

# MATHEMATICS ACTIVITIES

PUPIL'S BOOK  
GRADE 3

FOR LEARNERS  
WITH LOW VISION

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## MINISTRY OF EDUCATION

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First Published 2017

ISBN NO: ISBN 978-9966-31-748-3



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# TERM I

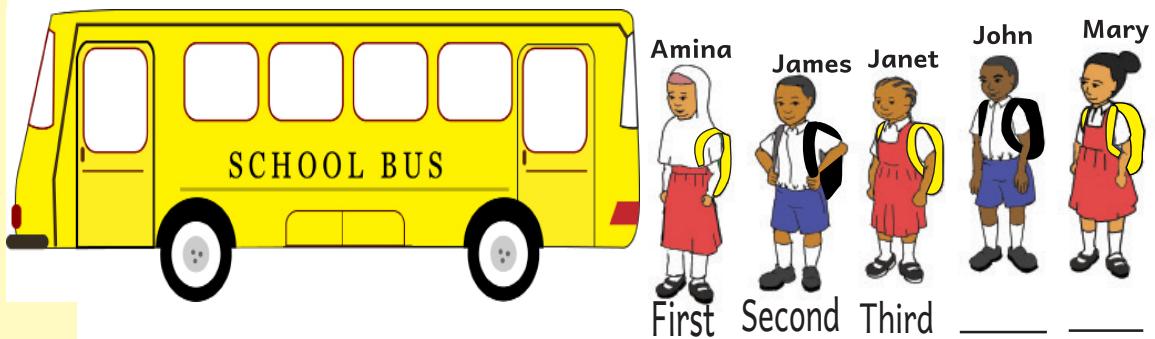




*Property of the Government of Kenya*

#### Activity 1

##### Identify John's position



**John is in the fourth position.**

Amina is in the first position.

James is in the second position.

Janet is in the \_\_\_\_\_ position.

Mary is in the \_\_\_\_\_ position.

#### Activity 2

Name the position of the footprints from 1 to 5



First

\_\_\_\_\_

# Work to do

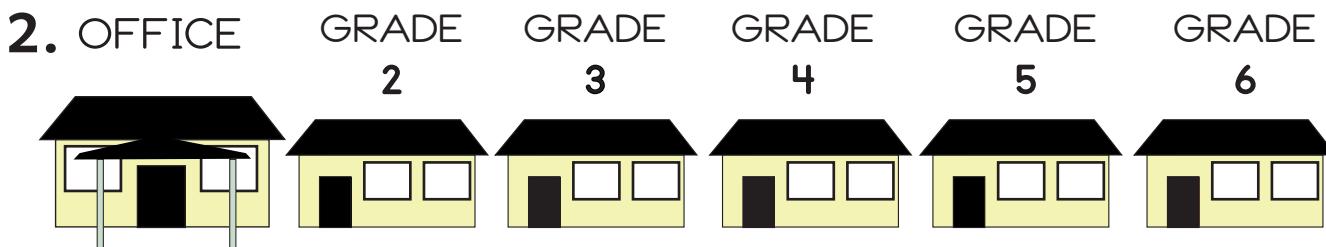
## I. Match

### School days

Tuesday
Friday
Monday
Wednesday
Thursday

### Position

First
Second
Third
Fourth
Fifth



What is the position of the classrooms from the office?

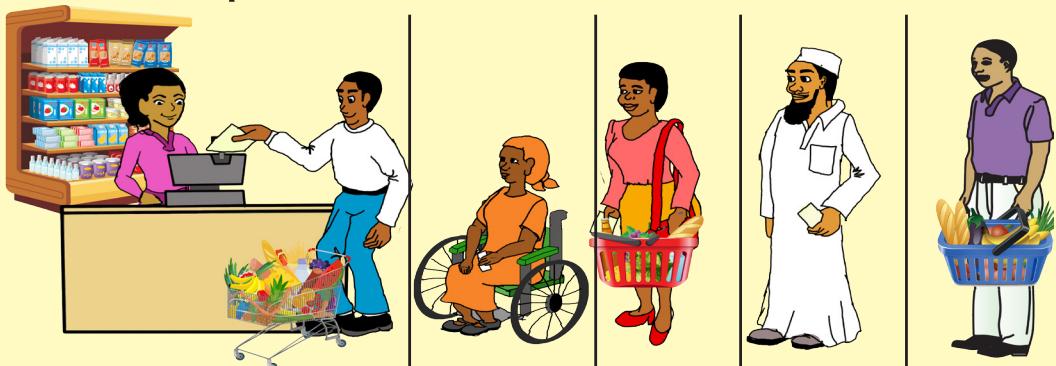
Grade	Position
2	First
3	_____
4	_____
5	Fourth
6	_____



## Position

### Activity

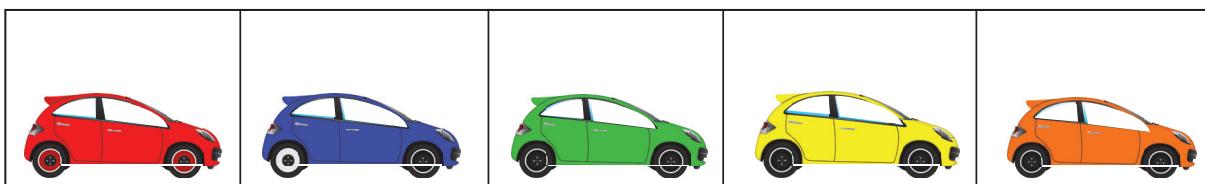
Write the position



3rd

### Work to do

#### I. Match the rally cars colours to position



Colour	Position
Red	3rd
Blue	4th
Green	2nd
Yellow	5th
Orange	1st

---

## 2. Match months of the year

April

1st

May

2nd

January

3rd

March

4th

February

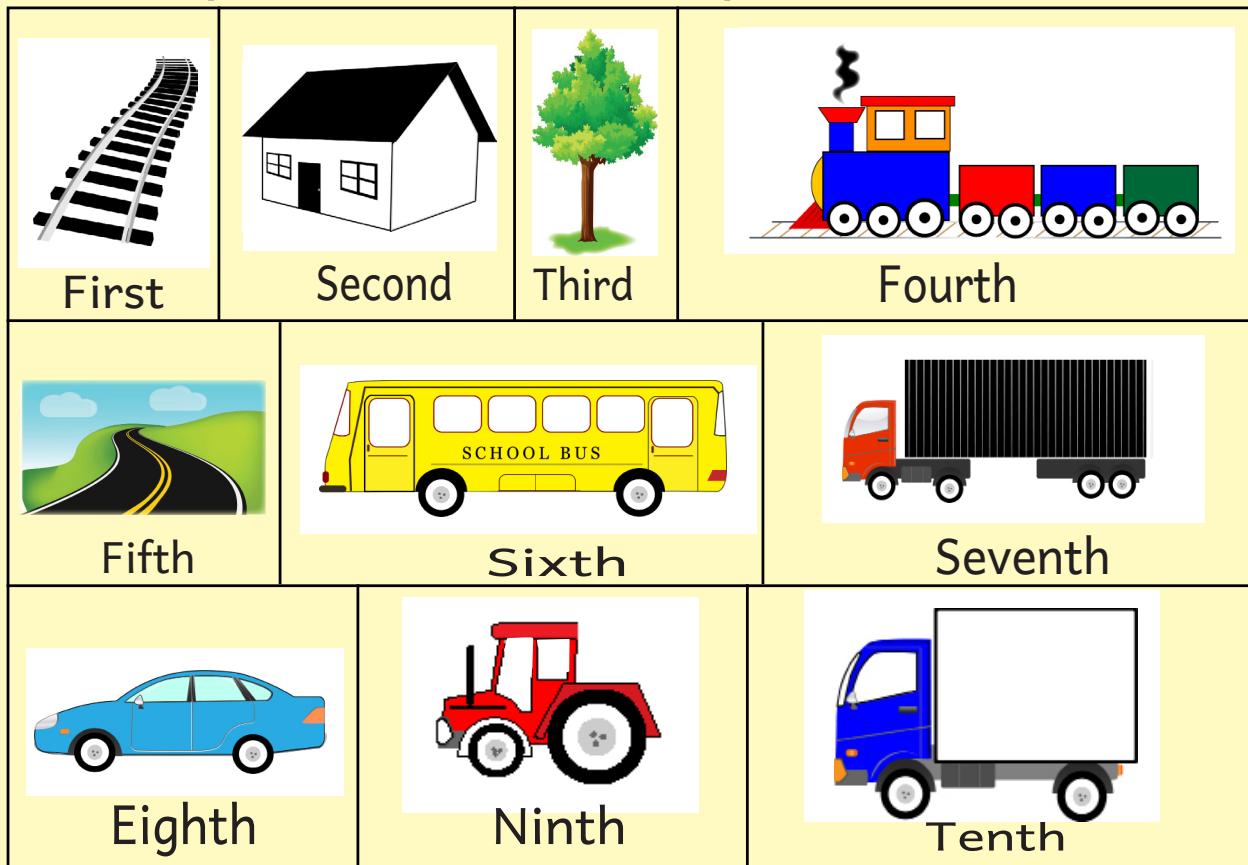
5th



## Position

### Activity

Use the picture to fill in the position



Vehicle	Position
Bus	Sixth
Lorry	
Tractor	
Car	
Van	

## Work to do

Match

Position

January

tenth

February

first

March

sixth

April

fourth

May

second

June

ninth

July

seventh

August

fifth

September

third

October

eighth

November

eleventh

December

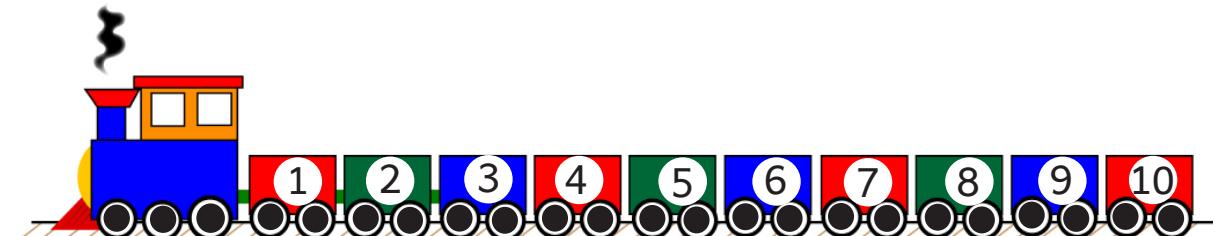
twelfth



## Positions

### Activity 1

Name the positions of the wagons



Wagon	Position
1	_____
2	_____
3	_____
4	_____
5	5th
6	_____
7	_____
8	_____
9	_____
10	10th

## Activity 2

### Fill in the position



Pineapple  
1st



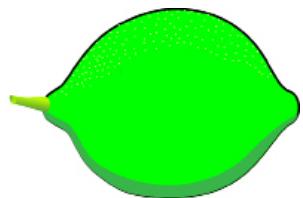
Banana



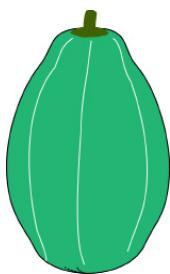
Orange



Mango  
4th



Lemon



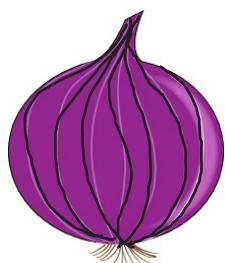
Pawpaw



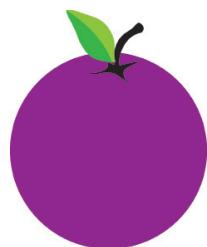
Apple



Tomato



Onion



Passion  
10th

---

## Work to do

### Fill in the position

January is the \_\_\_\_\_ month of the year

February is the 2<sup>nd</sup> month of the year

March is the \_\_\_\_\_ month of the year

April is the \_\_\_\_\_ month of the year

May is the \_\_\_\_\_ month of the year

June is the \_\_\_\_\_ month of the year

July is the \_\_\_\_\_ month of the year

August is the \_\_\_\_\_ month of the year

September is the \_\_\_\_\_ month of the year

October is the 10<sup>th</sup> month of the year

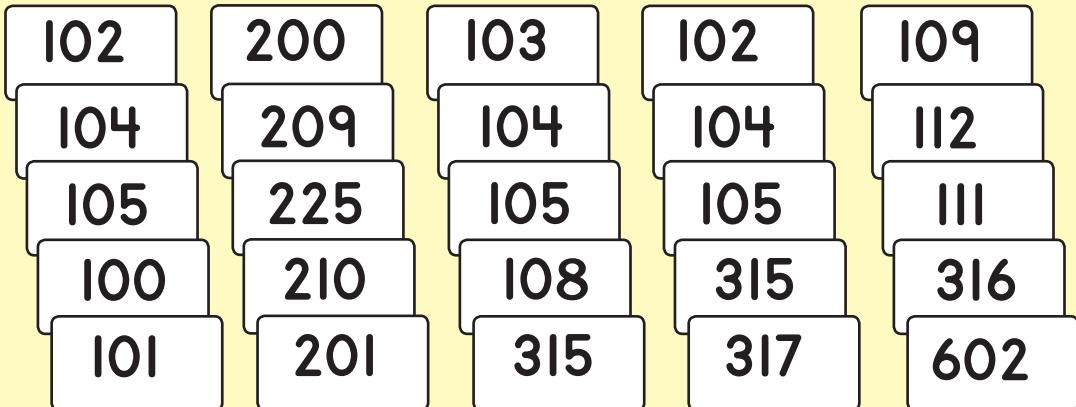
November is the 11<sup>th</sup> month of the year

December is the 12<sup>th</sup> month of the year

## Counting in ones

### Activity

Arrange the number cards in order



Fill in the missing numbers

1. 105, 106, 107, \_\_\_, \_\_\_, 110, 111
2. 312, 313, 314, \_\_\_, 316, \_\_\_, 318
3. 600, 599, 598, \_\_\_, \_\_\_, 595, 594
4. 825, 824, 823, \_\_\_, \_\_\_, 820
5. 900, 901, 902, \_\_\_, \_\_\_, 905, 906
6. 1000, 999, 998, \_\_\_, \_\_\_, 995

### Work to do

Fill in the missing numbers

1. 100, 99, 98, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_
2. 270, 269, 268, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_
3. 720, 721, 722, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_
4. 515, 514, 513, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_
5. 431, 430, 429, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_

### Counting in twos

#### Example 1

##### Counting forward

302, 304, 306, 308, 310, 312

601, 603, 605, 607, 609, 611

914, 916, 918, 920, 922, 924

#### Example 2

##### Counting backwards

730, 728, 726, 724, 722, 720

565, 563, 561, 559, 557, 555

480, 478, 476, 474, 472, 470

### Work to do

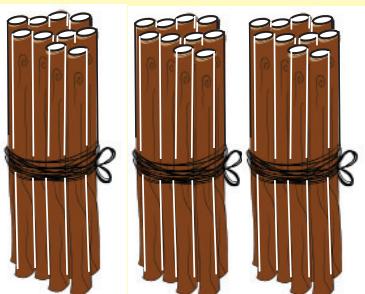
Write the next two numbers

1. 511, 513, 515, \_\_\_\_\_, \_\_\_\_\_
2. 610, 612, 614, \_\_\_\_\_, \_\_\_\_\_
3. 325, 323, 321, \_\_\_\_\_, \_\_\_\_\_
4. 755, 753, 751, \_\_\_\_\_, \_\_\_\_\_
5. 998, 996, 994, \_\_\_\_\_, \_\_\_\_\_
6. 100, 102, 104, \_\_\_\_\_, \_\_\_\_\_
7. 81, 77, 75, \_\_\_\_\_, \_\_\_\_\_
8. 30, 32, 34, \_\_\_\_\_, \_\_\_\_\_

### Place value

#### Example 1

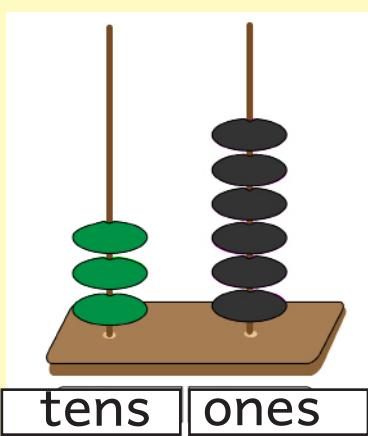
**36** can be shown using bundles of sticks as shown



3 tens and 6 ones

#### Example 2

The number **36** can also be shown on an abacus as **3** tens and **6** ones



#### Example 3

Tens	Ones
4	5

Using a place value chart **45** is shown as **4** tens and **5** ones

---

## Work to do

### How Many Ones and Tens ?

1.  $29 =$  2 tens and 9 ones

2.  $36 =$  3 tens and 6 ones

3.  $97 =$  \_\_\_\_\_ tens and \_\_\_\_\_ ones

4.  $4 =$  \_\_\_\_\_ tens and \_\_\_\_\_ ones

5.  $84 =$  \_\_\_\_\_ tens and \_\_\_\_\_ ones

6.  $49 =$  \_\_\_\_\_ tens and \_\_\_\_\_ ones

7.  $75 =$  \_\_\_\_\_ tens and \_\_\_\_\_ ones

## Numbers in symbols

### Activity 1

Let us read

1	11	21	31	41	51	61	71	81	91
2	12	22	32	42	52	62	72	82	92
3	13	23	33	43	53	63	73	83	93
4	14	24	34	44	54	64	74	84	94
5	15	25	35	45	55	65	75	85	95
6	16	26	36	46	56	66	76	86	96
7	17	27	37	47	57	67	77	87	97
8	18	28	38	48	58	68	78	88	98
9	19	29	39	49	59	69	79	89	99
10	20	30	40	50	60	70	80	90	100

### Activity 2

Read

28,      60,      17,      99,      100,      82,  
 45,      64,      33,      47,      55,      70,  
 69,      20,      13,      8,      3,      27,  
 32,      91,



**Numbers in words****Activity : Reading numbers one to fifty in words**

<b>Number</b>	<b>Words</b>
8	eight
17	seventeen
25	twenty five
38	thirty eight
42	forty two
50	fifty

**Work to do****I. Write the number**

- two \_\_\_\_\_
- nine \_\_\_\_\_
- eighteen \_\_\_\_\_
- twenty seven \_\_\_\_\_
- thirty two \_\_\_\_\_
- forty four \_\_\_\_\_
- fifty \_\_\_\_\_

**2. Match**

<b>Number</b>	<b>Words</b>
18	five
48	fourteen
14	twenty three
5	eighteen
23	forty eight

### Numbers in words

#### Activity

Reading numbers one to fifty in words

<b>Number</b>	<b>Words</b>
13	thirteen
21	twenty one
37	thirty seven
45	forty five
49	forty nine
50	fifty

### Work to do

#### 1. Write the number name

<b>Number</b>	<b>Words</b>
33	_____
29	_____
50	_____
44	_____
14	_____
26	_____
12	_____

#### 2. Match

<b>Number</b>	<b>Words</b>
29	thirty two
9	seventeen
32	forty
17	twenty nine
40	nine



## Number patterns

### Example 1

What is the missing number?

