
10 x 10= 100

Exercise 10:

Copy and answer the following:

1) 2 x 8 =_____ 2) 2 x 3 =_____ 3) 10 x 10 =_____

4) 5 x 3 =_____ 5) 10 x 6 =_____ 6) 9 x 5 =_____

7) 8 x 10 =_____ 8) 5 x 5 =_____ 9) 1 x 9 =_____

10) 3 x 6 =_____ 11) 4 x 6=_____ 12) 4 x 8 =_____

Exercise 11:

Copy and complete the missing numbers:

1) 2 x ☐ = 18 2) ☐ x 3 = 9 3) 10 x ☐ = 100

4) 4 x ☐ = 20 5) 10 x 6 = ☐ 6) 4 x 5 = ☐

7) 3 x ☐ = 27 8) ☐ x 5 = 25 9) ☐ x 1 =10

10) 3 x 10 =☐ 11) 3 x ☐ = 24 12) ☐ x 8= 40

13) 1x 9 =☐ 14) ☐ x 3 = 24 15) 5 x☐ = 35

16) 2 x ☐ = 20 17) 4x☐ = 28 18) ☐ x 1 = 2

Exercise 12:

Copy and complete the missing numbers:

1) 2 x ☐ = 16 2) ☐ x 3 = 24 3) 10 x ☐ = 100

4) 5 x 3 = ☐ 5) 10 x 6 = ☐ 6) 9 x 5 = ☐

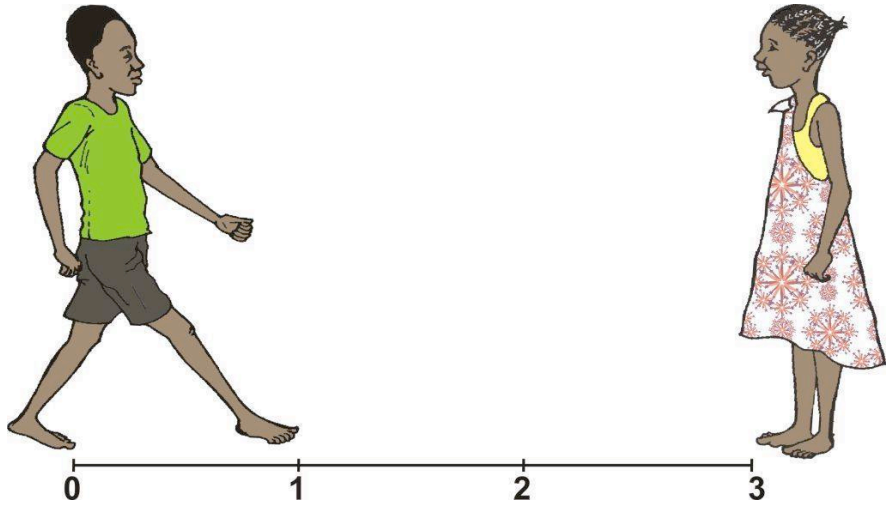
7) 10 x ☐ = 80 8) ☐ x 5 = 25 9) ☐ x 1 =5

10) 3 x 6 =☐ 11) 4 x ☐ = 24 12) ☐ x 8= 64

UNIT 2: MEASUREMENT

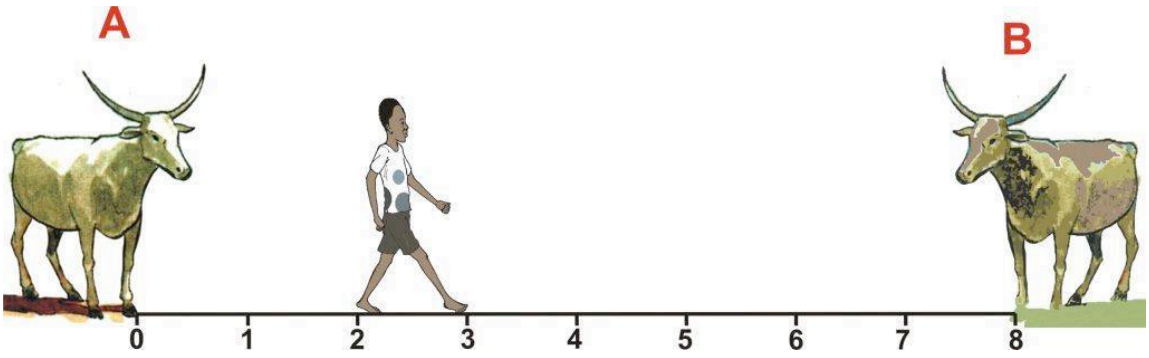
2. 1: LENGTHS

Measuring lengths using fixed arbitrary units: ropes, meters; and measuring quantity of animal and crops products using cups, and bottles.



a) Measure distances between two cows using ropes

A meter is just about the same length as a long stride. If meter tape is not available use a stride.

