NUMERACY

ACTIVITY BOOK

This manual is compiled for the
Targeted Instruction in Sierra Leone (TISL) project

Number Recognition Activities

Picture Matching (Counting and Matching 1)

Activity Preparation:
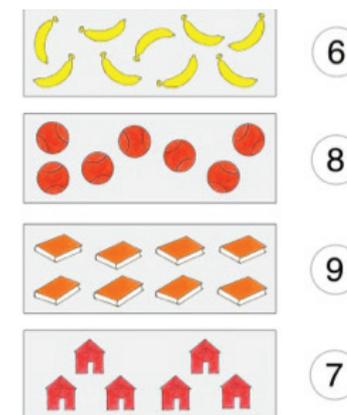
Draw the following table on a piece of poster paper. Only use numbers you have taught pupils. Make sure to do it before class so you don't waste any learning time.

1. Paste on the board the poster paper with a table like the one to the right.

2. Pick pupils to come up to the board to count the number of objects in the box on the left column. Then, the pupil should match that number with the corresponding number of black dots in the box on the right column. Match the first one to provide pupils an example.

3. You can repeat the activity with different tables like the ones below to help pupils learn simple numbers. Again, prepare these before class so you don't waste any learning time.

Note: The pictures provided in the activity above is meant to give you an idea of what is expected. You are encouraged to be creative and draw your own convenient pictures without missing the core points.

Modifications

1. Give pupils slates and allow them to draw the pictures and numbers on their slates.

2. Instead of drawing pictures (which may be more difficult to copy) use tallies or simple shapes like circles and triangles,

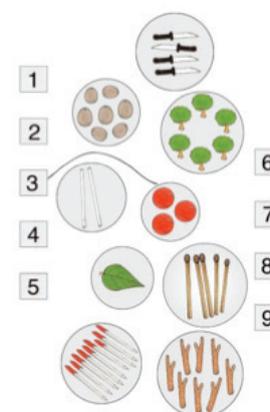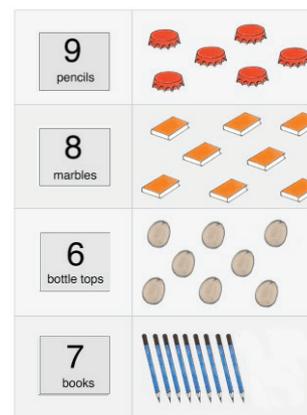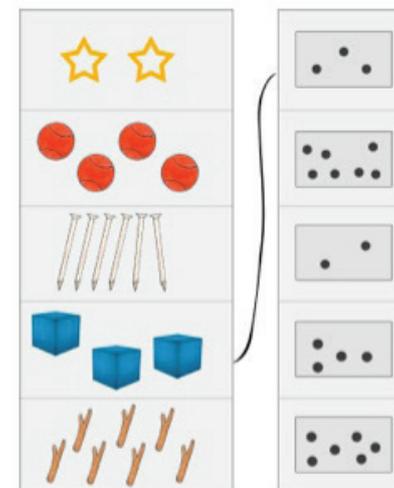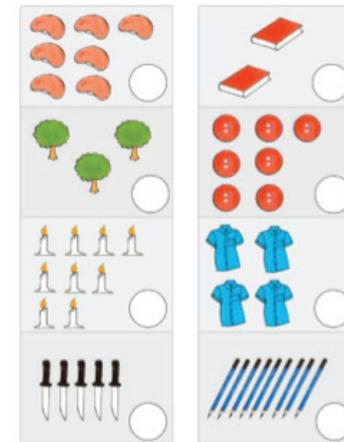| Fill in the Blanks (Counting and Matching 2)	Materials
	• Picture cards • Slates • Poster paper • Parkers

Activity Preparation:

Draw the following table on a piece of poster paper. Only use numbers you have taught pupils. Make sure to do it before class so you don't waste any learning time.

1. Paste on the board the poster paperwith a table like the one to the right.

2. Pick pupils to come up to the board to count the number of objects in the box on the left column. Then, the pupil should write the correct number in the circle next to the image. Write in the first one to provide pupils an example.

Modifications

1. Have students copy it down on their slates and fill in their answers on there

2. Do a jigsaw by assigning different groups two or three of them to do and share their answers with the class.

Nature Walk (Counting and Matching 3)

Once a week, take the pupils on a "Maths Nature Walk." Choose a nice, safe place to walk. Bring a small container for each child to collect things.

1. Ask the pupils to count the number of different things they see (For example, count the number of different flowers, count the number of different trees, etc).
2. Then ask the pupils to collect a specified number of an object (For example, collect 10 stones, collect 8 leaves, etc).
3. Back in the classroom you can ask the pupils to count and categorisethe number of objects they collected.

Modifications

1. Instead of going outside, this can be done on school grounds or you can ask pupils to think about this during their play/ recess time.
2. You can assign this for homework and ask students to bring in a certain number of items

Pictures, Numbers, and Words (Counting and Matching 4)

1. Copy the table to the right on the board but make sure to use numbers you have taught pupils. Read the numbers out loud together with pupils. (As you are drawing the pictures, engage the pupil in an activity so you don't lose any learning time. For instance you could give out straws and ask pupils to count the straws they have and write the number in their exercise books.)
2. Pick pupils to come up to the board to match the numeral to the number to the bundle image. Match the first set to provide an example for the pupils.

10	Zero	
14	Ten	
0	Fourteen	
16	Twenty	
20	Eighteen	
18	Sixteen	

Modifications

1. Make flashcards some with pictures, some with words and some with numbers and give one to each student. Have them find the pictures, words and numbers that go together.
2. Once they find their match, have them sit together and write the word, picture and number in their exercise books.