1, 2, 3, 4, \_\_\_, 6, 7

By counting on, the missing number is 5

### Example 2

10, 9, 8, 7, 6, \_\_\_\_\_, \_\_\_\_\_

By counting backwards, the next two numbers are 5, 4

### Work to do

What is the next number?

1. 1, 3, 5, 7, \_\_\_\_\_

2. 2, 4, 6, 8, \_\_\_\_\_

3. 10, 8, 6, 4, \_\_\_\_\_

4. 9, 7, 5, 3, \_\_\_\_\_

5. 4, 5, 6, 7, \_\_\_\_\_

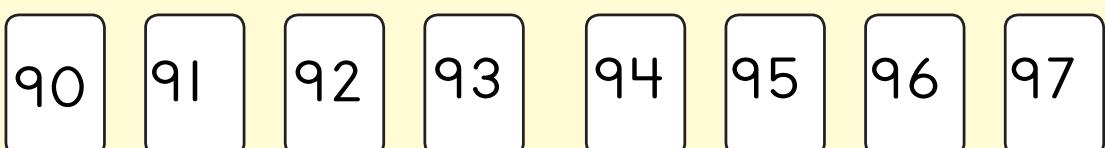
6. 8, 7, 6, 5, \_\_\_\_\_

7. 6, 7, 8, 9, \_\_\_\_\_

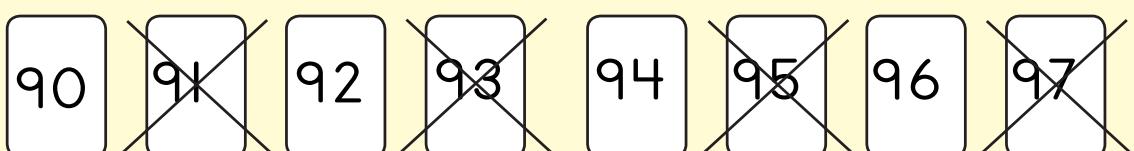
## Number patterns

### Activity 1

Arrange the cards with numbers 90 to 100 in order



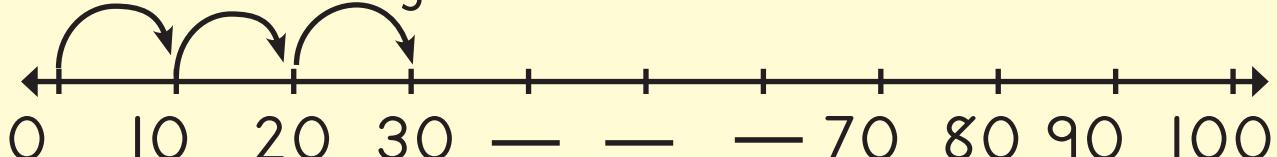
Remove the cards with numbers 91, 93, 95 and 97



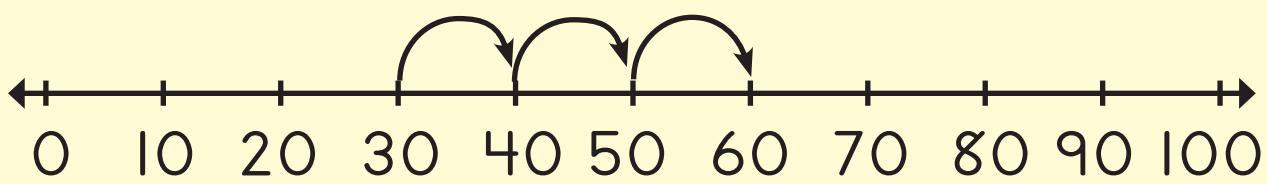
We have formed the pattern **90, 92, 94, 96**  
To get the next number, we count in twos.

### Activity 2

Fill in the missing numbers



To get the next number, skip once on the number line from **30**. This gets you to **40**. Following the same steps, we can get the missing numbers as **50** and **60**



---

## Work to do

Fill in the missing numbers

1. 91, 93, 95, \_\_\_\_\_, \_\_\_\_\_

2. 81, 82, 83, \_\_\_\_\_, \_\_\_\_\_

3. 61, 64, 67, \_\_\_, \_\_\_, \_\_\_\_\_

4. 41, 46, 51, 56, \_\_\_\_\_, \_\_\_\_\_

5. 30, 32, 34, 36, \_\_\_\_\_, \_\_\_\_\_

6. 17, 15, 13, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

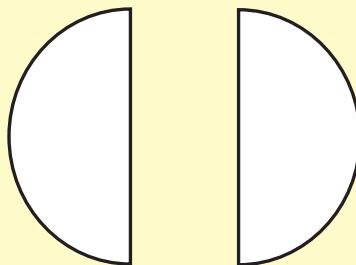
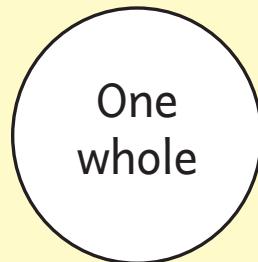
## Half as part of a whole

A fraction tells us how many parts of a whole we have.

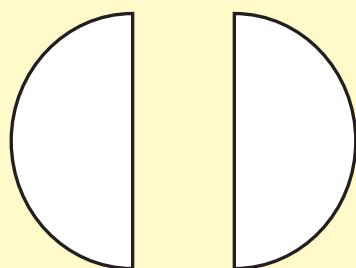
### Activity I

In groups cut circular cut-outs from manilla paper.

Fold the circular cut-out into two equal parts and cut.



One part is called a half written as  $\frac{1}{2}$ .



$$\frac{1}{2}$$

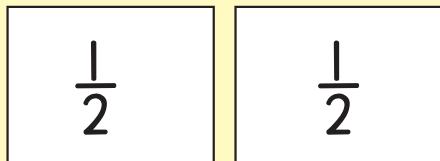
$$\frac{1}{2}$$

## Activity 2

In groups cut a rectangular cut-out from manilla paper.

One whole

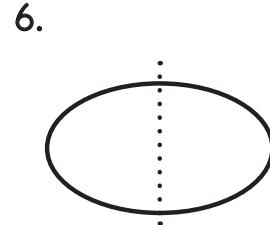
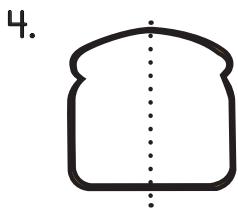
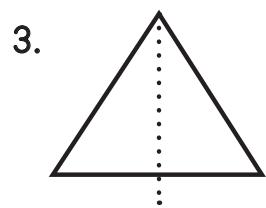
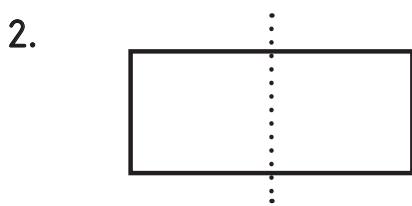
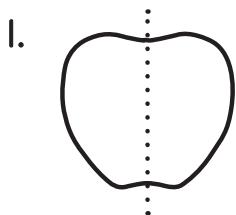
Fold the rectangular cut-out into two equal parts and cut. Each part is a **half**.



When an object is cut into **2** equal parts each part is called a **half**.  $\frac{1}{2}$  is a **fraction**.

### Work to do

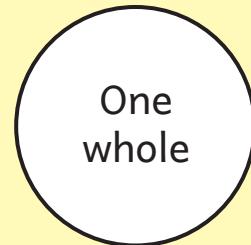
Draw and shade half



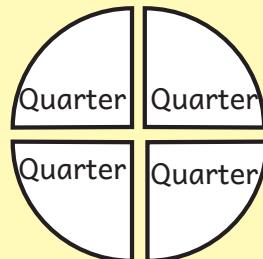
## Quarter as part of a whole

### Activity 1

In groups cut circular cut-outs from manilla paper.

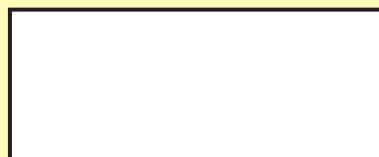


Fold the cut-out and cut into **4** equal parts. One part is called a **quarter**, written as  $\frac{1}{4}$ .

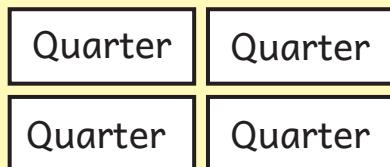


### Activity 2

In groups cut rectangular cut-outs from manilla paper.

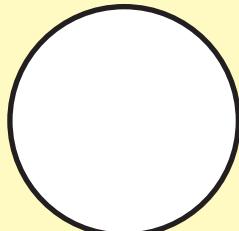


Fold the cut-out and cut into **4** equal parts. One part is called a **quarter**, written as  $\frac{1}{4}$ .

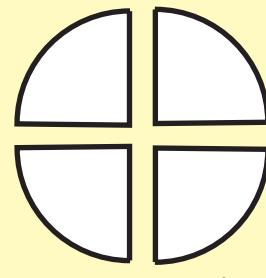


When an object is cut into four equal parts each part is called a  $\frac{1}{4}$ . A quarter is a **fraction**.

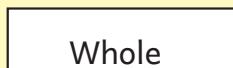
### Example



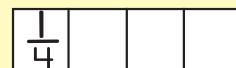
Whole



Quarter or  $\frac{1}{4}$



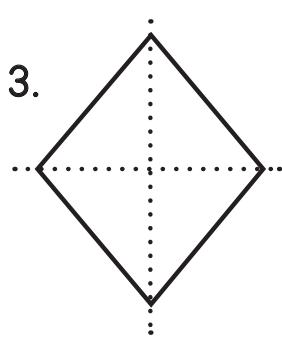
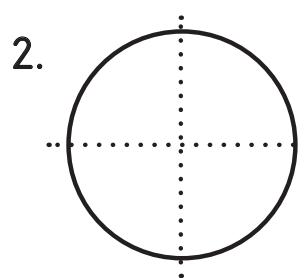
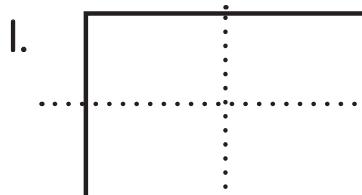
Whole



$\frac{1}{4}$

### Work to do

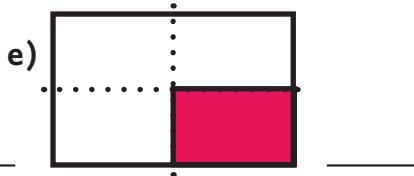
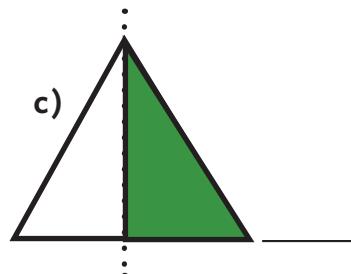
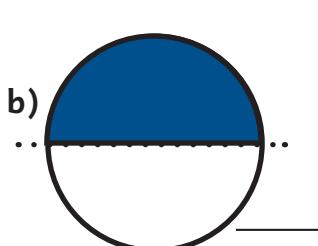
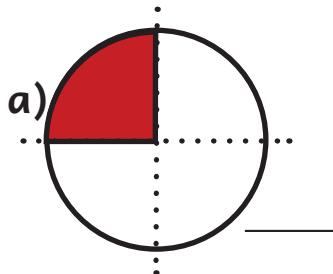
Draw the following and shade a quarter



# Comparing $\frac{1}{2}$ and $\frac{1}{4}$

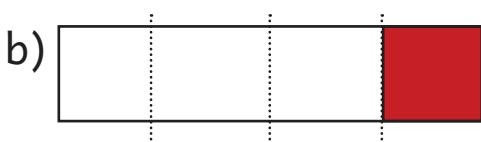
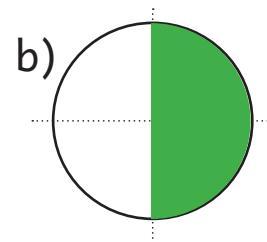
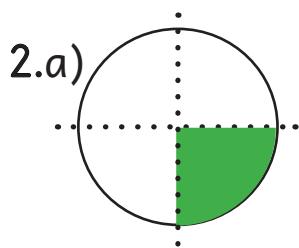
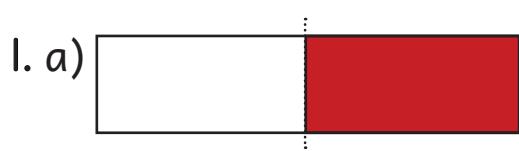
## Activity

Write  $\frac{1}{4}$  or  $\frac{1}{2}$



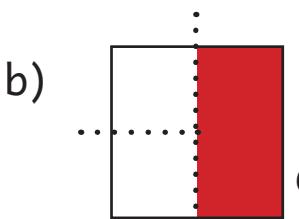
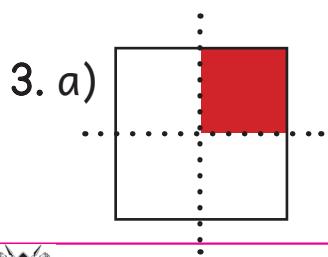
## Work to do

Which shaded part is bigger ?



a or b \_\_\_\_\_

a or b \_\_\_\_\_



a or b \_\_\_\_\_



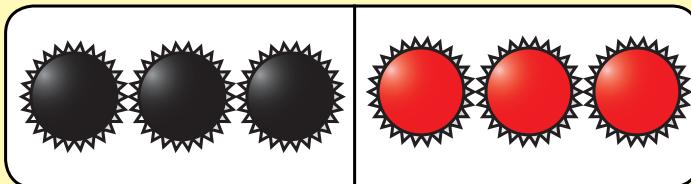
## Fraction as part of a group

We have learnt that a fraction is a part of a whole. A fraction can also be a part of a group.

### Activity 1

Form a group of **6** bottle tops with three black and three red.

We have two small groups. Out of the two, one group is shaded red.

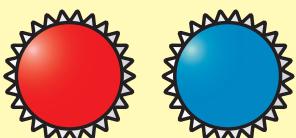


The fraction shaded red is  $\frac{1}{2}$

The fraction shaded black is  $\frac{1}{2}$ .