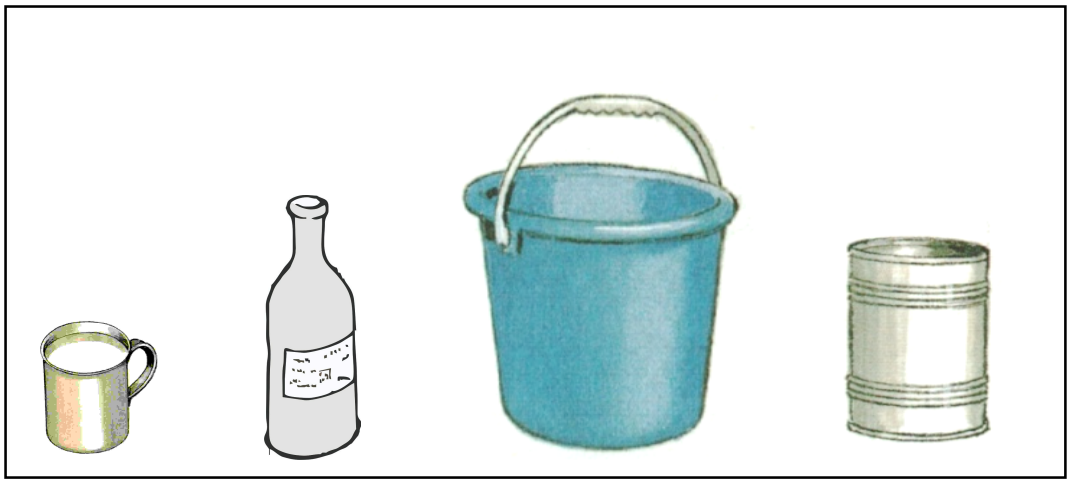


Now measure the stride; Cow A is 8 stride long from cow B. Engage the learners to do similarly for the other objects as below

Distance	Estimate (Stride)	Measure in meters (m)

Cow A to cow B		
Length of cow rope		
Class A and class D		
Teacher`s table		
cattle camp and water point		

b) Measure quantity of milk using cups, bottles



How many cups of milk fill the bucket?

How many bottles of milk fill in the tin?

1) The bucket holds _____ cup of milk

2) The tin holds_____ bottles of milk.

3) The bucket holds _____ of bottles

4) The tin holds _____ of cups.

Exercise 1:

A) Copy and complete the following table by measuring the distance in meters and by stride estimations. Ensure the estimates is taken well.

Distance	Estimate of stride	Measure in meter (m)
Teacher`s table		
Cow`s tail		
Cattle camp to water point		
Long of fishing nets		
cows rope		

B) Find out how many bottles and cups of water is contained in:

1) A tin,

2) Big jug,

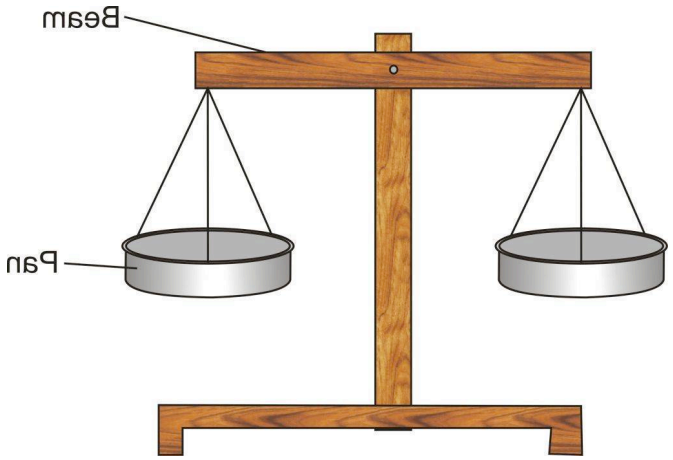
3) Bucket,

4) Small basin.