Missing Numbers (Number Sequence 1**)**	**Materials**	
	• Poster boards • Slates	

Activity Preparation:

Copy on a piece of poster paper a table with numbers in sequence. Only use numbers you have taught pupils (for instance, if you have taught pupils all the numbers up to 30, make a table with numbers that ends at the number 30). Make sure to prepare it before the lesson so you don't waste any learning time.

1. Paste on the board a Poster like the one above.

2. Pick pupils to come up to the board to fill-in the missing numbers.

1	2	3	4	5	6	7	8	9	10
11		13			16				
	22					27			
							38		
		43						49	

51	52	53	54	55	56	57	58	59	60
	62			65				69	
		73							80
			84				88		
		93		95				99	

Fill in the Blanks (Number Sequence 2**)**	**Materials** • Poster boards • Slates

1. Put pupils into groups of three. Give each group a set of number cards. On the board, copy a set of numbers in sequence and read the numbers out loud. As you write, ask pupils to copy the numbers onto their slates so they practice writing the numbers. For example: 0,1 ,2 ,3 ,__ __

2. Ask groups to find the number that goes on the empty line using their number cards. The groups should hold up the card so you can quickly see which groups have the correct answer.

3. Pick pupils to come up to the board to fill in the missing number on the empty line. _ 0,1 ,2 ,3 ,_ 4_

4. Repeat the activity with different sets of numbers. Start with one digit numbers and progressively move to 2-digit numbers. For example:

   8, 9, __ , __   __, __, 5, 11, __, __, 14   __. 13, __, 15

Modifications
Have them do this activity doing 'Board Races' or 'All Aboard' using their slates and copying the sequences

Number Lines (Number Sequence 3)	Materials
	• Exercise Books
1. Draw a number line on the blackboard and write the first number for the first point. Use numbers you have taught pupils. 2. 2. Ask pupils to draw the same number line in their exercise books and guide pupils to assign numbers to points on the number line. 3. Give pupils a few minutes to complete the number line. When the time is up, call up one pupil to come up to the board to complete the number line.	40 40 41 42 43 44 45 46 47

Hot Cross Buns (Number Sequence 4)	Materials
	• Ball

1. Ask pupils to stand in a circle.
2. Ask pupils to pass a ball around while counting together (1, 2, 3, etc.). When the number reaches 7 (and any numbers with a 7, such as 17, 27, 37, etc), the pupils say buzz and the pupil who has the ball on that number sits down. Count up to the number you have taught pupils. For example, if you have taught pupils to count up to 40, pupils should count to 40 during the activity and not beyond.

Modifications

1. For modules 2 and 3, you can have pupils do skip counting (10, 20, 30 or 100, 200, 300, etc.)
2. For larger numbers, have students start counting from a higher place instead of 1. (ie. 55, 56, 57 and so on)

Numbers in Words (Number Sequence 5)

1. 1. Write a word problem and read it to pupils several times. For example: I am 34 years old. How old will I be next year?
2. Ask pupils to write the answer on their slates.
3. Pick a pupil to come up to the board b to write the answer on the board.
   - **Answer key:** 35
4. Repeat with other word problems. For example: I have many straws in my bag. I have less than 30 but I have more than 20. What is a possible number of straws I can have?
   - **Answer key:** any number between 20 and 30

Comparing Numbers 1 (Circle the Best)	Materials
	• Straws • Marbles • Exercise books

1. On the board, write 2 numbers of ones or tens and read it out loud several times to pupils. For example: 3 ones OR 6 ones

2. Ask pupils to copy the problems on their slate and circle the quantity that is larger. If pupils are struggling, give them straws or marbles to help them count.

3. Pick pupils to come up to the board to circle the correct answer.

    • 3 ones OR 6 ones

4. Repeat the activity with other problems of increasing difficult. For example
    • 3 ones or 2 ones
    • 2 tens 9 ones or 6 tens 2 ones
    • 5 tens or 2 tens

If difficult when comparing both ones and tens (e.g. 2 tens 9 ones OR 6 tens 2 ones)explain to pupils that the bigger number is the one with the greater number of tens (e.g. 6 tens 2 ones). If both numbers have the same number of tens (2 tens 9 ones or 2 tens 5 ones), tell pupils to look at the number that has the greater number of ones (2 tens 9 ones) to find out which one is the bigger number.

Answer key:
    • 3 ones or 2 ones
    • 2 tens 9 ones or 6 tens 2 ones
    • 5 tens or 2 tens

Comparing Numbers 2 (Symbols)

Materials

• Slates   • Exercise books

1. Write 2 numbers between 1 and 20 on the board like the ones below using numbers you have taught pupils. Ask pupils to copy the numbers on their slates as you write them on the board.   5 11
2. Place pupils in groups of 2. Ask pupils to first circle the bigger number and then insert <, > signs. If it is difficult, give each group a bunch of straws or marbles to help them count and compare the numbers.   5 < 11
3. Pick pupils to come circle the answer on the board and insert the sign < or>.
4. Repeat the activity with different numbers using numbers you have taught pupils.
   • Circle the bigger number and place < or > sign as appropriate. For example:
   • Circle the smaller number and place < or > sign as appropriate. For example:

Note: You have to introduce the ">" (greater than) and "<"(less than) signs to the pupils before proceeding with this activity. Explain that saying "greater than" is the same as saying "bigger than" or "larger than." Tell them that the side of the sign that is open should face the larger number and the side that is closed should face the smaller number. When the large number comes first, you use the ">" (greater than) sign, and when the smaller number comes first, you use the "<" (less than) sign.