### Activity 2

What part of the group is red? \_\_\_\_\_

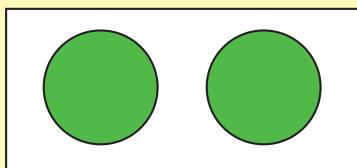


What part of the group is girls? \_\_\_\_\_

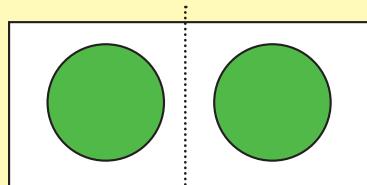


What part of the group is boys? \_\_\_\_\_

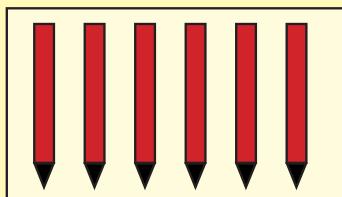
## Activity 3



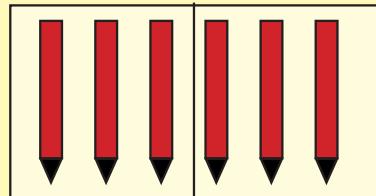
Whole group



half of 2 is 1



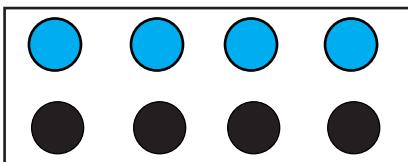
Whole group



half of 6 is 3

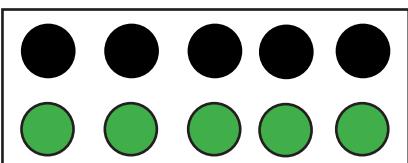
## Work to do

1.



What fraction is shaded blue? \_\_\_\_\_

2.



What fraction is shaded green? \_\_\_\_\_

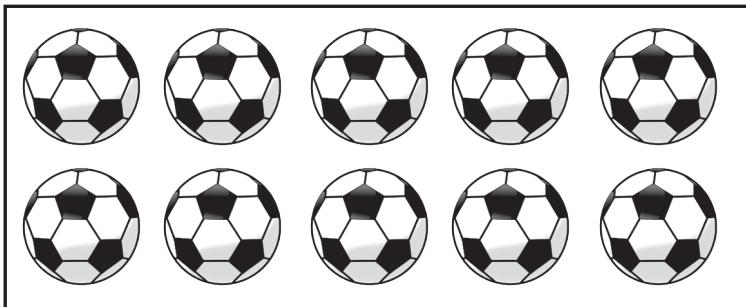
3.



Half of 4 = \_\_\_\_\_



4.



$$\text{Half of } 10 = \underline{\quad}$$

$$5. \text{ Half of } 8 = \underline{\quad}$$

$$6. \text{ Half of } 12 = \underline{\quad}$$

$$7. \text{ Half of } 6 = \underline{\quad}$$

$$8. \text{ Half of } 10 = \underline{\quad}$$

$$9. \text{ Half of } 20 = \underline{\quad}$$

## Adding a 3 - digit number to a 1 - digit number

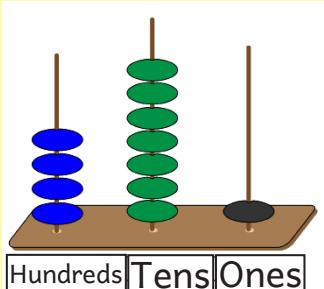
## Activity

Using an Abacus

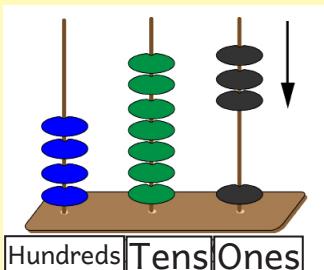
471

$$+ \underline{\quad 3 \quad}$$

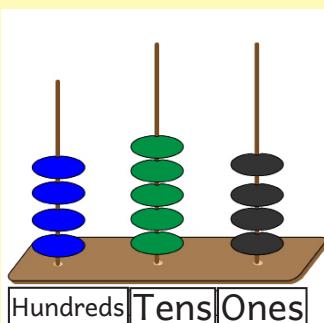
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- i) Represent 471 as 1 ring in the ones spike, 7 rings in the tens spike and 4 rings in the hundreds spike.



- ii) Add 3 rings in the ones spike to get 4 rings.



- iii) The results is 4 rings in the ones spike, 7 rings in the tens spike and 4 rings in the hundreds spike.

471

$$+ \underline{\quad 3 \quad}$$

474

## Example 1

$$324 + 5 =$$

Arrange as:

### Steps

$$\begin{array}{r} 324 \\ + \end{array}$$

$$\begin{array}{r} \downarrow \downarrow \\ 5 \end{array}$$

$$\begin{array}{r} 329 \\ \hline \end{array}$$

1. Add 4 ones to 5 ones to get 9 ones.

2. Record 9 in the ones column.

3. Bring down 2 in the tens column.

4. Bring down 3 in the hundreds column.

## Example 2

$$\begin{array}{r} 892 \\ + \end{array}$$

### Steps

1. Add 2 ones to 5 ones to get 7 ones.

$$\begin{array}{r} 897 \\ \hline \end{array}$$

Bring 9 ones down and 8 hundreds down to get the answer.

## Example 3

$$456 + 3 =$$

Count 3 steps from 456, 457, 458, 459

$$456 + 3 = 459$$

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## Work to do

Add

1.      
$$\begin{array}{r} 990 \\ + \quad 7 \\ \hline \end{array}$$

2.      
$$\begin{array}{r} 287 \\ + \quad 2 \\ \hline \end{array}$$

3.      
$$\begin{array}{r} 672 \\ + \quad 5 \\ \hline \end{array}$$

4.      
$$\begin{array}{r} 441 \\ + \quad 6 \\ \hline \end{array}$$

5.      
$$\begin{array}{r} 791 \\ + \quad 7 \\ \hline \end{array}$$

6.      
$$\begin{array}{r} 904 \\ + \quad 3 \\ \hline \end{array}$$

7.       $344 + 3 =$

8.       $950 + 5 =$

9.       $342 + 3 =$

10.       $510 + 8 =$

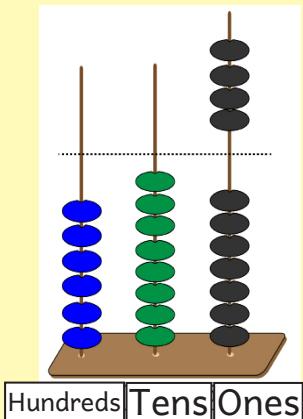


## Adding a 3 - digit number to a 1 - digit number

## Activity

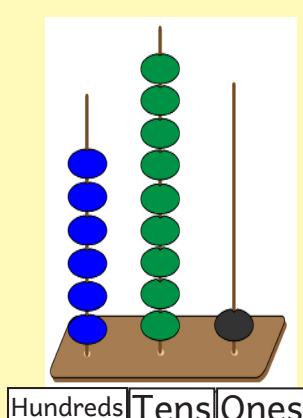
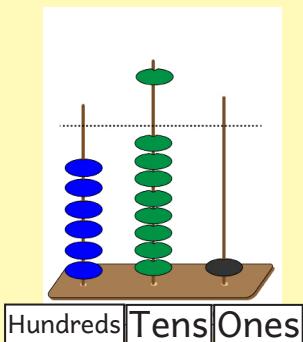
687

Using an abacus

+   4                  

## Steps

1. Represent 687 as 7 rings in ones spike, 8 rings in the tens spike and 6 rings in the hundreds spike.
2. Add 4 rings in the ones spike to get 11 rings.
3. Remove 10 rings from the ones spike and replace them with 1 ring in the tens spike, to get 9 rings in the tens spike.
4. You have 6 rings in the hundreds spike 9 rings in the tens spike and 1 ring in the ones spike (691)



$$\begin{array}{r}
 687 \\
 + \underline{\quad 4 \quad} \\
 \hline
 691
 \end{array}$$

## Example

$$\begin{array}{r} 687 \\ + \quad 8 \\ \hline 695 \end{array}$$

## Steps

1. Add Ones  $7 + 8 = 15$
2. Regroup 15 as 1 tens and 5 ones.
3. Write 5 and take 1 to Tens
4. Add tens  $1 + 8 = 9$ .
5. Write 9 in Tens place.
6. Bring down 6 hundreds.

## Work to do

Add

$$\begin{array}{r} 784 \\ + \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 188 \\ + \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 543 \\ + \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 342 \\ + \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 615 \\ + \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 813 \\ + \quad 7 \\ \hline \end{array}$$

$$7. \quad 223 + 8 = \boxed{\phantom{00}}$$

$$8. \quad 138 + 4 = \boxed{\phantom{00}}$$

$$9. \quad 876 + 6 = \boxed{\phantom{00}}$$

$$10. \quad 309 + 3 = \boxed{\phantom{00}}$$



## Adding 3 - digit number to a 2 - digit number

## Activity 1

$$\begin{array}{r}
 423 \\
 + 14 \\
 \hline
 \end{array}$$

Arrange in the place value chart as :

## Steps

Hundreds	Tens	Ones
+ 4	2	3
	1	4

1. Add 3 ones to 4 ones to get 7 ones.
2. Record 7 in the ones column.
3. Add 2 tens to 1 ten to get 3 tens. record 3 in the tens column.
4. Bring down 4 in the hundreds column.

## Activity 2

$$852 + 34 = \boxed{\phantom{00}}$$

Arrange in the place value chart as :

Hundreds	Tens	Ones
8	5	2
+	3	4
8	8	6

### Steps

1. Add 2 Ones to 4 ones to get 6 ones. Record 6 in the ones column
2. Add 5 tens to 3 tens to get 8 tens. Record 8 in the tens column.
3. Bring down 8 in the hundreds column

## Work to do

### 1. Add

$$\begin{array}{r} 324 \\ + 15 \\ \hline \end{array}$$

$$\hline$$

$$\begin{array}{r} 416 \\ + 22 \\ \hline \end{array}$$

$$\hline$$

$$\begin{array}{r} 934 \\ + 24 \\ \hline \end{array}$$

$$\hline$$

$$\begin{array}{r} 102 \\ + 71 \\ \hline \end{array}$$

$$\hline$$

$$\begin{array}{r} 823 \\ + 45 \\ \hline \end{array}$$

$$\hline$$



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6.  $801 + 84 =$

7.  $920 + 43 =$

8.  $744 + 25 =$

9.  $123 + 52 =$

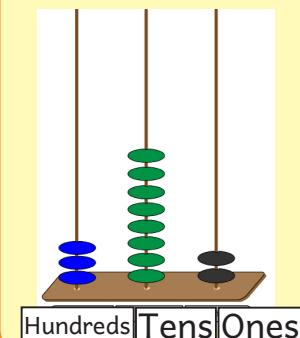
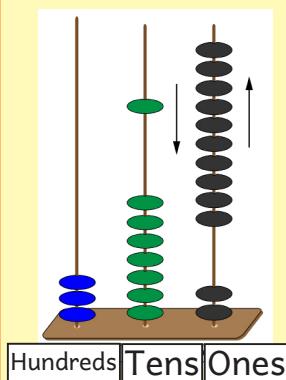
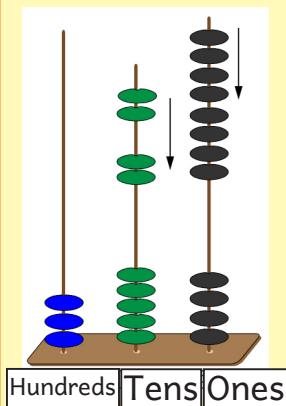
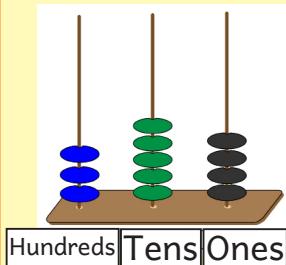
10.  $432 + 63 =$

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## Adding a 3 - digit number to a 2 - digit number

### Activity 1

#### Using an abacus



$$\text{I. } 354 + 28 = \boxed{\quad}$$

- I. Represent **354** as **4** rings in the ones spike, **5** rings in the tens spike and **3** rings in the hundreds spike.
2. Represent **28** as **8** rings on the ones spike **2** rings in the tens spike
3. Add **4** rings to **8** rings in the ones spike to get **12** rings in the ones spike.
4. Regroup **12** rings as **1** ten and **2** ones. Remove **10** rings from the ones spike and add one ring in the tens spike to get **8**. **2** rings remain in the ones spike.
5. The result is **2** rings in the ones spike, **8** rings in the tens spike and **3** rings in the hundreds spike.

$$354 + 28 = 382$$



## Example 1

I.  $246 + 37 = \boxed{\phantom{00}}$

### Steps

1. Add Ones  $6 + 7 = 13$
2. Regroup 13 as 1 tens and 3 ones.
3. Take 1 ten to the tens column.
4. Write 3 in ones column add 1 to 4 in the tens column.
5. Add tens  $1 + 4 + 3 = 8$ . Write 8.

Example 2  
I.  $472 + 54 = \boxed{\phantom{00}}$

### Steps

1. Add ones  $2 + 4 = 6$
2. Add tens  $7 + 5 = 12$
3. Regroup 12 tens as 1 hundreds and 2 tens. Take 1 hundred to the hundreds column
4. Write 2 and carry 1 hundreds.
5. Add hundreds  $1 + 4 = 5$

Hundreds	Tens	Ones
2	4	6
+	3	7
2	8	3

Hundreds	Tens	Ones
1	7	2
4	5	4
5	2	6

## Work to do

Add

$$\begin{array}{r} 1. \quad 342 \\ + \quad 49 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 467 \\ + \quad 25 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 275 \\ + \quad 16 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 862 \\ + \quad 29 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 657 \\ + \quad 52 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 758 \\ + \quad 81 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 263 + 35 = \underline{\hspace{2cm}} \\ 8. \quad 496 + 72 = \underline{\hspace{2cm}} \end{array}$$

$$9. \quad 827 + 91 = \underline{\hspace{2cm}}$$

$$10. \quad 196 + 32 = \underline{\hspace{2cm}}$$

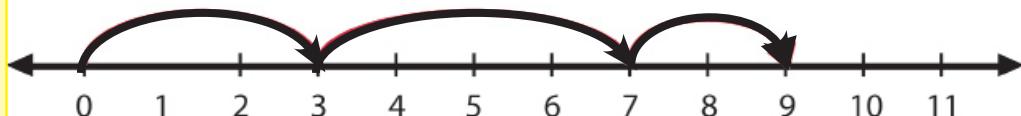


## Adding 3-single digit numbers

### Activity 1

I.  $3 + 4 + 2 = \boxed{\phantom{00}}$

This can be done using the number line



### Steps

- I. Start at 0 and skip 3 steps forward.
2. Skip another 4 steps forward.
3. Skip another 2 steps forward.
4. The final point is 9.

## Example

$$3 + 4 + 2 = \boxed{\phantom{00}}$$

$$3 + 4 = 7$$

$$7 + 2 = 9$$

$$3 + 4 + 2 = 9$$

## Work to do

### Add

1.  $3 + 3 + 4 = \boxed{\phantom{00}}$

2.  $2 + 1 + 5 = \boxed{\phantom{00}}$

3.  $2 + 3 + 4 = \boxed{\phantom{00}}$

4.  $3 + 3 + 3 = \boxed{\phantom{00}}$

5.  $3 + 1 + 2 = \boxed{\phantom{00}}$

6. 
$$\begin{array}{r} 2 \\ + 4 \\ \hline 4 \end{array}$$

7. 
$$\begin{array}{r} 4 \\ + 3 \\ \hline 2 \end{array}$$

8. 
$$\begin{array}{r} 5 \\ + 2 \\ \hline 2 \end{array}$$

9. 
$$\begin{array}{r} 4 \\ + 1 \\ \hline 3 \end{array}$$

10. 
$$\begin{array}{r} 6 \\ + 1 \\ \hline 3 \end{array}$$

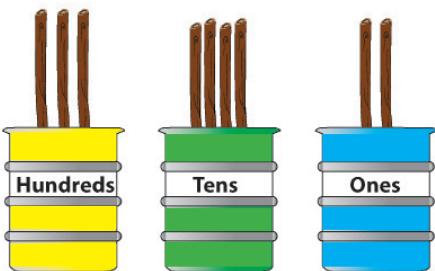


## Adding two 3 - digit numbers

### Activity

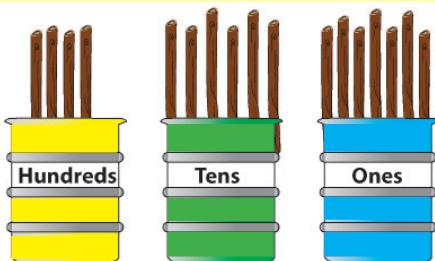
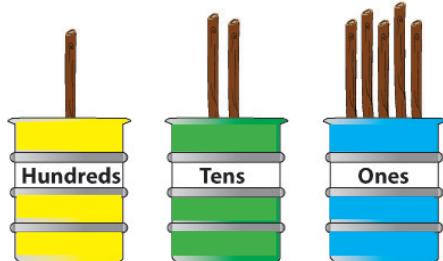
#### Using place value tins

$$\begin{array}{r}
 342 \\
 + 125 \\
 \hline
 \end{array}$$



#### Steps

1. Represent **342** as **2** sticks in ones tin, **4** sticks in tens tin and **3** sticks in hundreds tin.
2. Add **125** as **5** sticks in the ones tin, **2** sticks in the tens tin and **1** stick in the hundreds tin.
3. Count the sticks to get, **7** sticks in the ones tin, **6** sticks in the tens tin and **4** sticks in the hundreds tin.



$$\begin{array}{r}
 342 \\
 + 125 \\
 \hline
 467
 \end{array}$$

## Example 1

$$\begin{array}{r} 246 \\ + 132 \\ \hline 378 \end{array}$$

Ones :  $6 + 2 = 8$  Write 8

Tens :  $4 + 3 = 7$  Write 7

Hundreds :  $2 + 1 = 3$  Write 3

## Example 2

$$157 + 232 = \boxed{\phantom{000}}$$

Write as

$$\begin{array}{r} 157 \\ + 232 \\ \hline 389 \end{array}$$

Add Ones  
Add Tens  
Add Hundreds

## Work to do

### 1. Add

a)  $324$   
 $+ 135$   

---

b)  $144$   
 $+ 351$   

---

c)  $266$   
 $+ 232$   

---

d)  $372$   
 $+ 120$   

---

e)  $274$   
 $+ 124$   

---

f)  $375$   
 $+ 121$   

---

### 2. Add

a)  $126 + 232 = \boxed{\phantom{000}}$    b)  $342 + 143 = \boxed{\phantom{000}}$

c)  $318 + 181 = \boxed{\phantom{000}}$    d)  $372 + 122 = \boxed{\phantom{000}}$



## Adding two 3 - digit numbers

### Example 1

$$\begin{array}{r}
 235 \\
 + 147 \\
 \hline
 \end{array}$$

hundreds	tens	ones
2	3	5
+	1	4
3	8	2

#### Steps

1. Add **5** ones to **7** ones to get **12** ones.
2. Regroup **12** as **1** tens and **2** ones.
3. Write **2** in the ones column and take **1** tens to the tens column.
4. Add **1** tens to **3** tens and **4** tens to get **8** tens. Write **8** in the tens column.
5. Add **2** hundreds to **1** hundreds to get **3** hundreds.