2. 2: WEIGHING USING BEAM BALANCE

Comparing weight using beam balance make locally

A balance is used for weighing objects in the market and in shops.



1. The stance and base

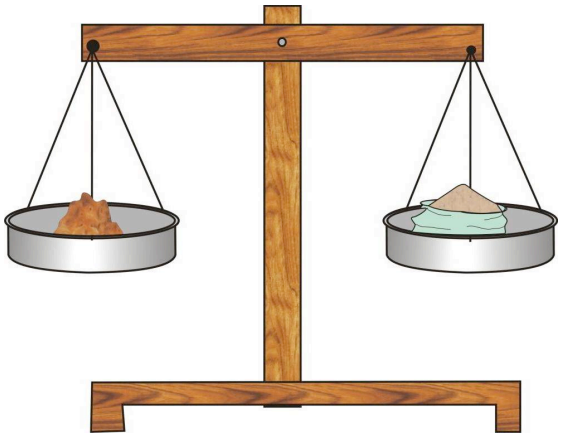
2. An upright piece of wood that fits into the

3. A cross-piece of wood with holes for holding pans and pivot or balance point

Before using the balance it should be balanced or leveled.

Example:

Place one stone on one side of the balance. Now put empty bag on the other side of the balance. Put sand on the empty bag until it balances with the stone. The sand in the bag is equal in weight to the weight of the stone.



Try again with two stones, three stones etc.

You can now even weigh different object found in your class.

Exercise 2:

Find out how many small stones do the exercise books weigh.

Object	Number of stones
1 exercise	
2 exercise books	
4 exercise books	
10 exercise books	

2. 3: MONEY

Money is used in buying and selling. In South Sudan, we use the South Sudanese Pounds.

1 SSP NOTE

5 SSP NOTE

10 SSP NOTE

25 SSP NOTE

50 SSP NOTE

100 SSP NOTE

Other South Sudanese money in cones form are: 10 piaster's, 20 piaster's and 50 piaster's.

10 piaster coin

20 piaster coin

50 piaster coin

Examples:

1) How many pounds in twenty notes?

In twenty notes there is _____ pounds

2) How many piaster's' in one pound notes?

In 100 pounds there are _____ notes of 20 pounds.

3) Add:

1.

Pound	Piaster's
4	50
+ 1	70
6	20

2.

Pound	Piaster's
3	40
+ 5	60
9	00

Exercise 3:

1) How many notes of 10 pounds in 50 pounds notes?

In 100 pounds there are _____ notes of 20 pounds.

2) Akoul went to the market and bought soap for SSP 10, salt for 5 SSP, How much money has he spent all together?

3) Wani sold one heap of bananas for 20 SSP and bucket of mangoes for SSP 30, How much money has he earned altogether?

4) Add:

A.	Pound	Piaster's
	6	30
+	2	50

B.	Pound	Piaster's
	5	10
+	1	90

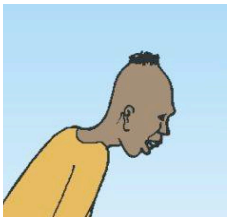
UNIT 3: GEOMETRY

3. 1: GEOMETRICAL SHAPES

Identifying given geometrical shapes

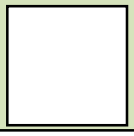
Modi:

A triangle has 3 straight sides. The sides may or may not be equal in length.



Lual:

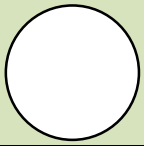
A square has 4 sides all are equal in length.



Jukudu:

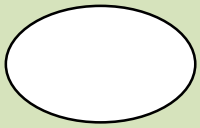
A rectangular has 4 sides of which the opposite sides are equal in lengths.

A circle is a round curved surface with distance from its Centre the same.



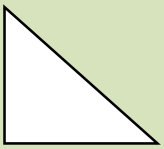
Mayom:

An oval is a round curved surface with the curved edge not always the same distance from its center.



Nyandeng

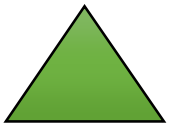
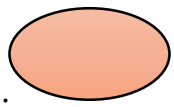
A right-angled triangle is with one side upright to the other side.