10 ☐ 1   8 ☐ 12   11 ☐ 12

Answer key:

10 > 1   8 < 12   11 < 12

20 ☐ 10   6 ☐ 4   10 ☐ 12

Answer key:
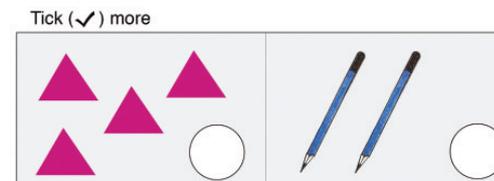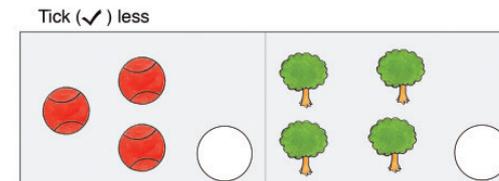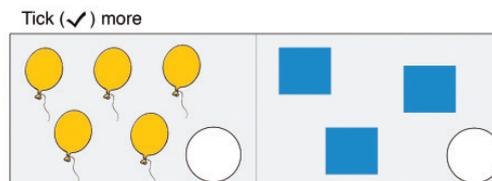
20 > 10   6 > 4   10 < 12

Modifications
You can write these on the boar done at a time and play 'All Aboard' with students to have them write down which symbol they would use on their slates.

Comparing Numbers 3 (Pictures)	**Materials** • Number cards • Slates

1. Draw pictures on the board like the one below. Pick a pupil to come up to the board to tick the group with more objects.

2. Repeat the exercise with different pictures like the ones below. Remember to engage pupils in an activity as you draw the pictures on the board so you don't waste any learning time.

Tick (✓) more

more   less

Tick (✓) more

Tick (✓) less

Tick (✓) more

Modifications

You could use number cards and have students pick two out of a bag. After picking two, they must discuss with their partners which they think is bigger. Have them draw out the two pictures on the number cars, and then put a check next to the higher number.
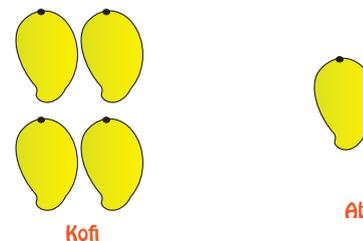
Comparing Numbers 4 (Word Problems)

1. Write a word problem on the board like the one below. Read it out loud several times to pupils. For example: Abi has 4 mangos and Kofi has 1 mango. Who has more mangos?
2. Place pupils in groups of 2 and ask pupils to write on their slates the number that is bigger. If it is difficult, give pupils straws and marbles to help them count and compare.
3. Pick a pupil to share his or her answer.

4. Repeat the activity with other word problems like the ones below. Start with simple problems by using one digit numbers and progressively increase

> Alpha has 0 bags and James has 2 bags.
> Fatu has 3 books and Kemoh has 5 books..
> Agnes has 11 pens and Etta has 18 pens.

Note: As you write the problems on the board engage pupils in an activity so you don't waste any learning time. For instance, you can give pupils a bunch of currency notes. Have each pupil turn to their closest neighbour. One pupil says a price and the other needs to give him or her the corresponding amount of money using the currency notes.

Materials

• Slates

Kofi

Abi

Answer key:

4

Answer key:

| 2 | 8 | 29 |

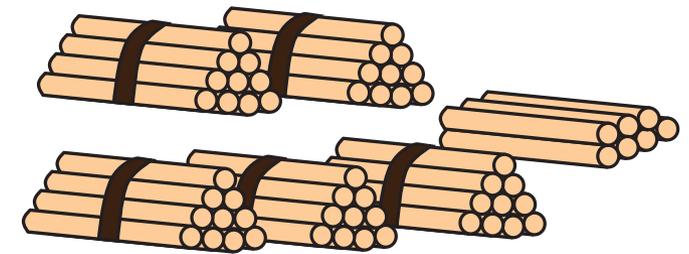| Grouping/Place Value	Materials
	• Straws • Rubber bands

1. Place pupils in groups of 2 and provide each group a bunch of straws.
2. Guide pupils to practice making bundles of 10 using straws. As pupils are working in groups, walk around the classroom to provide individual attention.
3. Once pupils practiced making groups, say and write a number on the board. For example, the number 56.
4. Instruct pupils to group the straws into bundles of 10 and loose ones to match the number on the board. For instance, for the number 56 pupils would need to make 5 bundles of 10 and 6 loose ones. Make sure pupils have enough straws to reach the number on the board.

Modifications

Assign numbers to members in the group so that each round can be lead by one student organizing the straws into bundles with the help of other group members.

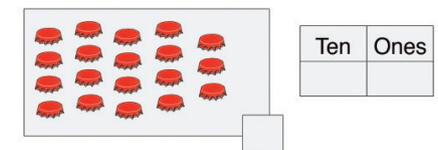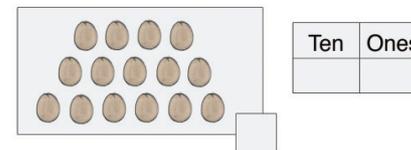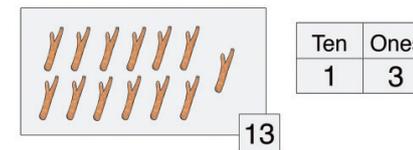| Grouping Objects	Materials
	• Straws • Marbles/ Stones • Pencils • Other objects
1. Ask pupils to first make a group of 10 objects, and then count the remaining objects, and finally write the numbers in the box. For example: Note: The pictures provided in the activity above is meant to give you an idea of what is expected. You are encouraged to be creative and draw your own convenient pictures without missing the core points.	