## Example 2

$$\begin{array}{r} 267 \\ + 452 \\ \hline \end{array}$$

$$267 + 452 = \boxed{\phantom{00}}$$

### Steps

1. Arrange in columns.
2. Add 7 ones to 2 ones to get 9 ones.
3. Add 6 tens to 5 tens to get 11 tens. Regroup 11 tens as 1 hundreds and 1 tens.
4. Write 1 in the tens column.
5. Take 1 hundreds to the hundreds column.
6. Add 1 hundreds to 2 and 4 hundreds to get 7 hundreds.

hundreds	tens	ones
2	6	7
+ 4	5	2
7	1	9

## Work to do

$$\begin{array}{r} 126 \\ + 348 \\ \hline \end{array}$$

$$\begin{array}{r} 257 \\ + 234 \\ \hline \end{array}$$

$$\begin{array}{r} 363 \\ + 129 \\ \hline \end{array}$$



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$$\begin{array}{r} 4. \quad 227 \\ + 256 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 122 \\ + 181 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 281 \\ + 136 \\ \hline \end{array}$$

$$7. \quad 227 + 256 = \boxed{\phantom{00}} \quad 8. \quad 227 + 212 = \boxed{\phantom{00}}$$

9. Juma had 468 party chairs. He bought 125 party chairs. How many party chairs does he have altogether?
10. Asha had 135 kg of flour. Fatuma gave her 180 kg. How many kg does she have altogether?

## Number patterns

### Activity

Fill in the missing numbers

1	2		4	5	6	7			10
			13	14	15			18	19
21		23			26				30
31	32			35		37	38		
41	42	43				47		49	50
51			54	55			58		
	62	63			66	67		69	
71			74	75			78		80
81	82		84		86		88		90
			94	95		97		99	100



## **Example 1**

Fill in the missing numbers

**422, 424, 426, 428, \_\_\_, \_\_\_**

### **Steps**

1. Get the rule by getting the difference through addition between two numbers following each other.
2. The rule is add **2** to the previous number.
3. To get the next number, add **2** to **428**.  
The next number is **430**.
4. To get the next missing number, add **2** to **430**. The number is **432**.

## **Example 2**

Fill in the missing numbers

**450, 460, 470, \_\_, \_\_, 500.**

### **Steps**

1. Get the rule by getting the difference through addition between two numbers following each other.
2. The rule is **10** more than the previous number.
3. To get the missing number, add **10** to **470**. The next number is **480**.
4. To get the next missing number, add **10** to **480**. The number is **490**.

---

## Work to do

Work out the missing numbers

1. 125, 150, 175, \_\_\_, \_\_\_, 250
2. 320, 325, 330, \_\_\_, \_\_\_, 345
3. 415, 430, 445, 460, \_\_\_, \_\_\_
4. 200, 250, 300, 350, \_\_\_, \_\_\_
5. 75, 150, 225, 300, \_\_\_, \_\_\_



# Subtracting a 1 - digit number from a 2 - digit number

## Example 1

$$\begin{array}{r} 28 \\ - 3 \\ \hline \end{array}$$

tens	ones
2	8
-	3
2	5

## Steps

1. Subtract **3** ones from **8** ones to get **5** ones.
2. Bring down **2** tens.

## Example 2

Work out

$$79 - 5 = \boxed{\phantom{0}}$$

arrange as

tens	ones
7	9
-	5
7	4

## Steps

1. Subtract **5** ones from **9** ones to get **4** ones.
2. There is no tens in the second number.
2. Bring down **7**.

---

## Work to do

### Subtract

1.      27  
      - 5  
\_\_\_\_\_

2.      78  
      - 3  
\_\_\_\_\_

3.      45  
      - 4  
\_\_\_\_\_

4.      64  
      - 1  
\_\_\_\_\_

5.      19  
      - 6  
\_\_\_\_\_

6.      83  
      - 3  
\_\_\_\_\_

7.  $98 - 7 = \square$

8.  $48 - 5 = \square$

9. A box contains **25** pieces of soap. Grade 3 learners used **5** pieces to wash their hands. How many pieces remained?
10. A poultry keeper had **83** chicken. She ate two. How many remained?

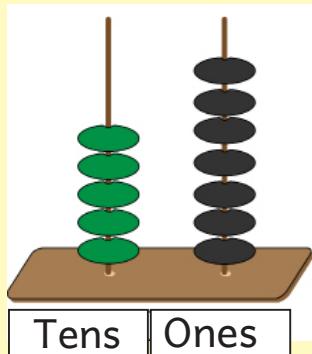


## Subtracting two 2 - digit numbers

### Activity

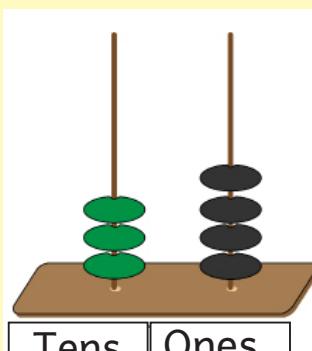
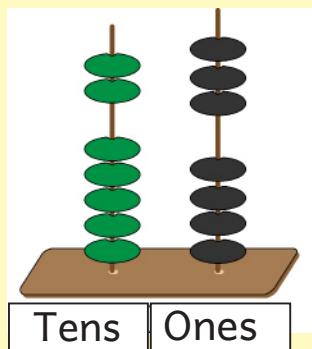
Using an abacus

$$\begin{array}{r} 57 \\ - 23 \\ \hline \end{array}$$



### Steps

1. Represent 57 as 7 rings in the ones spike and 5 rings in the tens spike.
2. Remove 3 rings from the ones spike and 2 rings from the tens spike.
3. Count the remaining rings in the ones spike and record in ones place. Count the remaining rings in the tens spike and record in tens place.



$$\begin{array}{r} 57 \\ - 23 \\ \hline 34 \end{array}$$

## Example 1

$$\begin{array}{r} 36 \\ - 12 \\ \hline \end{array}$$

tens	ones
3	6
-	-
2	4

### Steps

1. Subtract **2** ones from **6** ones to get **4** ones.
2. Subtract **1** tens from **3** tens to get **2** tens.

## Example 2

$$86 - 54 = \boxed{\phantom{0}}$$

arrange as

tens	ones
8	6
-	-
3	2

### Steps

1. Subtract **4** ones from **6** ones to get **2** ones.
2. Subtract **5** tens from **8** tens to get **3** tens.



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## Work to do

$$\begin{array}{r} 1. \quad 42 \\ - 31 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 29 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 17 \\ - 14 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 31 \\ - 21 \\ \hline \end{array}$$

$$5. \quad 85 - 61 = \boxed{\phantom{00}}$$

$$6. \quad 66 - 44 = \boxed{\phantom{00}}$$

$$7. \quad 75 - 43 = \boxed{\phantom{00}}$$

8. A class has **45** pupils. The number of boys is **30**. How many girls are in that class?
9. Andrew bought **88** story books. He gave **43** to Grade **3** learners. How many remained?
10. Morris had **54** bags of cement. Violet borrowed **32** bags. How many were left?

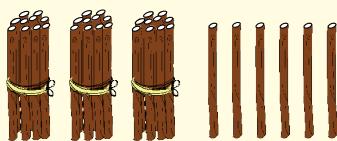
# Subtracting a 1 - digit number from a 2 - digit number

## Activity

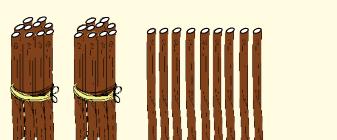
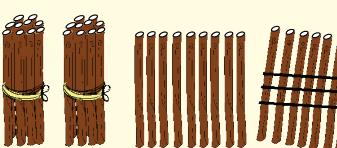
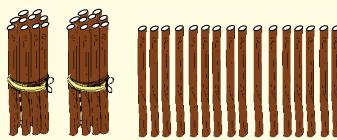
### Using Bundles of sticks

$$\begin{array}{r} 36 \\ - 7 \\ \hline \end{array}$$

#### Steps



1. Represent **36** as **3** bundles of tens and **6** single sticks.
2. Take **7** single sticks away from **6** single sticks. Since we cannot take **7** sticks from **6** sticks.
3. Untie **1** bundle of tens to get **10** single sticks. Add to the **6** single sticks to get **16** single sticks.
4. Remove **7** single sticks from **16** single sticks.
5. Count the remaining bundles of tens and single sticks to get **2** bundles of ten and **9** singles.



$$\begin{array}{r} 36 \\ - 7 \\ \hline 29 \end{array}$$



## Example Steps

$$\begin{array}{r} 63 \\ - 4 \\ \hline 59 \end{array}$$

1. Since you can not subtract **4** ones from **3** ones, regroup **6** tens as **5** tens and **10** ones. Add **10** ones to **3** ones to get **13** ones.
2. Subtract **4** ones from **13** ones to get **9** ones.
3. Bring down the remaining **5** tens

## Work to do

### Subtract

1.  $\begin{array}{r} 87 \\ - 9 \\ \hline \end{array}$

2.  $\begin{array}{r} 26 \\ - 7 \\ \hline \end{array}$

3.  $\begin{array}{r} 14 \\ - 5 \\ \hline \end{array}$

4.  $\begin{array}{r} 31 \\ - 3 \\ \hline \end{array}$

5.  $\begin{array}{r} 62 \\ - 6 \\ \hline \end{array}$

6.  $\begin{array}{r} 75 \\ - 6 \\ \hline \end{array}$

7.  $\begin{array}{r} 90 \\ - 8 \\ \hline \end{array}$

8.  $\begin{array}{r} 48 \\ - 9 \\ \hline \end{array}$

9. Boaz had **16** rabbits. He gave nine to his friends. How many was he left with?

10. A shopkeeper had a tray of **30** eggs. He sold five eggs. How many eggs remained?

# Subtracting a 1 - digit number from a 2 - digit number

## Example 1

$$\begin{array}{r} 44 \\ - 27 \\ \hline \end{array}$$

tens	Ones
4	4
2	7
1	7

## Steps

1. Since you can not subtract 7 ones from 4 ones, regroup 4 tens as 3 tens and 10 ones. Add 10 ones to 4 ones to get 14 ones.
2. Subtract 7 ones from 14 ones to get 7 ones.
3. Subtract 2 tens from the remaining 3 tens to get 1 tens

## Example 2

$$\begin{array}{r} 88 \\ - 29 \\ \hline \end{array}$$

tens	ones
8	8
2	9
5	9

## Steps

1. Since you can not subtract 9 ones from 8 ones, regroup 8 tens as 7 tens and add 10 ones to 8 ones to get 18 ones.
2. Subtract 9 ones from 18 ones to get 9 ones.
3. Subtract 2 tens from the remaining 7 tens to get 5 tens.



---

## Work to do

### Subtract

$$\begin{array}{r} 42 \\ - 17 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ - 28 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ - 69 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ - 27 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ - 36 \\ \hline \end{array}$$

$$\begin{array}{r} 92 \\ - 46 \\ \hline \end{array}$$

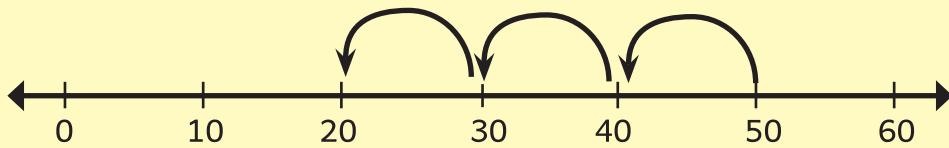
$$\begin{array}{r} 74 \\ - 58 \\ \hline \end{array}$$

8. A teacher bought **82** mangoes to give to pupils on athletics day. The teacher gave out **49** mangoes. How many mangoes remained?
9. A mobile phone shop had **82** phones in the morning. By evening, **53** phones had been sold. How many phones remained?
10. Ouma bought **83** bananas to sell. Seventeen bananas were spoilt. How many bananas did he sell?

## Subtracting multiples of 10

### Example

$$50 - 30 = \boxed{\phantom{00}}$$



On the number line, start at **50** and skip backwards **3** steps in tens, to land at **20**.

### Work to do :

#### Subtract

$$\begin{array}{r} 30 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 40 \\ - 30 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ - 50 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ - 40 \\ \hline \end{array}$$

$$\begin{array}{r} 40 \\ - 20 \\ \hline \end{array}$$

$$\begin{array}{r} 70 \\ - 40 \\ \hline \end{array}$$

$$\begin{array}{r} 80 \\ - 60 \\ \hline \end{array}$$

$$\begin{array}{r} 90 \\ - 70 \\ \hline \end{array}$$

9. A school had **90** plates. Thirty plates were broken. How many remained?
10. Alex had **20** shirts. He gave **10** shirts to his brother. How many was he left with?



## Subtracting a 2 - digit number from a 3 - digit number

### Example 1

What is **539** take away  
**16**?

Represent the numbers in a place value chart.

Hundreds	Tens	Ones
5	3	9
—	1	6
5	2	3

### Steps

1. Subtract **6** ones from **9** ones to get **3** ones.
2. Subtract **1** tens from **3** tens to get **2** tens.
3. Record **5** in the hundreds column.

### Example 2

$$\begin{array}{r} 852 \\ - 20 \\ \hline \end{array}$$

Hundreds	Tens	Ones
8	5	2
—	2	0
8	3	2

### Steps

1. Subtract **0** ones from **2** ones to get **2** ones.  
Record **2** in the ones column.
2. Subtract **2** tens from **5** tens to get **3** tens.  
Record **3** in the tens column.
3. Record **8** in the hundreds column.

---

## Work to do :

Subtract

$$1. \quad \begin{array}{r} 462 \\ - 31 \\ \hline \end{array}$$

$$2. \quad \begin{array}{r} 589 \\ - 16 \\ \hline \end{array}$$

$$3. \quad \begin{array}{r} 666 \\ - 145 \\ \hline \end{array}$$

$$4. \quad \begin{array}{r} 786 \\ - 73 \\ \hline \end{array}$$

$$5. \quad \begin{array}{r} 585 \\ - 72 \\ \hline \end{array}$$

$$6. \quad \begin{array}{r} 749 \\ - 35 \\ \hline \end{array}$$

7. Muga has sh. **896**. He spent sh. **64**. How much money was he left with?
8. Albert's shop had **572** pairs of trousers. He sold **51** pairs. How many remained?
9. Judy had **158** litres of paraffin to sell. She sold **33** litres. How many litres remained?
10. The total number of teachers and learners in a school is **265**. There are **12** teachers. How many learners are there in the school?



## Number patterns

### Example 1

What is the next number in the pattern?