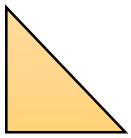


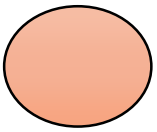
Jada:

Exercise 1:

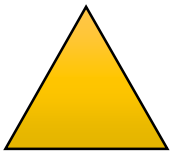
Write the names of these objects

A) 1.  2.  3.  4. 

5. 

6. 

7. 

8. 

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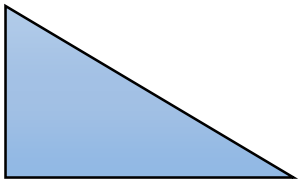
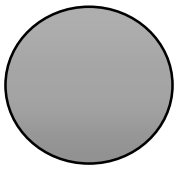
11. 

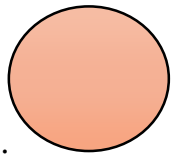
12. 

3. 2: MAKING PATTERNS USING GEOMETRICAL SHAPED OBJECTS.

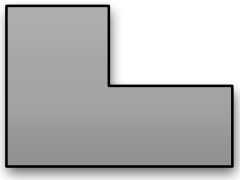
Making patterns: **Triangles, Rectangles, Squares, Ovals, cycles**

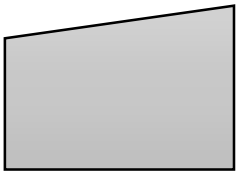
Geometrical bodies can be used to make other bodies like in the following diagrams

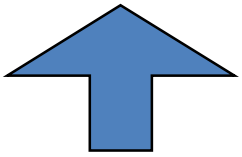
1. 

2. 

3. 

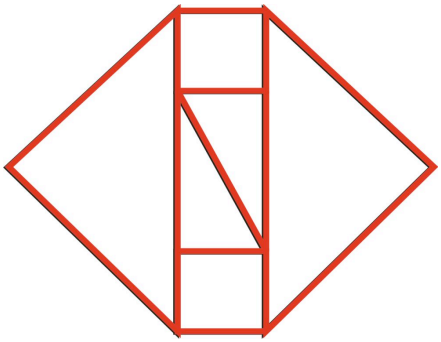
4. 

5. 

6. 

Exercise 2:

1. Combine a square and a rectangle to make a house diagram
2. Join 3 squares and one triangle
3. Join a rectangle and upright triangle
4. Join 2 triangles and one square
5. Identify how many sides are there for 5 squares and 2 triangles
6. How many squares and triangles are in this pattern?



3. 3: DRAWING GEOMETRICAL SHAPES

Drawing geometrical shapes. **Triangles, Rectangles, Squares, Ovals, cycles.**

Laku drew the sequence of shapes:

Triangle, square, rectangle. He wrote the name of each shape and colored them differently.

A triangle has 3 sides and 3 corners

Shape	**Straight sides**	**Curved edges**	**Corners**
Triangle	3	0	3

Examples

Draw a triangle, a square, a circle, an oval, and a rectangle. Copy and complete the table below:

Shape	**Straight sides**	**Curved edges**	**Corners**
Triangle	3		
Square			
Circle			0
Oval		1	
Rectangle			

Exercise 3:

1. A triangle has 3 corners. Copy and complete the table below.

Number of triangle	**Total number of corners**
1	
2	
3	

4	
5	
7	
8	
9	
10	

2. A square has 4 corners. Copy and complete the table below:

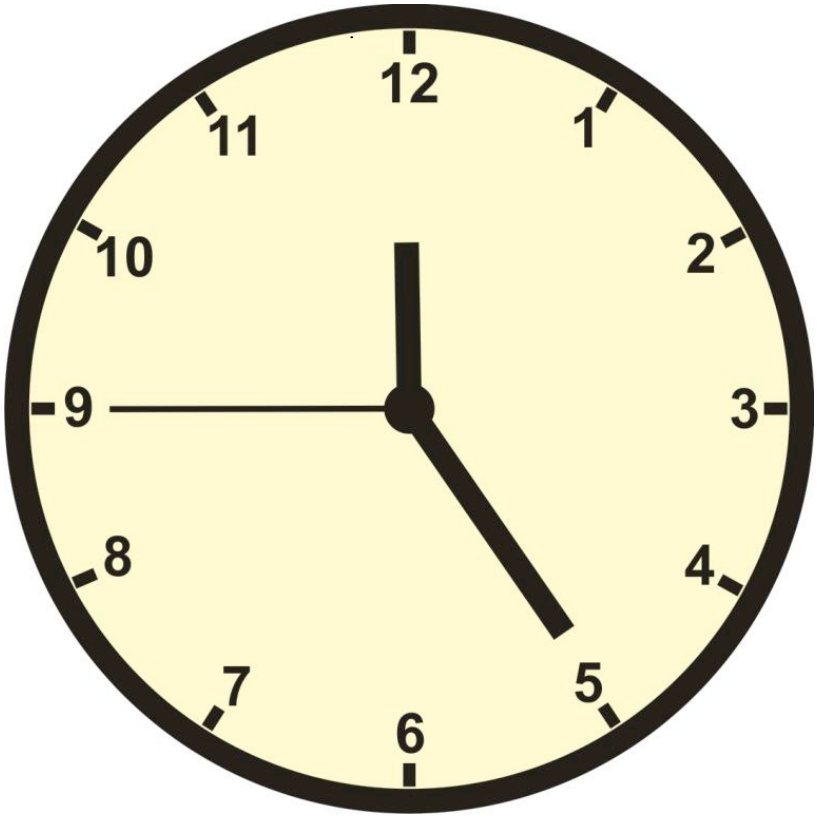
Number of square	**Total number of corners**
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

UNIT 4: TELLING TIMES

4. 1: TELLING TIME IN HOURS

Telling time in hours, half past, quarter past and quarter to the hour

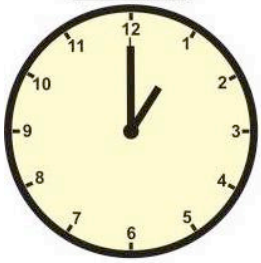
The clock face has three hands; one for the hour which is shorter, the other for the minutes which is longer, and the third one which is thin is for the seconds.



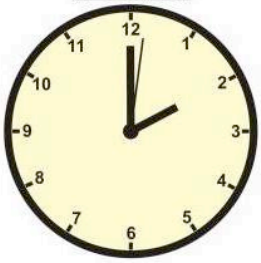
The minute hand moves around the clock face one complete circle in an hour.

The hour hand moves from one number to the next number in an hour.

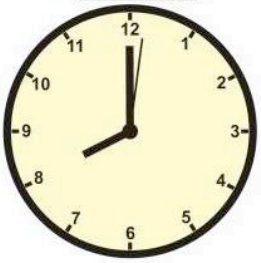
1 O'clock



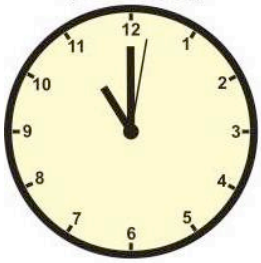
2 O'clock



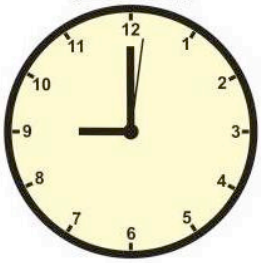
8 O'clock



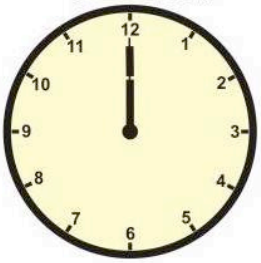
11 O'clock



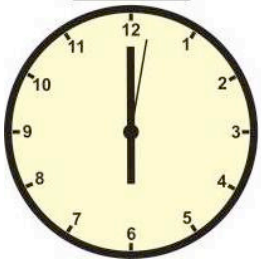
9 O'clock



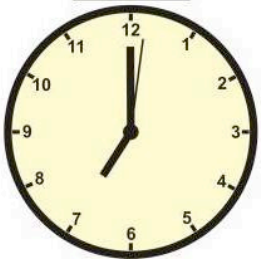
12 O'clock



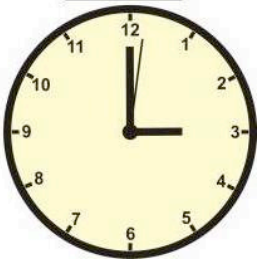
6 O'clock



7 O'clock



3 O'clock



Exercise 1:

Draw a clock face showing:

1) The time at 4 and 5 O'clock respectively.