Grouping/Place Value	Materials
	• Straws • Rubber bands

	1 ten + 6 ones 16 2 tens + 0 one 12 1 ten + 2 ones 20
1. Copy the numbers on the board like the ones to the right. Make sure you use numbers you have taught pupils. 2. In pairs, ask pupils to match the amounts of tens and units to their combined total by drawing lines between the two columns. Connect the first number to give pupils an example. 3. You can repeat the activity by partitioning numbers into tens and ones. For example:	11= _1___ ten and __1_ ones 10= ____ ten and ____ ones
	Answer key: 11= 1 ten and 1 ones 10= 1 ten and 0 ones 13= 1 ten and 3 ones

Modifications
You can have them do this with straws if pupils get confused or need the straws to help them.

How to know what your pupils have learned

ACTIVITY PREPARATION

1. To ensure pupils understand the numbers you taught them, you can do the following activities:

   a. Ask each pupil to give you a certain number of objects. If you are learning the number 3, ask pupils to bring you 3 sticks, stones, or bottle tops.

   If you are revising the numbers 1-5, ask pupils to bring you 2 marbles, another to give you 4 leaves, and another to find 5 sticks.

   b. Ask pupils to hop a certain number of times and/or jump and/or snap their fingers, etc

   c. Write a number on the board and ask pupils to come draw that many number of objects.

   d. Give pupils a certain number of objects, such as 3 marbles, and ask them to write the number on the board.

   e. Give pupils a certain number of objects and ask him or her to locate the number on the number chart.

   f. Draw pictures on the board or ground (3 stars, 2 balls, 4 triangles) and ask pupils to write or say the correct number.

2. Point at numbers at random on the number chart and ask questions like:

   - What number comes before it?
   - What number comes after it?
   - What is a number more than 10?
   - What is a number less than 20?

   If pupils are struggling to read and understand the numbers you have taught them, continue practicing these numbers during the following lessons.
   If pupils continue to struggle recognizing and understanding numbers, continue practicing numbers during the following lessons.

Learning Larger Numbers

As learning large numbers is similar to learning numbers, you can use the activities from the previous section and change them to larger numbers. Here are some suggestions for other activities.
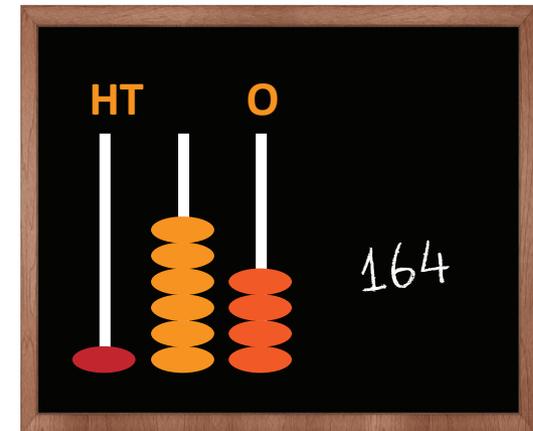
Using an Abacus (Grouping/ Place Value 1)

Materials

- Beads
- Kebab Sticks
- Slates
- Various objects (stones, leaves, marbles, etc)

Activity Preparation:

Make an abacus for each group (of 2 pupils) in your classroom. If there are no materials to make an abacus, you can ask the pupils to draw a three column box on their slates. They can then use different objects, stones, leaves, marbles to represent the hundreds, tens and ones columns.

1. Place pupils in groups of 2 and give each group an abacus. Explain to pupils that the first column on the abacus is the hundreds column, the second column is the tens column, and the third column is the ones column.

2. Write a number on the board (e.g. 164).

3. Tell pupils to represent the number from the board on their abacus using beads (or bottle caps, pieces of foam, etc.)

4. For example, for the number 164, pupils will need to place 1 bead in the hundreds column, 6 beads in the tens column, and 4 beads in the ones column.

5. Give pupils about a minute to place the beads on their abacus. When the time is up, ask one group to demonstrate to the class the number on their abacus.

6. Repeat the activity with different numbers.

Modifications

To make a abacus, you can give students string or kebab sticks and then let them use beads to string them. The different bead colors or designs could mimic different place values for example, red for the hundreds, green for the ten and so on.

Increase the Bundle (Grouping/ Place Value 2)

Materials
- Straw
- Rubber band

Tens	Ones
1	1

Activity Preparation:

    a. Give each pupil some straws and ask them to make as many bundles as possible, and leave themselves some loose straws.

    b. Draw a table like the one below on and ask the pupils to copy it on their slate:

1. Tell the children about 'increase the bundle' game. ' One bundle is 10, 2 bundles is 20, 3 bundles is 30….till 100. Tell the children that straw is also called ones and bundle is also known as tens.

2. Ask the pupils to make a place on their desk to put bundles and another place to put straws. Then they should take one bundle and place it in the bundle section and do the same with one straw. Once they do this they should write the number of tens and number of ones in their table, like the one to the right.

3. They should keep increasing the bundles by one and the straws by one, then write it into they table. Tell them to do this until they run out of bundles or get to 99.