40, 35, 30, 25 \_\_\_\_\_

#### Steps

1. Get the rule by getting the difference through subtraction between two numbers following each other.
2. The rule is subtract 5.
3. To get the next number, subtract 5 from 25.  
The next number is 20.

### Example 2

What are the missing numbers in the pattern?

1. 68, 64, 60, \_\_, \_\_, 48

#### Steps

2. Get the rule by getting the difference through subtraction between two numbers following each other
3. The rule is subtract 4.
4. To get the next number, subtract 4 from 60.  
The next number is 56.
5. To get the next missing number, subtract 4 from 56. The number is 52.

---

## Work to do

Fill in the missing numbers

1. 12, 10, 8, 6, \_\_\_\_\_, \_\_\_\_\_

2. 20, 17, 14, \_\_\_\_\_, \_\_\_\_\_, 5

3. 60, 50, 40, \_\_\_\_\_, \_\_\_\_\_, 10

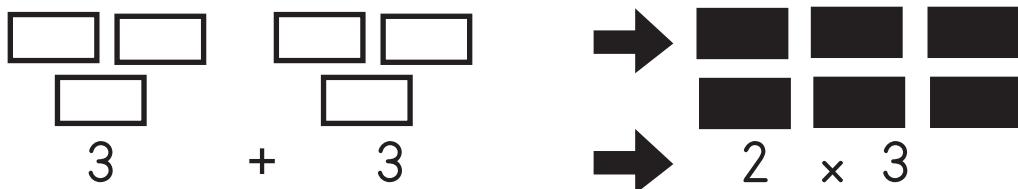
4. 75, 70, 65, 60, \_\_\_\_\_, \_\_\_\_\_

5. 90, 70, 50, \_\_\_\_\_, \_\_\_\_\_



**Multiplying numbers****Example 1**

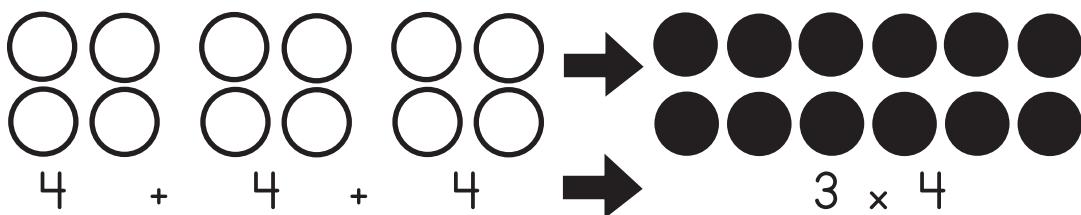
$$2 \times 3 = \boxed{\phantom{0}}$$



$$2 \times 3 = 6$$

**Example 2**

$$3 \times 4 = \boxed{\phantom{0}}$$

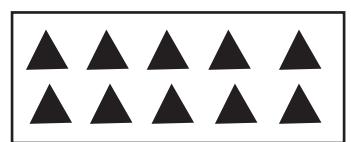
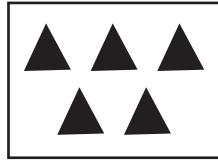
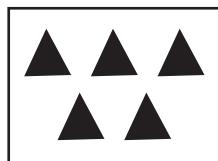


$$3 \times 4 = 12$$

**Work to do :****Fill in the missing numbers**

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} \rightarrow 2 \times 4$$

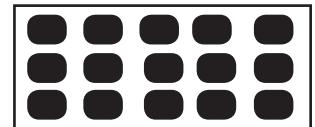
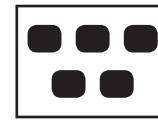
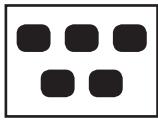
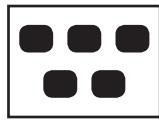
2.



$$5 + 5 \rightarrow \underline{\quad} \times \underline{\quad} = 10$$

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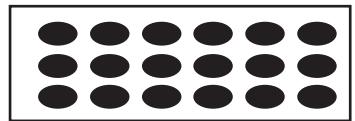
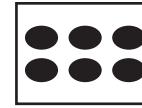
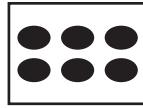
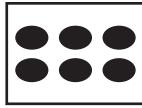
3.



$$\underline{\quad} + \underline{\quad} + \underline{\quad} \rightarrow \underline{\quad} \times \underline{\quad} = 15$$

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4.



$$\underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} \rightarrow \underline{\quad} \times \underline{\quad} = 18$$

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5.

$$7 + 7 \rightarrow \underline{\quad} \times \underline{\quad} = 14$$

6.

$$7 + 7 + 7 \rightarrow \underline{\quad} \times \underline{\quad} = \underline{\quad}$$

7.

$$8 + 8 \rightarrow \underline{\quad} \times \underline{\quad} = \underline{\quad}$$



## Multiplying numbers

### Multiplication table

X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

### Examples

$$7 \times 5 = \boxed{\phantom{00}}$$

### Steps

1. Identify number **7** along the first row and number **5** along the first column.
2. Move along the row and the column identified until they meet.
3. Identify the number where they meet as **35**.

$$7 \times 5 = 35$$

---

## Work to do :

Multiply

1.  $5 \times 1 = \boxed{\phantom{00}}$

2.  $4 \times 2 = \boxed{\phantom{00}}$

3.  $6 \times 3 = \boxed{\phantom{00}}$

4.  $7 \times 8 = \boxed{\phantom{00}}$

5.  $9 \times 10 = \boxed{\phantom{00}}$

6.  $5 \times 5 = \boxed{\phantom{00}}$

7.

$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

\_\_\_\_\_

8.

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

\_\_\_\_\_

9.

$$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$$

\_\_\_\_\_

10.

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

\_\_\_\_\_



## Multiplying numbers

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

### Example

$$7 \times 10 = \boxed{\phantom{00}}$$

### Steps

- Identify the number **7** in the first row and number **10** in the first column.
- Move along the identified row and column until they meet.
- Identify the number where they meet as **70**.

$$7 \times 10 = 70$$

---

## Work to do

### Multiply

1.  $10 \times 2 = \boxed{\phantom{00}}$

6.  $10 \times 6 = \boxed{\phantom{00}}$

2.  $10 \times 3 = \boxed{\phantom{00}}$

7.  $10 \times 7 = \boxed{\phantom{00}}$

3.  $10 \times 4 = \boxed{\phantom{00}}$

8.  $10 \times 8 = \boxed{\phantom{00}}$

4.  $10 \times 5 = \boxed{\phantom{00}}$

9.  $10 \times 9 = \boxed{\phantom{00}}$

5.  $10 \times 10 = \boxed{\phantom{00}}$

10.  $10 \times 1 = \boxed{\phantom{00}}$



## Dividing numbers

### Example

$$8 \div 2 = \boxed{\phantom{0}}$$

How many can we subtract 2 from 8?

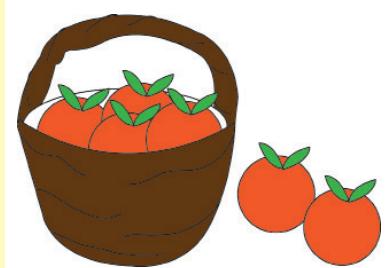
$$8 - 2 - 2 - 2 - 2 = 0 \text{ time}$$

$$8 - 2 = 6 \quad - \quad 1 \text{ time}$$

$$6 - 2 = 4 \quad - \quad 2 \text{ times}$$

$$4 - 2 = 2 \quad - \quad 3 \text{ times}$$

$$2 - 2 = 0 \quad - \quad 4 \text{ times}$$



We can subtract 2 from 8 four times.

### Work to do

Divide

1.  $4 \div 2 = \boxed{\phantom{0}}$

5.  $9 \div 3 = \boxed{\phantom{0}}$

2.  $6 \div 2 = \boxed{\phantom{0}}$

6.  $6 \div 2 = \boxed{\phantom{0}}$

3.  $8 \div 2 = \boxed{\phantom{0}}$

7.  $4 \div 1 = \boxed{\phantom{0}}$

4.  $8 \div 4 = \boxed{\phantom{0}}$

8.  $5 \div 1 = \boxed{\phantom{0}}$

## Dividing Numbers

### Example 1

$$15 \div 5 = \boxed{\phantom{00}}$$

$$15 - 5 = 10 \longrightarrow 1 \text{ time}$$

$$10 - 5 = 5 \longrightarrow 2 \text{ times}$$

$$5 - 5 = 0 \longrightarrow 3 \text{ times}$$

We can subtract 5 from 15 three times

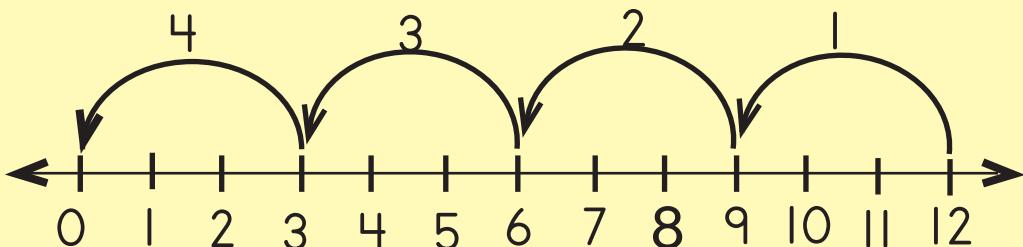
$$15 \div 5 = 3$$

### Division as repeated subtraction on a number line

### Example 2

Work out

$$12 \div 3 = \boxed{\phantom{00}}$$



From 12 skip backwards in 3's until you get to zero.

Count the number of skips made

$$12 \div 3 = 4$$



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## Work to do

Divide

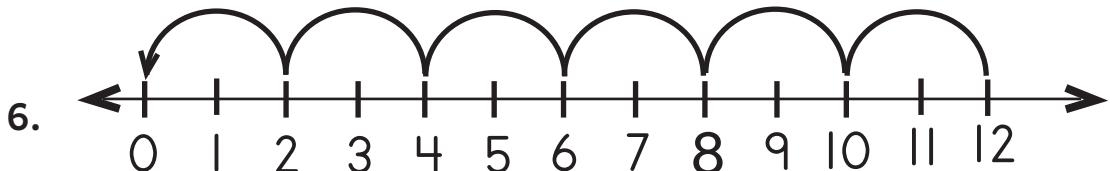
1.  $12 \div 3 =$

2.  $15 \div 3 =$

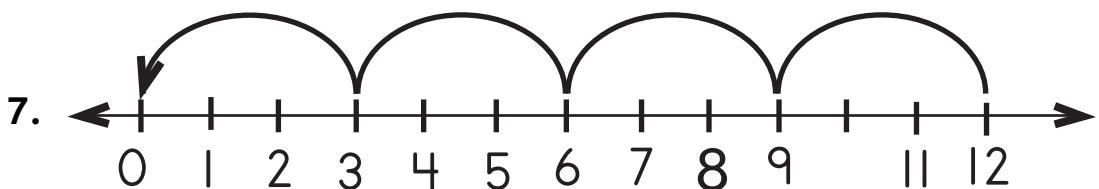
3.  $20 \div 4 =$

4.  $25 \div 5 =$

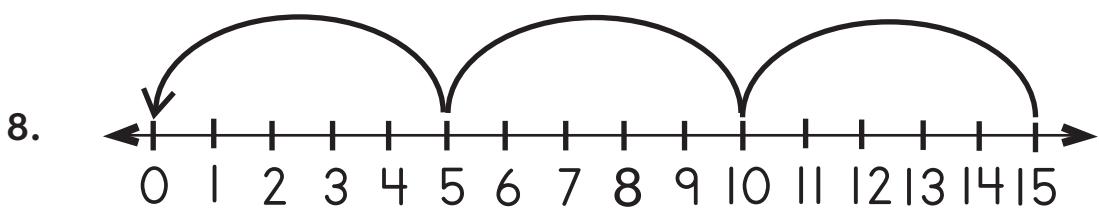
5.  $16 \times 4 =$



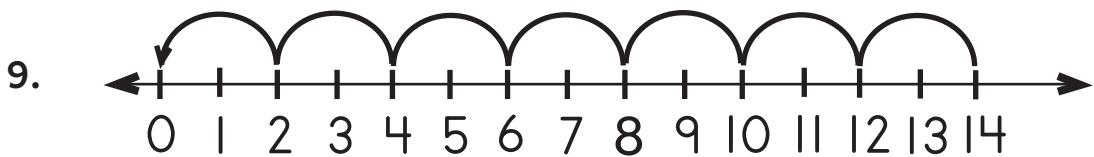
$$10 \div 2 =$$



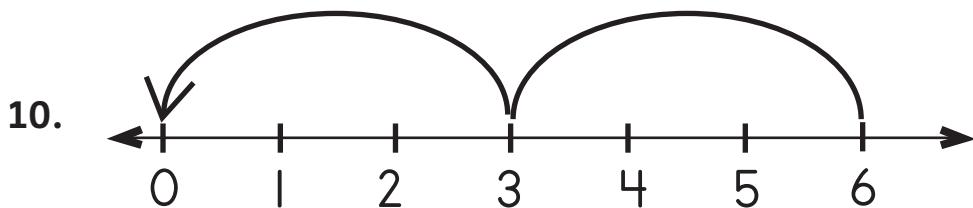
$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$



$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$



$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$



$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$



## Relationship between division and multiplication using multiplication table

$\times$	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

### Example

#### Steps

$$24 \div 6 = \underline{\quad}$$

$$6 \times \underline{\quad} = 24 \rightarrow$$

$$6 \times 4 = 24$$

- From 24 move up to 4 from 24 move across to 6.
- Therefore  
 $6 \times 4 = 24$  and  $24 \div 6 = 4$

---

## Work to do

Divide

1.  $20 \div 4 = 5$   
 $\underline{\quad} \times \underline{\quad} = 20$

6.  $15 \div 3 = \underline{\quad}$

2.  $12 \div \underline{\quad} = \underline{\quad}$   
 $4 \times \underline{\quad} = 12$

7.  $8 \div \underline{\quad} = 4$

3.  $12 \div \underline{\quad} = 4$

9.  $\underline{\quad} \div 5 = 1$

4.  $25 \div \underline{\quad} = 5$

10.  $\underline{\quad} \div 4 = 2$

5.  $10 \div \underline{\quad} = 5$



### Measuring length in metres

#### Activity I

What is the length of the chalkboard?



#### Work to do

##### Measure

	Objects	Lengths in metres
1	Longer side of the classroom cupboard	
2	Shorter side of the classroom door	
3.	Length of classroom window	
4.	The shorter length of the football field	
5.	The length of the school garden	

## Estimating length

### Our School

### Activity

Estimate then measure

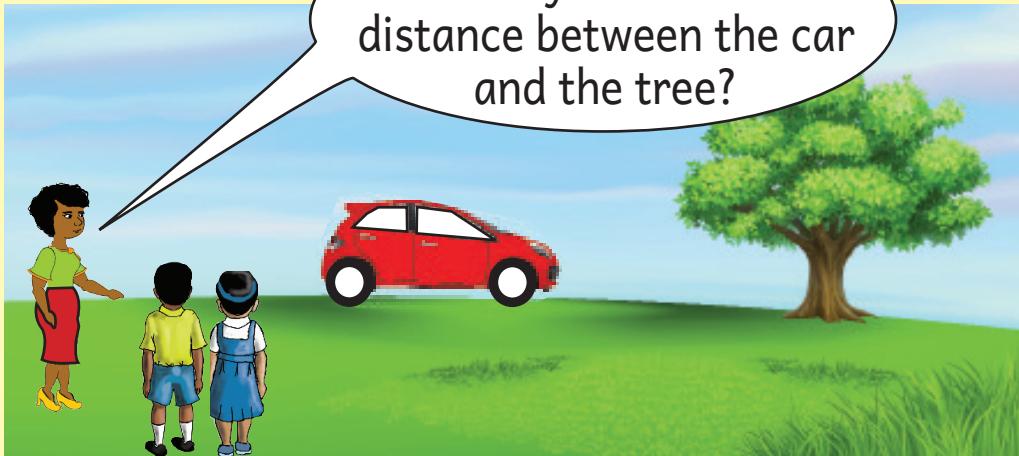


1. The distance from the head teacher's office to the flag post.
2. The shorter length of the football pitch.
3. The school garden.

Distance	Estimate in metres	Actual distance in metres	was the estimate close
1.			
2.			
3.			

## Activity

What do you think is the distance between the car and the tree?



## Work to do

Estimate and measure the distance

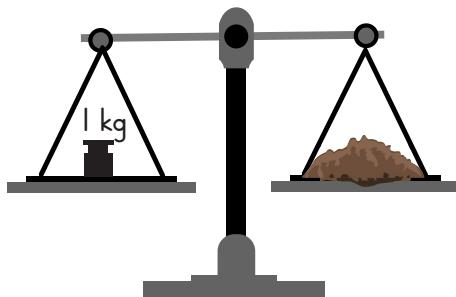
	Distance	Estimate in metres	Measurement in metres	How close was the estimate
1.	Staffroom to class			
2.	Flag post to the nearest tree			
3.	Between two trees			
4.	Between two classes			
5.	Between headteacher's office and flagpost			
6.	The shorter length of the pitch.			
7.	The length of the school garden			

## Measuring mass in kilograms

The kilogram (kg) is used for measuring mass. A shopkeeper measures the mass of sugar, rice and flour in kilograms.