2) The time at 8 past a haft.

3) Time for waking up from sleep in the morning

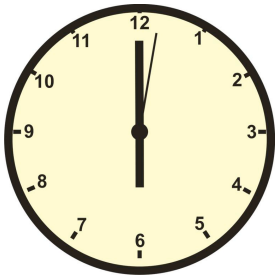
4) Time for the church services on the Sundays

5) Time for taking cattle to drink water in the evening.

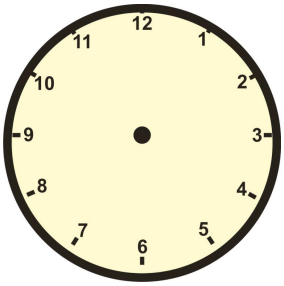
4. 2: TELL TIME AND EVENTS OF THE DAY

Telling time and events of the day: Morning, evening, noon and night

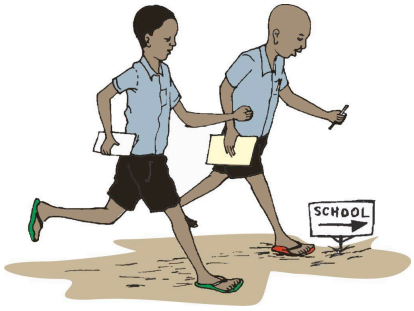
1. Garang is waking up from sleep at 6 o'clock in the morning.

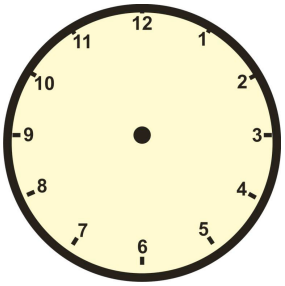


2. Achol is taking her breakfast at _____in the morning.

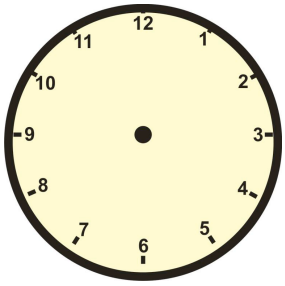


3. Draw Garang and Wani running to school at_____o'clock.

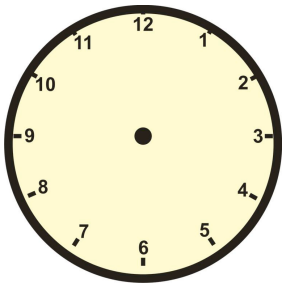




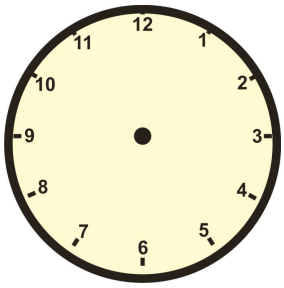
4. Draw Wani taking his launch with Nyandeng at _____o'clock.



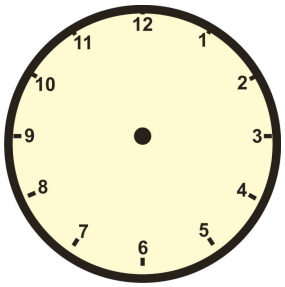
5. Draw Kiden with her family taking dinner at_____o'clock in the evening.



6. Draw Majok and Moje reading and doing their homework at _____o'clock in the evening.



7. Draw Meling in the bed sleeping at _____o'clock at night.



4. 4: DRAWING TIME ON CLOCK.

For example:

Complete the table by drawing clock and mention the time for activities below:

Clock face	Time	Activity	By who?
		Removing cow dung from the cattle camp	
		Going to PLEFS	
		Taking cows to the water	
		Feeding the calves	
		Fetching water	

Draw clock and tell the events.

Which days do you feel learning can take place and for how many hours?

What other weekly events need to be considered? What time do they take place?

Tell events and make a monthly schedule.

Which weeks do you feel PLEFS can go on without interruptions?

Tell events and make a year's calendar for the Cattle camp

e.g Which national holidays do you celebrate?

Which months can you go regularly to PLEFS?

Which months you feel it is not possible to have classes?

Tell events and make a seasonal calendar.

e.g when do you move from one camp to the next?

When do you move near or far from the river side?