Tens	Ones
1	1

Missing Numbers

Activity Preparation:

1. On the board, copy a set of numbers in sequence and read the numbers out loud. As you write, ask pupils to copy the numbers onto their slates so they practice writing the numbers. For example: 200, 201, 202, 203, _ _ _

2. Ask pupils to write down the number that comes after 203 on a sheet of paper, then hold it up when they are done.

3. Pick a pupils to come up to the board to fill in the missing number on the empty line. **204**

4. Repeat the activity with different sets of numbers. For example:

   381, 382, ___, ___   351, ___, _ _,354 ___, ___, 145,14 6

Comparing Bigger Numbers (Symbols)

Activity Preparation:

1. 1. Write 2 numbers between 100 and 1000 on the board like the ones below using numbers you have taught pupils. Ask pupils to copy the numbers on their slates as you write them on the board.

2. Place pupils in groups of 2. Ask pupils to first circle the bigger number and then insert <, > signs. If it is difficult, tell them they can look at the number chart.

3. Pick pupils to come circle the answer on the board and insert the sign < or>.

    Answer key: 123 < 127

4. Repeat the activity with different numbers using numbers you have taught pupils.

5. Circle the bigger number and place < or > sign as appropriate. For example:

    121   123   332   434   544   260

Answer key: 121 < 123   332 < 434   544 > 260

6. Circle the smaller number and place < or > sign as appropriate. For example:

    334   177   343   998   100   228

Answer key: 334 > 177   343 < 998   100 < 228

Answer key:

123 < (127)

121   123   332   434   544   260

Answer key:

121 < (123)   332 < (434)   (544) >260

334 1   77 3   43   998   100   228

Answer key:

334 > (177)   (343) < 998   (100) < 228

Modifications

You can make this into a game using 'Board Races' or 'All Aboard'

The Chicken and the Clever Fox

Materials
- Chicken and Clever Fox Story   • Abacus

1. Recount the Chickens and the Clever Fox story to pupils.

   Chickens and the Clever Fox

   Isatu, the farmer has many chickens in her farm.

   One day a clever fox saw these naughty chicken playing around.

   From that day, she started stealing and eating chickens every day.

   Isatu came to know about it. She asked the fox:

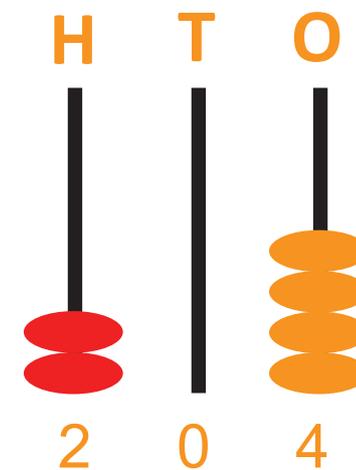   "Hey you, did you eat my chickens?".

   The fox responded: " No dear. I am your friend. How could I eat your chicken."

   Isatu thought of counting her chickens every morning and evening. But the chickens kept moving around here and there.

   She said I will put 100 chickens in one basket and count them.

   And if I find any of them missing .I will give the fox a tight slap.

2. Explain to pupils that in the morning Isatu counted her chickens. Draw on the board 2 baskets of chickens and 4 single chickens to represent the chickens Isatu counted. Explain to pupils that each basket has one 100 chickens.

3. Put pupils in groups of 2 and ask them to answer the following questions:
   a. How many baskets of 100 chickens are there? _____
   b. How many single chickens are there? _____
   c. How many chickens are there in all? 200 + 4 = _____

4. Pick a group to share the answer with the rest of the class. If difficult, encourage pupils to draw and use a place value table in their exercise books to find the answer.

H   T   O

2   0   4

Guess Who!

a. I come between 400 and 500 and there is a 5 in my name.	100
b. I have 9 in my name and I am very close to 200.	208
c. I am equal to 10 bundles of 10.	190
d. I have the numbers 7 and 2 in my name	450
e. I am equal to 10 bundles of 10 and 3 loose ones	720
f. I come between 200 and 300 and there is an 8 in my name.	103

If many pupils write the wrongs answers, continue practicing numbers during the next lessons.

Modifications

You can have them do this individually by themselves. Then have them work in pairs to check answers before finally calling them up to the board to share answers whole group. This will give them time to think carefully about their responses.

Addition

To the Market

Materials
- Items in Classroom
  (pens, bags, chairs, erasers, fruit, sharpeners, slates, etc.)
- Currency Notes
- Tags

Activity Preparation:

Make a bunch of price tags

1. Place pupils in 2 groups.
2. Tell the first group to set up a little shop in one corner of the room using items from the classroom (e.g., bags, pens, chairs, eraser, etc). Give pupils the price tags and tell them to place the tags next to the items they are selling. Help them set up the shop so you don't waste too much learning time. Clarify to pupils that the activity is just for fun to practice additions. All the items in the shop will be returned to the pupils they belong to at the end of the activity.
3. Place the pupils in the second group into smaller groups of 2 each and give each group a stack of currency notes. Explain to the groups that they should pick 2 items they would like to buy. Then, they should add up the 2 price tags of the items and give the total amount using the currency notes to the sellers of the shop. For instance, if a group would like to buy a bag for 100 leones and a chair for 300 leones, they will have to add 100 and 300 together which equals 400, and then give 400 leones using the currency notes to the shop sellers.
4. Once the pupils in the second group have had a chance to buy a couple of items, select a few pupils to share with the rest of the class what they bought. Ask them to show on the board the addition they had to solve.
5. Repeat the activity but switch the groups so that the buyers are now the sellers.