### Activity 1

Make 1 kg masses of sand or soil using a beam balance



### Activity 2

Using the beam balance and two 1-kg masses, guide learners to measure 2 kg of beans.

### Work to do

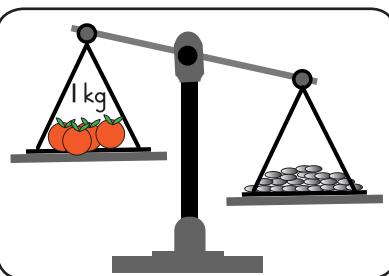
Measure the masses of other objects using the 1 kg mass.

	Objects	Mass in kg
a)	Mathematics textbooks	
b)	Chalkboard duster	
c)	Boxes of chalk	
d)	A packet of maize	
e)	A packet of beans	

## Estimating mass

### Activity 1

Using 1 kg masses estimate and measure the mass of pebbles. How close was the estimate?



### Activity 2

Using soil of unknown mass, use 1 - kg masses to determine the mass of the soil. How close was the estimate?

### Work to do

Estimate and measure mass in kg.

	Object	Estimated Mass	Actual Mass	How close was the estimate?
a)				
b)				
c)				
d)				
e)				
f)				

## Measuring Capacity in Litres



Capacity is measured in litres. Liquids such as water, milk and petrol can be used to measure the capacity of different containers.

### Activity 1

Measure the capacity using 1 litre container of water

Container	How many 1 litre containers	How many litres?
Pot		
Jerrican		
Sufuria		

### Work to do

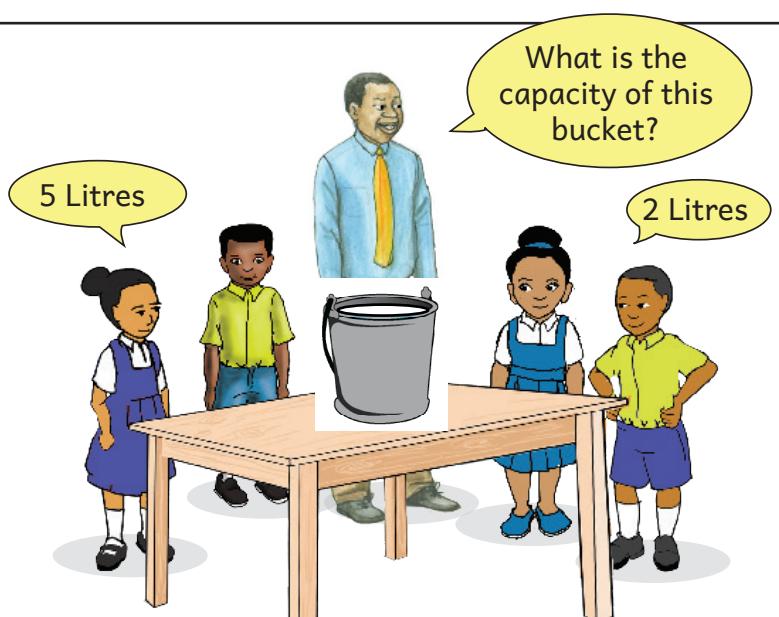
How many litres?

1.	A simple line drawing of a bucket with a handle on the left.	The bucket can be filled by 14 one litre containers. The bucket holds _____ litres.
2.	A simple line drawing of a bottle with a narrow neck and a wider base.	The bottle can be filled by 5 one litre containers. The bottle holds _____ litres.
3.	A simple line drawing of a jug with a handle on the left and a spout at the top.	The jug can be filled by 8 one litre containers. The jug holds _____ litres.



## Estimating capacity

### Activity



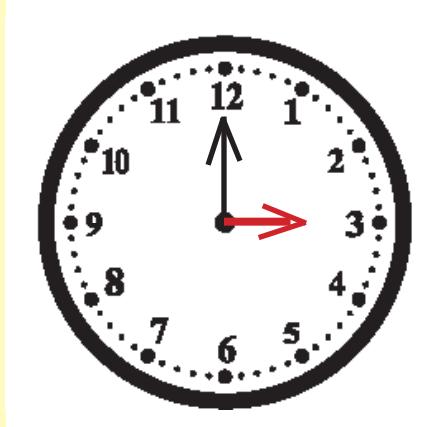
### Work to do

Estimate and measure the capacity of the containers

Containers	Estimate	Actual	How close was the Estimate?
1.			
2.			
3.			
4.			

## Hour hand and minute hand

### Activity 1



This is a picture of a \_\_\_\_\_

1. Read the numbers it has.
2. The long hand is called the \_\_\_\_\_ hand
3. The short hand is the \_\_\_\_\_ hand.

### Activity 2

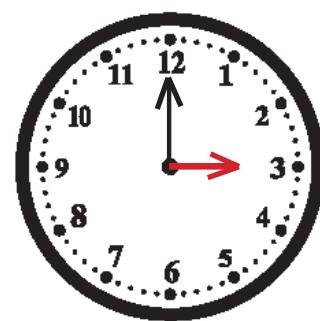
Using the manila paper provided make a clock face of at least 15 cm wide

### Work to do

Draw a clock face in your exercise books  
name the hour hand and the minute hand.

## Relationship between hour hand and minute hand

1. The clock face has **12** equal divisions marked **1** to **12**.
2. Each division between two numbers is an hour
3. Between two numbers are five smaller equal divisions. Each small division is a minute.



### Activity

1. How many big divisions can you see on the clock face?
2. How many small divisions can you see on the clock face?

### Work to do

Draw a clock face with

1. Hour hand pointing slightly at **8** and minute hand pointing at **4**
2. Hour hand pointing past **11** and minute hand pointing at **6**
3. Hour hand is approaching at **12** and minute hand pointing at **8**
4. Hour hand is approaching **3** and minute hand pointing **9**

## Time by the hour

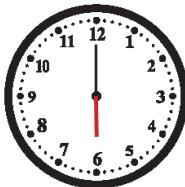
### Activity 1: Read and tell time



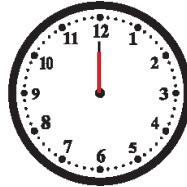
The time is  
3 o'clock



The time is  
8 o'clock



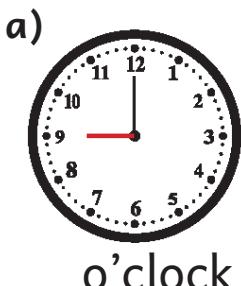
The time is  
6 o'clock



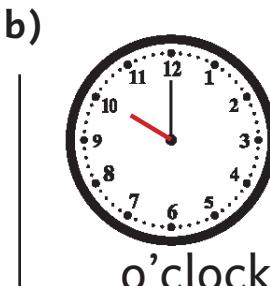
The time is  
12 o'clock

### Work to do

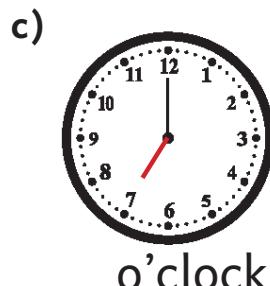
#### 1. What is the time?



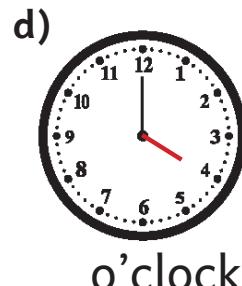
\_\_\_ o'clock



\_\_\_ o'clock

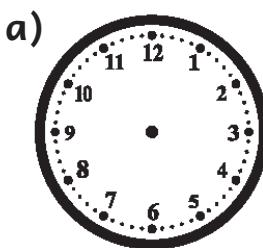


\_\_\_ o'clock

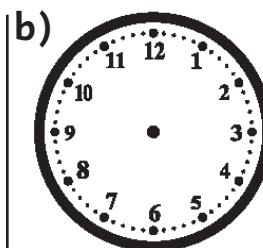


\_\_\_ o'clock

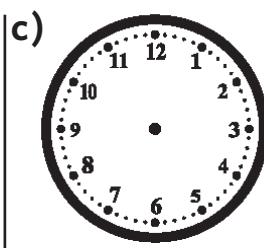
#### 2. Show the time



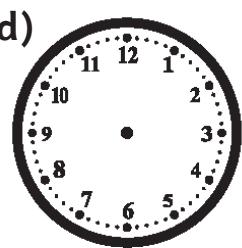
11 o'clock



2 o'clock



4 o'clock



1 o'clock



## Time past the hour

### Example



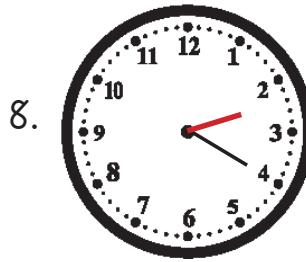
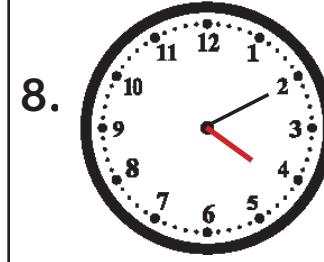
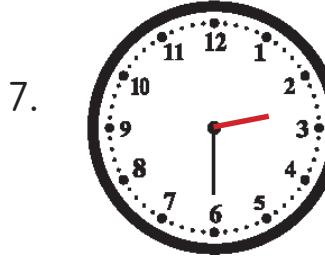
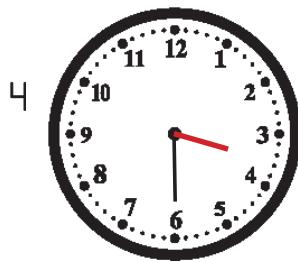
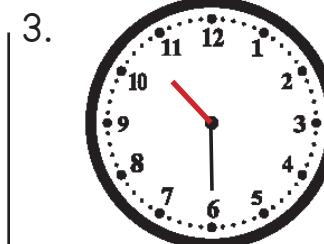
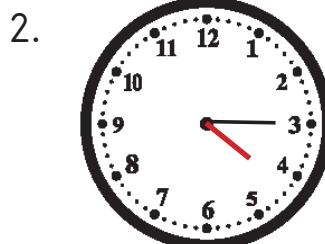
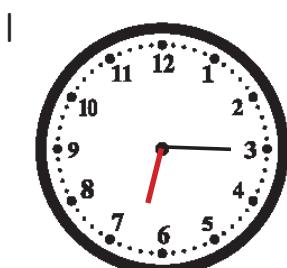
Quarter past 12 o'clock  
15 minutes past 12 o'clock



Half past 2 o'clock.  
30 minutes past 2 o'clock

### Work to do

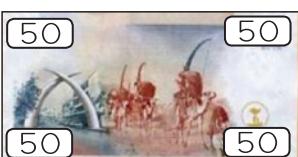
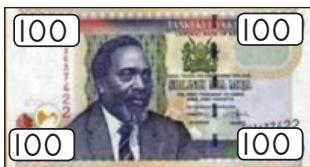
What is the time ?



## Kenya currency notes

### Activity

Identify your shilling notes



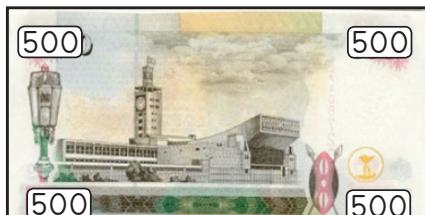
50

100

200



500



1000



### Work to do

Write what you can see in the Kenyan currency notes.



## Counting money

### Activity

How much money?

1.



$$\text{Sh. } 50 + \text{Sh. } 100 = \text{Sh. } 150$$

2.



$$\text{Sh. } 200 + \text{Sh. } 500 = \text{Sh. } 700$$

3.



$$\text{Sh. } 500 + \text{Sh. } 100 = \text{Sh. } 600$$

4.



$$\text{Sh. } 50 + \text{Sh. } 200 + \text{Sh. } 500 = \text{Sh. } 750$$

# Work to do

## How much money?

1.



2.



3.



4.



## Shopping activities involving change.

### Activities

Using the classroom shop.



1. John has a sh.100 note. How many sh. 50 notes will be get?

**John will get two sh.50 notes**

**Change is getting the same amount of money in smaller value**

2. Jane has a sh. 200 note. How many sh. 50 notes will she get?

**Jane will get four sh. 50 notes**

### Work to do

How much money?

1. Asha has a sh. 1000 note. How many sh. 500 notes will she get?
2. Salim has a sh. 200 note. How many sh. 100 notes will he get?
3. James has a sh. 500 note. How many sh. 100 notes will he get?
4. Judy has a sh. 100 note. How many sh. 50 notes will she get?

## Shopping activities involving balance.

### Kenya currency notes



### Examples

1. Jane has a sh. 500 note. She bought a book at sh. 300. How much money did she get back?

**sh. 500 – sh. 300 = sh. 200.**

She got sh. 200 back.

Money she got back is called **balance**.

2. Peter had a sh. 200 note. He bought a bag at sh. 180. What was his balance?

**Sh. 200 – sh. 180 = sh. 20.**

His balance is sh. 20.

### Work to do

#### How much balance?

1. Salim had a sh. 1000 note. He bought a chair for sh. 600. What was his balance?
2. James had a sh. 500 note. He bought a table at sh. 450. What was the balance?
3. Asha had a sh. 200 note. She bought a book at sh. 125. What was her balance?
4. Mary has a sh. 1000 note. She bought a dress for sh. 800. What was her balance?
5. Judy had sh. 100 note. She bought a pencil at shs. 30. What was her balance?



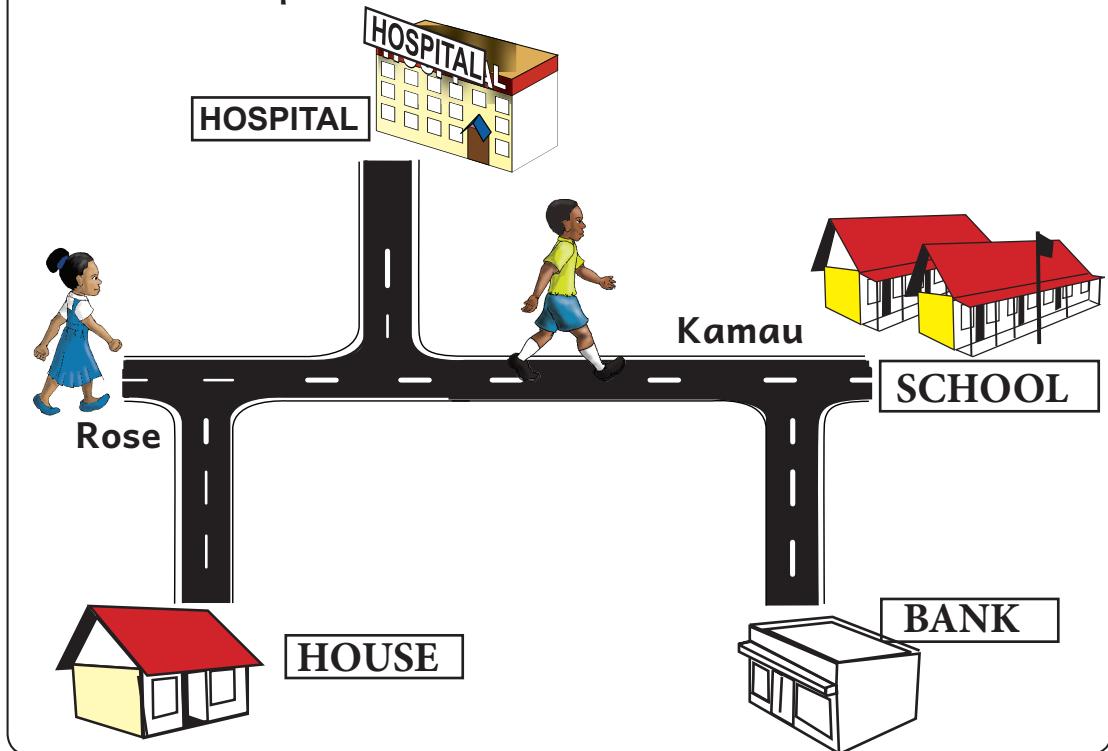
# GEOMETRY

## POSITION AND DIRECTIONS

Week 11 Lesson 2

### Turning to the right

Picture on position and direction



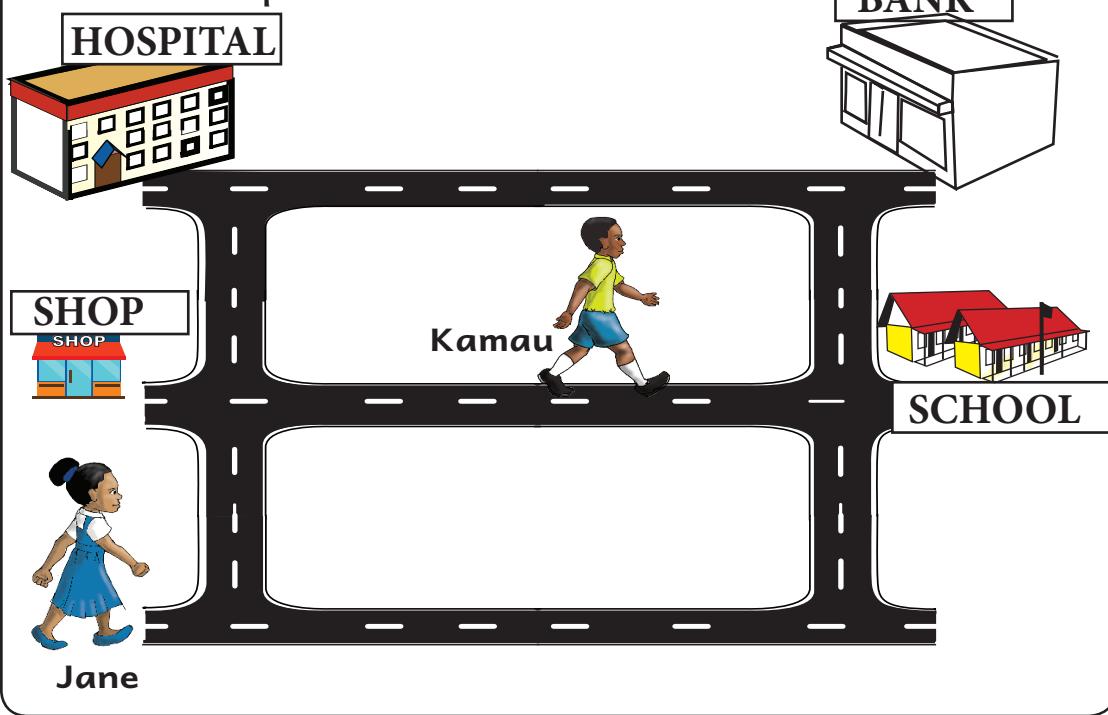
### Work to do

Use the picture to fill in the spaces

1. To go to the school, Kamau will move \_\_\_\_\_.
2. To visit the bank, Kamau will walk straight then turn \_\_\_\_\_.
3. To visit the shop, Rose will walk straight and turn \_\_\_\_\_.
4. To reach Kamau, Rose will walk \_\_\_\_\_.
5. From the bank to the school one will walk straight then turn \_\_\_\_\_.

## Turning to the left

Picture on position and direction



### Work to do

Use the picture to fill in the space

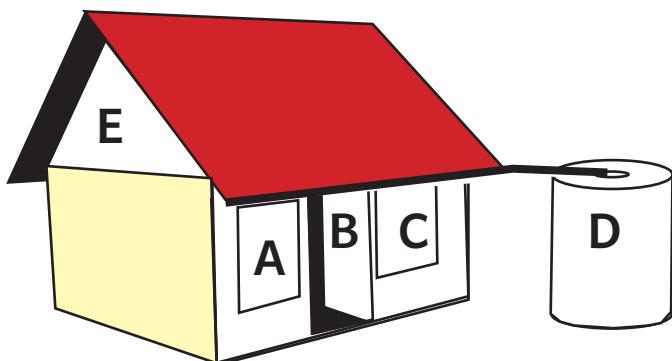
1. To go to the bank Kamau will walk straight and then turn to the \_\_\_\_\_.
2. To go to the bank, Jane will walk straight then turn \_\_\_\_\_.
3. To visit the hospital, Jane will walk straight then turn \_\_\_\_\_.
4. From the shop, Kamau will turn \_\_\_\_\_ to the hospital.
5. From the hospital to the bank you walk \_\_\_\_\_.



## Geometric shapes

### Activity

#### Name the shapes



A is a \_\_\_\_\_

B is a \_\_\_\_\_

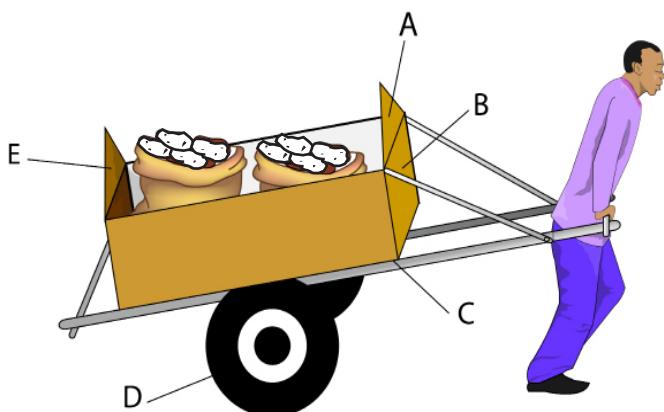
C is a \_\_\_\_\_

D is a \_\_\_\_\_

E is a \_\_\_\_\_

### Work to do

#### I. Name the shapes



A is a \_\_\_\_\_

B is a \_\_\_\_\_

C is a \_\_\_\_\_

D is a \_\_\_\_\_

E is a \_\_\_\_\_

---

2. write straight or curved

a)



b)



c)



d)



e)

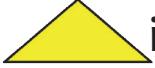


f)



3. Write straight or curved

a) A rectangle  is made of \_\_\_\_\_ lines

b) A triangle  is made of \_\_\_\_\_ lines

c) An oval  is made of \_\_\_\_\_ lines



## Patterns

### Example

Complete the pattern to the right



\_\_\_\_\_

the pattern is



\_\_\_\_\_

the pattern is



### Work to do

Add the pattern to the right







**TERM 2**



# NUMBERS

## NUMBER CONCEPT

Week 1 Lesson 1

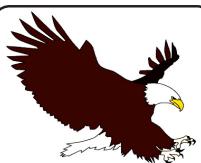
### Position

### Activity

What is the position of the animals in the picture?



1



2



3



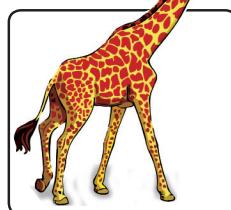
4



5



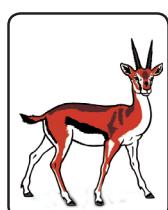
6



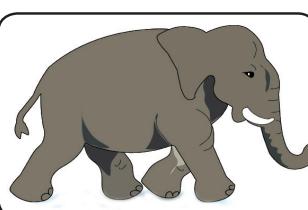
7



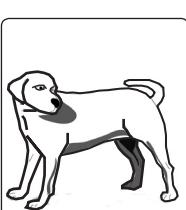
8



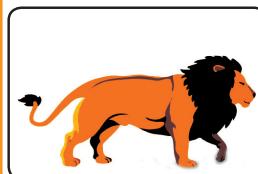
9



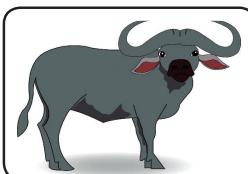
10



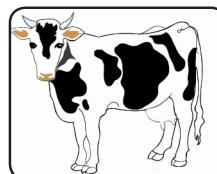
11



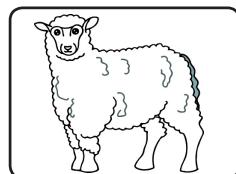
12



13



14



15

The weaver bird is in the **first** position. The eagle is in the **second** position. The rat is in the **third** position.

### Work to do

Use the picture above to fill in the spaces

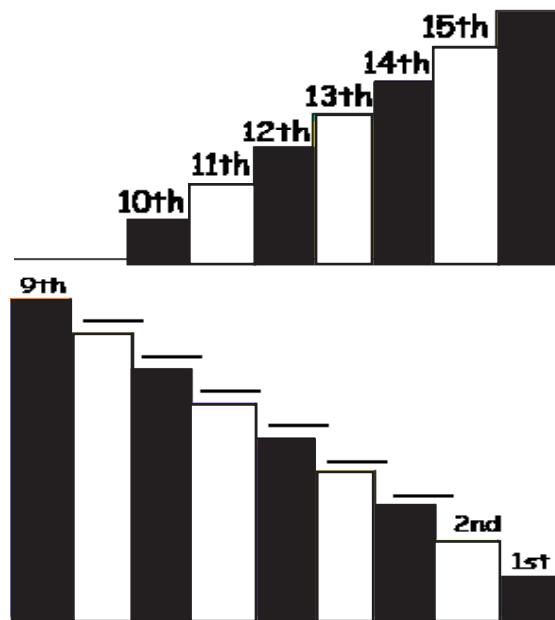
Animal	Position
Elephant	Tenth
Lion	Twelfth
Buffalo	
Cow	

Giraffe	
Gazelle	
Sheep	
Cat	

## Positions symbols

### Activity

Fill in the missing positions



	Position
<u>1st</u>	13th
<u>1st</u>	
<u>1st</u>	
<u>1st</u>	
<u>1st</u>	



## Counting in fives

### Activity

Count

1. 100, 805, 810, 815, 820, 825, 830
2. 220, 225, 230, 235, 240, 245, 250
3. 400, 395, 390, 385, 380, 375, 370
4. 105, 100, 95, 90, 85, 80, 75, 70

### Work to do

Count and fill in the missing numbers

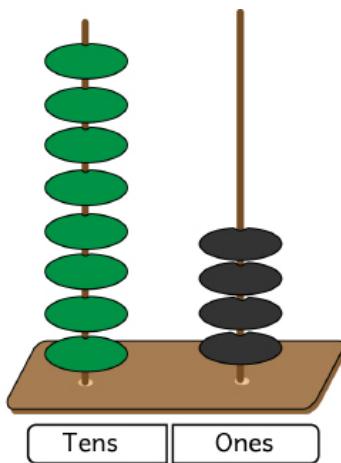
1. 327, 332, 337, 342, 347, 352.
2. 713, 718, 723, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
3. 625, 630, 635, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
4. 905, 910, 915, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
5. 1000, 995, 99, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
6. 581, 576, 571, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
7. 470, 465, 460, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

## Place value

The chart shows the place value of digits in the number 84

<i>tens</i>	<i>ones</i>
8	4

The same number 84 can also be shown using an abacus as



$$84 = 8 \text{ Tens and } 4 \text{ Ones}$$

## Work to do

Fill in the missing numbers

1.  $17 = \underline{\quad} \text{ tens } \underline{\quad} \text{ ones}$
2.  $9 = \underline{\quad} \text{ tens } \underline{\quad} \text{ ones}$
3.  $65 = \underline{\quad} \text{ tens } \underline{\quad} \text{ ones}$
4.  $30 = \underline{\quad} \text{ tens } \underline{\quad} \text{ ones}$
5.  $54 = \underline{\quad} \text{ tens } \underline{\quad} \text{ ones}$



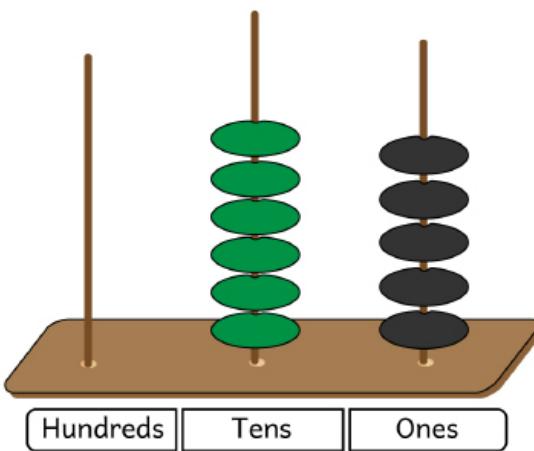
6.        = 7 tens 5 ones

7.        = 9 tens 2 ones

8.        = 4 tens 1 ones

9.        = 3 tens 7 ones

10.



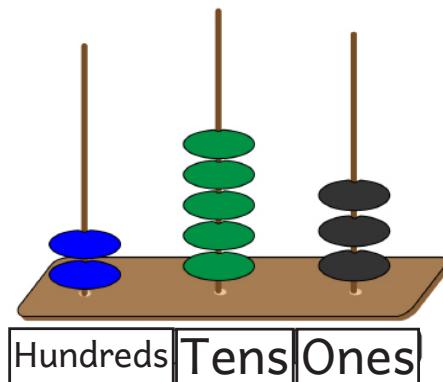
## Place value

### Example

The chart shows the place value of digits in the number **253**

Hundreds	Tens	Ones
2	5	3

The same number **253** can also be shown using an abacus as



$$253 = 2 \text{ Hundreds } 5 \text{ Tens } 3 \text{ Ones}$$

### Work to do

Fill in the missing numbers

1.  $125 = \underline{\hspace{2cm}}$  hundreds  $2$  tens  $5$  ones
2.  $695 = \underline{\hspace{2cm}}$  hundreds  $\underline{\hspace{2cm}}$  tens  $\underline{\hspace{2cm}}$  ones
3.  $741 = \underline{\hspace{2cm}}$  hundreds  $\underline{\hspace{2cm}}$  tens  $\underline{\hspace{2cm}}$  ones
4.  $825 = \underline{\hspace{2cm}}$  hundreds  $\underline{\hspace{2cm}}$  tens  $\underline{\hspace{2cm}}$  ones



5.  $970 = \underline{\hspace{1cm}}$  hundreds  $\underline{\hspace{1cm}}$  tens  $\underline{\hspace{1cm}}$  ones

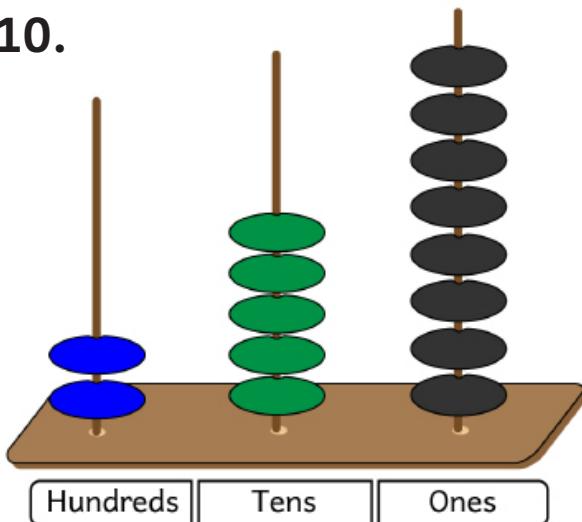
6.  $53 = \underline{\hspace{1cm}}$  hundreds  $\underline{\hspace{1cm}}$  tens  $\underline{\hspace{1cm}}$  ones

7.  $\underline{\hspace{1cm}} = 9$  hundreds  $8$  tens  $6$  ones

8.  $\underline{\hspace{1cm}} = 7$  hundreds  $3$  tens  $1$  ones

9.  $\underline{\hspace{1cm}} = 1$  hundreds  $0$  tens  $4$  ones

10.



\_\_\_\_\_

## Reading in symbols

### Activity

Let us read

798,      191,      289,      80,      75,

72,      63,      560,      654,      51,

49,      44,      332,      30,      427,

921,      19,      816,      14,      710.

### Work to do

1. Learners in pairs or in groups to read number symbols **1 - 1000**, both forward and backwards



## Reading Numbers

### Activity

Let us read

Number	Words
54	Fifty four
63	Sixty three
79	Seventy Nine
84	Eighty Four
90	Ninety
98	Ninety Eight
100	Hundred

### Work to do

1. sixty nine 69
2. seventy six
3. seventy five
4. eighty nine
5. ninety three
6. ninety nine
7. one hundred

## Numbers

### Activity

Write number in words

Number	Words
80	eighty
75	seventy five
66	sixty six
78	seventy eight
89	eighty nine
99	ninety nine
100	hundred

### Work to do

Write the numbers in words

1. 81 Eighty One
2. 77 \_\_\_\_\_
3. 64 \_\_\_\_\_
4. 87 \_\_\_\_\_
5. 98 \_\_\_\_\_
6. 90 \_\_\_\_\_
7. 93 \_\_\_\_\_
8. 100 \_\_\_\_\_



## Number Patterns

### Examples

Identify the missing numbers in the number patterns

30, 35, 40, 45, \_\_\_\_

To get the missing number count forward in **5s**

The missing number is **50**

199, 193, 187, 181, \_\_\_\_

To get the next number, subtract **6** from the number before. **181 - 6 = 175**

The missing number is **175**

### Work to do

Fill in the missing number

1. 100, 96, 92, 88, \_\_\_, \_\_\_\_.

2. 321, 324, 327, \_\_\_, 333, \_\_\_, \_\_\_\_.

3. 76, 70, 64, \_\_\_, \_\_\_, 46

4. 410, 430, 450, \_\_\_, \_\_\_\_.