SALE Price SLL 100

SALE Price SLL 200

SALE Price SLL 300

SALE Price SLL 500

SALE Price SLL 1000

SALE Price SLL 1100

Problem Drills

1. Copy addition additions on the board. Remember that the ones column should not add up to more than 9. Have pupils copy the additions in their exercise books at the same time so you don't waste any learning time.

a)   2 1   b)   2 4   c)   6 4
   + 7 5   + 5 3   + 1 4

2. Give pupils about 5 minutes to sum the additions in their exercise books.
3. When the time is up, collect and correct pupils exercise books. Guide pupils to do corrections, if necessary. If many pupils incorrectly completed the additions, continue practicing additions during the next lessons.

Answer key:

a) 96   b) 77   c) 78

Modifications

You can also put problems on the board and play either 'Board Races' or 'All Aboard' to involve all pupils and make it lively.

Addition Drill Stories

Activity Preparation:

Remember that drills are very important to helping pupils become more proficient. As you teach more numbers you can change each of these activities to use the numbers that you have taught pupils. The examples given here are not exhaustive, and you will have to include many more questions.

1. Write the following problem on the board. In Mrs. Koroma's class, there are 13 English story books and 28 numeracy books. How many books are there in all?
2. Place pupils in groups of 2. Give each group about a minute to solve the addition.
3. When the time is up, pick a group to come to the board to write the answer.
4. Repeat with different stories involving additions. Fatu has 35 marbles. Abdul has 25 marbles. How many marbles do they have together?

	1	3
+	2	8

	1	3
+	2	8

Answer key:

41

	3	5
+	2	5

Answer key:

60

Modifications

These questions can vary based on the level of the pupils but make sure to let them work in partners and engage each other. These could also be done effectively using Think- Pair- Share

Word Problem Drills	Materials
	• Number Cards

Activity Preparation:

Let pupils come up with their own story problems (involving additions) and the solution. Come up with the first example: "I have 22 cards and my friend gives me 7 more, altogether I have 29 cards. So 22 + 7 = 29". Allow pupils to use straws/marbles to come up with their solutions. (When pupils find it difficult to use the English language, encourage them to use the local language.

Modifications

Can also do 'Making number sentences' or 'making stories' using the TLM page in the front of the resource manual. This way it can be more interactive and uses number cards.

Independent Practice	**Materials**
	• Exercise Book

1. Copy on the board additions like the ones below. Have pupils copy the sums in their exercise books at the same time so you don't waste any learning time.
2. Give pupils about 5 minutes to sum the additions in their exercise books.
3. When the time is up, collect and correct pupils exercise books. Guide pupils to do corrections, if necessary. If many pupils are struggling, continue practicing additions during the next lessons.
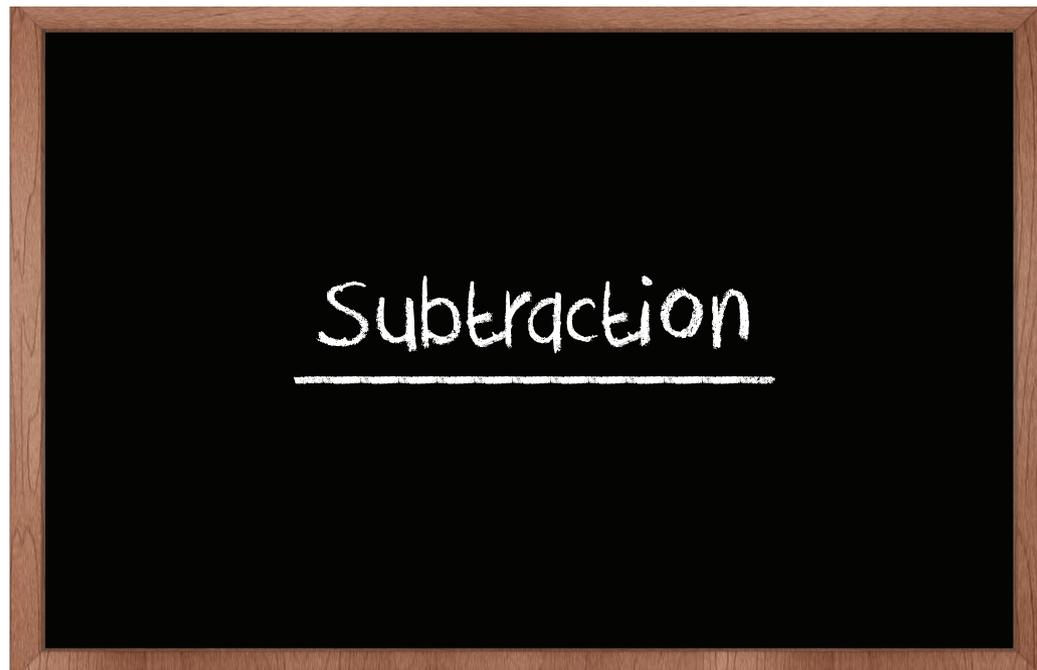

Modifications

You could also do this one at a time having students work on their slates and when they are done, show you the answers before moving on to another problem, similar to how "All Aboard" is played.

Subtraction

Subtraction Drills	Materials
	• Exercise books • Slates

Activity Preparation:

1. Write 2 - digit subtractions on the board and ask pupils to copy the subtractions in their exercise books.
2. Ask pupils to work independently or in pairs to solve them. As pupils work together, walk around to provide individual attention.
3. Call on pupils to come up to the board to write the answers to the subtractions. Let them demonstrate how to solve them using straws.
4. Repeat with different problems.

$$85 - 11 = 74 \qquad 75 - 24 = 51 \qquad 32 - 22 = 10 \qquad 27 - 22 = 5$$

Modifications

This can be turned into a game using either 'Board Race', 'All Aboard' or 'Bingo'

Abrakadabra

Materials
- Oware marbles
- Cloth

1. Place some pebbles or counters on your table. Make sure pupils see them.
2. Count with the pupils the number of pebbles or counters
3. Now cover up the counters with a cloth and take a few out without pupils seeing how many you took.
4. Say: "Abrakadabra" and lift the cloth to reveal the new number of marbles.
5. Ask pupils to figure out how many counters you have in your hand based on the number remaining from the original pile on the table.
6. Repeat the activity with different numbers. (remember to use examples that do not require borrowing)

$$\begin{array}{cc} 1 & 9 \\ -1 & 2 \\ \hline & 7 \end{array}$$

For example, if you had 19 marbles on the table and there are only 12 remaining marbles when you remove the cloth, pupils would subtract 12 from 19 find out that you are holding 7 marbles in your hand. If difficult, help pupils write out the subtraction from the problem (19-12 equals ___)

Modifications

You can have pupils write down how many they think are in your hand on a slate and hide it from their peers. Then when most are ready, have them show you their responses. Discuss how they arrived at their answers.

Subtraction Word Drills

1. Make up a word problem involving subtractions and read it to pupils several time.

   There are 46 bananas in the bag.

   Fatmata removes 5 bananas from the bag how many bananas are left in the bag?

2. Ask pupils to write the answer on their slates. As pupils are working in groups, walk around the classroom to provide individual attention. You can ask some pupils who finish quickly and have the right answer to help others.

3. Pick a pupil to come up to the board and demonstrate solving the problem using straws. Make sure pupils write out the subtraction equation to show how they found the answer.

4. Repeat with other word problems involving subtractions.

   Sallieu has 25 marbles.

   He gives 13 to Fanta.

   How many marbles is Sallieu left with?

   There are 56 mangoes on the tree.

   Alpha picks 11 mangoes from the tree.

   How many mangoes are left on the tree?

   James has 500 leones in her bag.

   She takes 300 leones from her bag to buy soap.

   How many leones are left in her bag?

	4	6
--		5
	4	1

Answer key:

41

Answer key:

12 Marbles   45 Mangoes

200 Leones

Modifications

Since they are using slates you can play 'Board Race' or 'All Aboard'
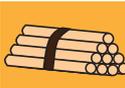
Make it a Story	**Materials**
	• Exercise book • Straws • Marbles

1. Write 2-digit subtractions with the tens and ones columns on the board and ask pupils to copy the subtraction in their exercise books.
2. Individually, ask pupils to solve the subtraction on the board. As pupils are working together, walk around the classroom to provide individual attention.
3. Call on pupils to come up to the board to write the answers to the subtraction.
4. Repeat with different subtractions.

Let pupils come up with their own story problems on subtraction and the solution. Come up with the first example: "I have a pile of 27 cards and my friend takes 18 cards from my pile. I am left with 9 cards. So 27 - 18 = 9".
Allow pupils to use straws/marbles to come up with their solutions. Make sure that the story problems pupils pick involve additions with carry over.
When pupils find it difficult to use the English language, they should be encouraged to use the local language.

	4	0
--	3	1

	4	0
--	3	1

Answer key:

9

Subtraction Drills (With Borrowing**)**	**Materials** • Straws
1. Copy subtractions with borrowing on the board like the ones below. Ask pupils to copy them in their own exercise books. 2. Give pupils 5 to 10 minutes to solve the subtractions. Encourage pupils to use straws to help them solve the problems. 3. When the time is up, collect and correct pupils exercise books and guide pupils to do corrections, if necessary. If many pupils answered incorrectly, continue practicing subtractions with borrowing during the next lessons.	$$-\begin{array}{cc} 2 & 4 \\ 1 & 7 \\ \hline & \end{array} \quad -\begin{array}{cc} 3 & 2 \\ 2 & 7 \\ \hline & \end{array} \quad -\begin{array}{cc} 6 & 8 \\ 1 & 3 \\ \hline & \end{array}$$

Multiplication

Around the World	Materials
	• Slates

Remember to only include multiplacation facts that you have taught the students that day or week.

1. Have pupils sit in a circle with their slates.
2. Select a pupil to start (pupil A). Ask that pupil to stand behind the student next to him or her (pupil B).
3. Say out loud a multiplication of 2 (e.g., 2 x 3). Allow pupils to use their slates to find the answer.
4. If the pupil A says the answer first, he or she moves on to challenge the next pupil. If the pupil B says the answer first, pupil A sits down and pupil B goes on to challenge the next pupil. Pupil A (or pupil B) tries to make it completely around the circle.

Multiplication Bingo

Activity Preparation:

Draw on white sheets of paper a Bingo table like the one below. Make sure you have enough tables to give one to each group of 3 pupils in your class.

1. Draw the Bingo table on the blackboard.

2. Place pupils in groups of 3. Give each group a Bingo Table.

3. Say 4 multiplication facts out loud and write it on the board next to the bingo table. For example:

4. Instruct pupils to circle the numbers on the bingo table that answer each multiplication fact on the board. (For example, since the first multiplication fact 2 x 5 equals 10, the pupils would circle the number 10 on their Bingo table.)

5. The first group that circles all 4 correct answers to the multiplication facts shouts: 'Bingo!'

6. Repeat the activity with other multiplication facts. For example:

Bingo Table

18	6	20
14	16	18
4	10	12

2 x 5

7 x 2

8 x 2

9 x 1

2 x 1		4 x 2
9 x 2		2 x 2
3 x 2	Or	0 x 2
4 x 2		6 x 2

Modifications

Instead of using white paper, they can also make a bingo board on their slates or in their exercise books.

Multiplication Matching Game

Materials
- Exercise books
- Slates

Activity Preparation:

Copy on white sheets of paper a table with multiplication problems like the one to the right. Make sure to make enough tables for each group of 2 pupils in your class.

1. Place pupils in groups of 2. Ask each group to first write the product for each multiplication fact and then match the product to the corresponding groups of circles. Complete the first one to give pupils an example.

2. While pupils are completing the table, draw the same table on the blackboard.

3. Give pupils a few minutes to complete the activity. When the time is up, call pupils to come to the board to write the products and match them with the corresponding groups of circle.

4. Repeat the activity with other multiplication facts.

1 x 4 ⊠ ___   O O O O O O O O
1 x 3 ⊠ ___   O O O O O
5 x 1 ⊠ ___   O O O
4 x 2 ⊠ ___   O O O O O O O O O O O O O O O O O
2 x 8 ⊠ ___   O O O O

1 x 4 ⊠ 4   O O O O O O O O
1 x 3 ⊠ ___   O O O O O
5 x 1 ⊠ ___   O O O
4 x 1 ⊠ ___   O O O O O O O O O O O O O O O O O
2 x 8 ⊠ ___   O O O O

Multiplication Word Problems

Materials
- Slates

1. Place pupils in groups of 2.
2. Write on the blackboard a word problem like the one below. Read it out loud several times to pupils. Salimatu buys a soccer ball for 2 cedis. How much would she have to pay for 5 soccer balls?
3. Ask pupils to write the answer on their slates. As pupils are working in groups, walk around the classroom to provide individual attention.
4. Pick a pupil to come to the board to write the answer.
5. If difficult, explain to pupils that the first step to solving the problem is to write the multiplication for the problem. In the first sentence, the word problem tells us that 1 ball cost 2 dollars, so we write down the number 2. The second sentence asks us the price if Salimatu buys 5 balls. This means that we will have to count 2 dollars (the price for 1 bal) 5 times, so we write times five next to the 2 (2 x 5), which equals 10 (2 x 5 = 10). Therefore, Efi will have to pay 10 dollars for 5 soccer balls.
6. Repeat with other word problems. For example: One bucket can hold 2 litres of water. How many litres of water can 3 buckets hold?

Modifications
You can also have them act out the word problems using classroom items to represent the grouping that they must do when multiplying.

Multiplication Exercise

Materials
- Exercise books
- Number Cards

1. Write several multiplication facts on the board. For example:
2. Give pupils a few minutes to copy and solve the facts in their exercise books.
3. When the time is up, collect and correct pupils exercise books and guide pupils to do corrections, if necessary. If many pupils answered incorrectly, continue practicing multiplications during the next lessons.

$$2 \times 5 \qquad 8 \times 2$$

$$0 \times 7 \qquad 2 \times 1$$

Modifications
You can also have them create multiplication problems by putting number cards in a bag and having them draw two numbers and then multiply them.

Division

Division Drills

You can change the following activities when you introduce long division in module 3 by using larger numbers.

1. Write a simple division on the board and ask pupils to copy it in their exercise books.

    $4 \div 2 =$ _____

2. Ask pupils to solve the division. If difficult, give pupils marbles and demonstrate how to use the marbles to find the answer.

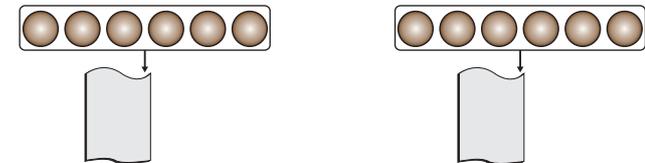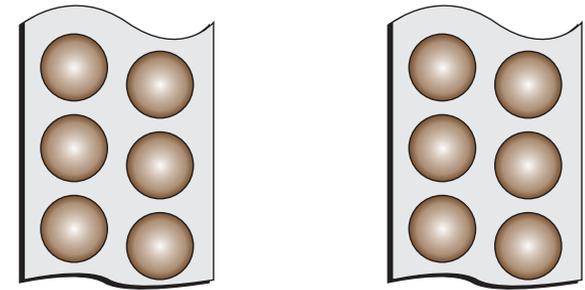3. Repeat with other divisions.

Modifications

Word Problems	Material
	• Counters, Satchels/small bags

1. Write the following word problem on the blackboard. Read it out loud several times to pupils.
2. Add the word problem: Isatu has 12 oranges. She wants to share them equally between her two younger sisters. How many will each sister receive?
3. Set 12 counters on one side of the table and 2 sachets on the other side of the table. Call a pupil to the table and ask him or her to put an equal amount of counters in each sachet. Then, ask the pupil to count the number of counters in the sachet (6 counters). Therefore, explain that the answer is 6
4. Explain to pupils that they don't necessarily need prompts to solve division problems. They can just draw in their exercise books. For example:
   a. Ask pupils how many counters Isatu has in total (12 seeds). Draw 12 counters on the board. Ask pupils to also draw 12 counters in their exercise books.
   b. Then, ask pupils the number of sachets that Isatu will need to represent her sisters in (2). Show pupils how to share the 12 counters among 2 sisters by drawing line between the counters and the sachets.
   c. Finally, ask pupils to count the number of counters in each sachets (6 seeds).
4. Have pupils practice using different word problems. These types of problems will likely be difficult for pupils to solve. Provide a lot of guidance to pupils about how to solve these problems like the example above.

Modifications