5. 410, 420, 430, \_\_\_, \_\_\_\_.

6. 365, 361, 357, \_\_\_, \_\_\_\_.

## Number Patterns

### Examples

Identify the missing numbers in the number patterns

600, 650, 700, 750, \_\_\_\_.

To get to the next number count forward in 50s or add 50 to the number before.  $750 + 50$

The missing number is 800

424, 422, 420, \_\_\_, \_\_\_\_.

To get the next number, count backwards in twos

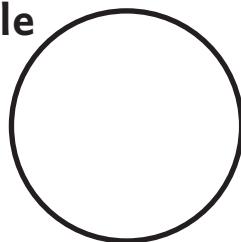
The missing numbers are 418, 416

### Work to do

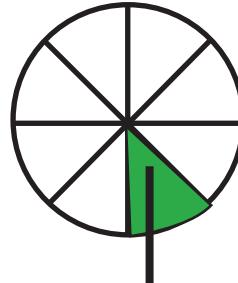
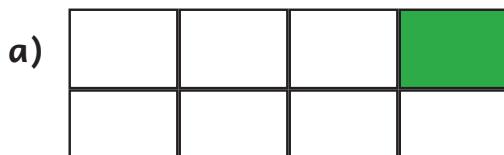
#### Fill in the missing number

1. 866, 864, 862, \_\_\_, 858, \_\_\_
2. 218, 219, \_\_\_, 221, 222, \_\_\_
3. 717, 719, 721, \_\_\_, 725, 727
4. 540, 535, 530, \_\_\_, \_\_\_,
5. 580, 530, 480, \_\_\_, 380, \_\_\_
6. 370, \_\_\_, 410, 430, 450, \_\_\_

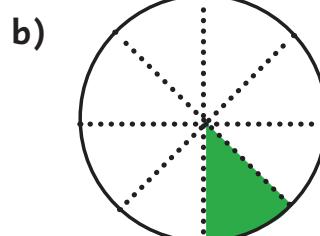


**Eighth as part of a whole****Example**

Whole

One eighth written as  $\frac{1}{8}$ **Work to do****1.** What fraction is shaded?

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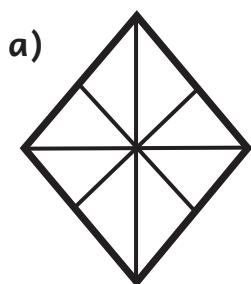
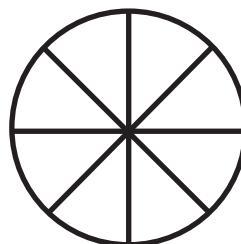
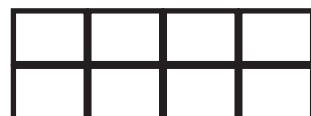


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**2.** Shade  $\frac{1}{8}$  of the whole**b)****c)**

# Comparing $\frac{1}{4}$ and $\frac{1}{8}$

## Example

What fraction is shaded.

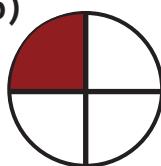
Write \_\_\_\_\_ or \_\_\_\_\_

$$\frac{1}{4} \quad \frac{1}{8}$$

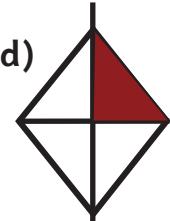
a)



b)



d)



e)



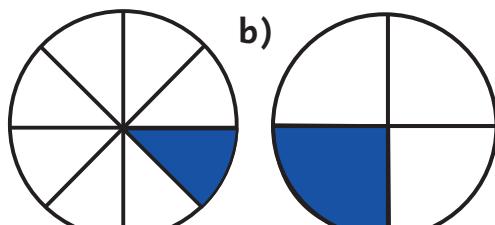
## Work to do

Which fraction is bigger?

1.

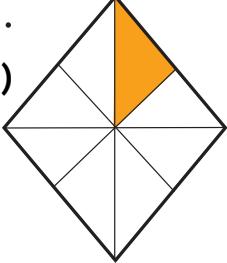
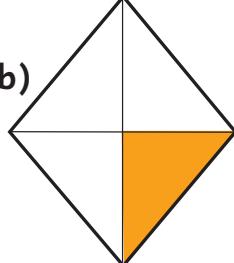
- a) 
- b) 

2.



Which fraction is smaller?

3.

- a) 
- b) 

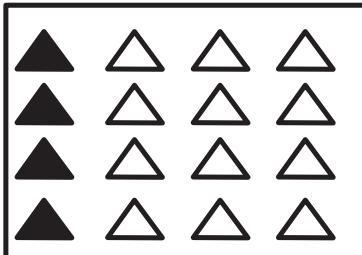
4.

- a) 
- b) 

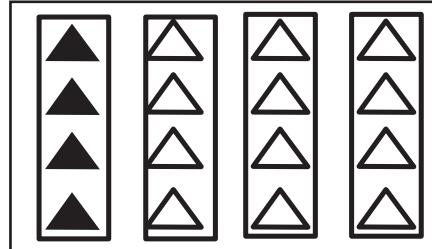


## Quarter as part of a group

### Example



Whole group of 16

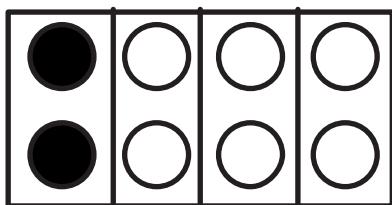


A quarter of 16 = 4

- We have a group of 16.
- Put them into four equal groups.
- These are four groups. One group is shaded.
- The shaded is a quarter.

### Work to do

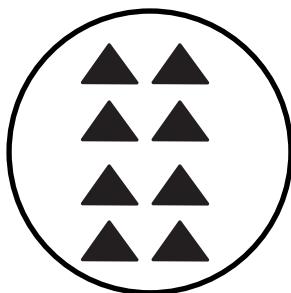
1. What is a quarter of 8 ?



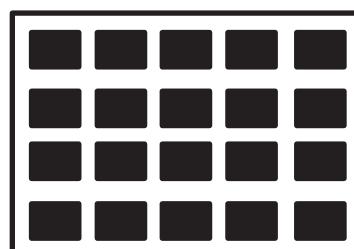
A quarter of 8 is

2. Draw and shade  $\frac{1}{4}$  of the group

a)



b)



---

**3. What is**

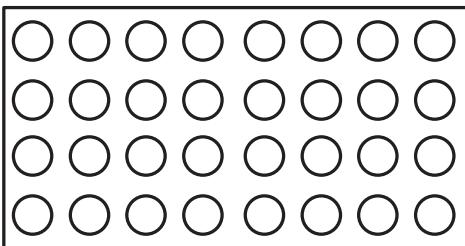
- a) A quarter of 24      is
- b) A quarter of 32      is
- c) A quarter of 36      is
- d) A quarter of 48      is



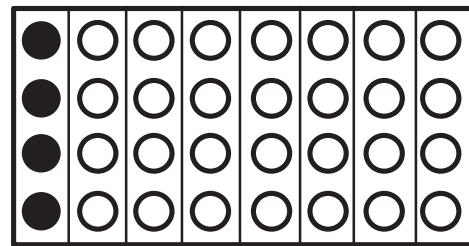
## Eighth as part of a group

### Example

What is an eighth of 32?



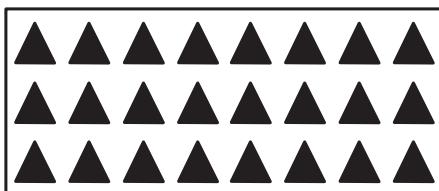
Whole group of 32



An eighth of 32 is 4

### Work to do

1. What is an eighth of 24?

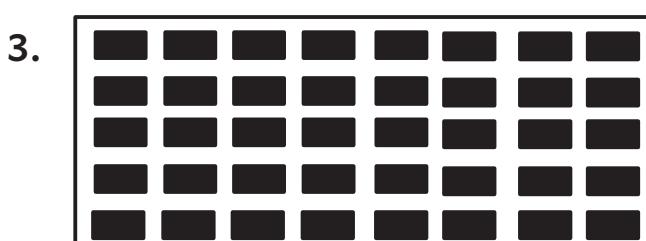


An eighth of 24 is

2. What is

a) An eighth of 16 is?  b)  $\frac{1}{8}$  of 16 is?

c)  $\frac{1}{8}$  of 40 is?



Draw and shade  $\frac{1}{8}$

## Adding a 3-digit number to a 2-digit number

### Example 1

- |       |              |
|-------|--------------|
| 346   | <b>Steps</b> |
| + 53  |              |
| ————— |              |
1. Add ones  $6 + 3 = 9$  ones
  2. Add tens  $4 + 5 = 9$
  3. Bring down the 3 hundreds

$$\begin{array}{r}
 346 \\
 + 53 \\
 \hline
 399
 \end{array}$$

### Example 2

- |       |              |
|-------|--------------|
| 532   | <b>Steps</b> |
| + 46  |              |
| ————— |              |
1. Add ones  $2 + 6 = 8$
  2. Add tens  $3 + 4 = 7$
  3. Bring down 5 hundreds in the hundreds place

$$\begin{array}{r}
 532 \\
 + 46 \\
 \hline
 578
 \end{array}$$

## Work to do

Add

- |        |        |        |
|--------|--------|--------|
| 1. 246 | 2. 318 | 3. 425 |
| + 32   | + 81   | + 64   |
| —————  | —————  | —————  |



$$4. \quad \begin{array}{r} 861 \\ + 26 \\ \hline \end{array}$$

$$5. \quad \begin{array}{r} 972 \\ + 26 \\ \hline \end{array}$$

$$6. \quad \begin{array}{r} 555 \\ + 22 \\ \hline \end{array}$$

$$7. \quad \begin{array}{r} 617 \\ + 42 \\ \hline \end{array}$$

$$8. \quad \begin{array}{r} 734 \\ + 35 \\ \hline \end{array}$$

$$9. \quad \begin{array}{r} 181 \\ + 17 \\ \hline \end{array}$$

$$10. \quad \begin{array}{r} 802 \\ + 95 \\ \hline \end{array}$$

## Adding a 3 - digit number to a 2 - digit number

### Example 1

$472 + 26 = \boxed{\phantom{00}}$

#### Steps

1. Add ones  $2 + 6 = 8$
2. Add tens  $7 + 2 = 9$
3. Write **4** hundreds in hundreds place

$472 + 26 = 498$

### Example 2

$312 + 65 = \boxed{\phantom{00}}$

#### Steps

1. Add ones  $2 + 5 = 7$
2. Add tens  $1 + 6 = 7$
3. Write **3** hundreds in hundreds place

$312 + 65 = 377$

### Work to do

Add

1.  $253 + 36 = \boxed{\phantom{00}}$

6.  $900 + 84 = \boxed{\phantom{00}}$

2.  $765 + 21 = \boxed{\phantom{00}}$

7.  $482 + 10 = \boxed{\phantom{00}}$

3.  $155 + 43 = \boxed{\phantom{00}}$

8.  $501 + 57 = \boxed{\phantom{00}}$

4.  $661 + 12 = \boxed{\phantom{00}}$

9.  $230 + 61 = \boxed{\phantom{00}}$

5.  $315 + 73 = \boxed{\phantom{00}}$

10.  $873 + 26 = \boxed{\phantom{00}}$



## Add a 3 - digit number to a 2- digit number

### Example 1

$$\begin{array}{r} 352 \\ + 29 \\ \hline \end{array}$$

#### Steps

$$\begin{array}{r} | \\ 352 \\ + 29 \\ \hline 381 \end{array}$$

1. Add **2** ones to **9** ones to get **11** ones
2. Regroup **11** as **1** tens and **1** ones
3. Write **1** in the ones column and take **1** tens to the tens column
4. Add **1** tens to **5** tens and **2** tens to get **8** tens.
5. Bring down the **3** hundreds

### Example 2

$$413 + 77 = \boxed{\phantom{00}}$$

#### Steps

$$\begin{array}{r} | \\ 413 \\ + 77 \\ \hline 490 \end{array}$$

1. Arrange vertically
2. Add **3** ones to **7** ones to get **10** ones
3. Regroup **10** as **1** tens and **0** ones
4. Write **0** in the ones column and take **1** tens to the tens column
5. Add **1** tens to **1** tens and **7** tens to get **9** tens.
6. Bring down the **4** hundreds

---

## Work to do

Add

$$\begin{array}{r} 1. \quad 246 \\ + \quad 48 \\ \hline \end{array}$$
  
$$\hline$$

$$\begin{array}{r} 2. \quad 367 \\ + \quad 24 \\ \hline \end{array}$$
  
$$\hline$$

$$\begin{array}{r} 3. \quad 406 \\ + \quad 55 \\ \hline \end{array}$$
  
$$\hline$$

$$\begin{array}{r} 4. \quad 555 \\ + \quad 39 \\ \hline \end{array}$$
  
$$\hline$$

$$\begin{array}{r} 5. \quad 724 \\ + \quad 36 \\ \hline \end{array}$$
  
$$\hline$$

$$\begin{array}{r} 6. \quad 848 \\ + \quad 13 \\ \hline \end{array}$$
  
$$\hline$$

$$7. \quad 826 + 58 = \boxed{\phantom{00}}$$

$$8. \quad 914 + 69 = \boxed{\phantom{00}}$$

$$9. \quad 876 + 19 = \boxed{\phantom{00}}$$

$$10. \quad 653 + 29 = \boxed{\phantom{00}}$$



## Add a 3 - digit number to a 2 - digit number

### Example 1 Steps

$$\begin{array}{r} 367 \\ + 52 \\ \hline \end{array}$$

1. Add **7** ones to **2** ones to get **9** ones.
2. Add **6** tens to **5** tens to get **11** tens. Regroup **11** tens as **1** hundreds and **1** tens.
3. Write **1** in the tens column and take **1** hundreds to the hundreds column.
4. Add **1** hundreds to **3** to get **4** hundreds.

$$\begin{array}{r} 367 \\ + 52 \\ \hline 419 \end{array}$$

### Example 2

**Steps**  $782 + 47 = \boxed{\phantom{00}}$

1. Arrange vertically.
2. Add **2** ones to **7** ones to get **9** ones.
3. Add **8** tens to **4** tens to get **12** tens. Regroup **12** tens as **1** hundreds and **2** tens.
4. Write **2** in the tens column and take **1** hundreds to the hundreds column.
5. Add **1** hundreds to **7** hundreds to get **8** hundreds.

$$\begin{array}{r} 782 \\ + 47 \\ \hline 829 \end{array}$$

---

## Work to do

### Add

1. 
$$\begin{array}{r} 263 \\ + 75 \\ \hline \end{array}$$
  
\_\_\_\_\_

2. 
$$\begin{array}{r} 384 \\ + 35 \\ \hline \end{array}$$
  
\_\_\_\_\_

3. 
$$\begin{array}{r} 680 \\ + 47 \\ \hline \end{array}$$
  
\_\_\_\_\_

4. 
$$\begin{array}{r} 652 \\ + 93 \\ \hline \end{array}$$
  
\_\_\_\_\_

5. 
$$\begin{array}{r} 567 \\ + 40 \\ \hline \end{array}$$
  
\_\_\_\_\_

6. 
$$\begin{array}{r} 781 \\ + 55 \\ \hline \end{array}$$
  
\_\_\_\_\_

7.  $856 + 63 =$

8.  $475 + 63 =$

9.  $160 + 45 =$

10. Peter had **246** bottles of soda in his shop. He bought another **70** bottles. How many bottles of soda does he have altogether?



## Add 3 single digit number

### Example 1

$$3 + 6 + 7 = \boxed{\phantom{00}}$$

### Steps

Count on **6** steps from **3** steps to get **9**.

Count on **7** steps from **9** to get **16**

OR



Using a number line. Start from 0, skip **3** steps forward, then **6** steps and lastly **7** steps to get to **16**

$$3 + 6 + 7 = 16$$

### Work to do

Add

1.  $2 + 4 + 6 = \boxed{\phantom{00}}$

4.  $6 + 7 + 5 = \boxed{\phantom{00}}$

2.  $7 + 6 + 5 = \boxed{\phantom{00}}$

5.  $3 + 6 + 9 = \boxed{\phantom{00}}$

3.  $5 + 4 + 8 = \boxed{\phantom{00}}$

6.  $3 + 6 + 9 = \boxed{\phantom{00}}$

7.  $5$

8.  $9$

9.

$3$

10.

$4$

$7$

$5$

$8$

$8$

$+ 6$

$+ 3$

$+ 7$

$+ 6$

**Example 1**

$$\begin{array}{r} 273 \\ + 116 \\ \hline \end{array}$$

**Steps**

1. Add **3** ones to **6** ones to get **9** ones
2. Add **7** tens to **1** tens to get **8** tens
3. Add **2** hundreds to **1** hundreds to get **3** hundreds

$$\begin{array}{r} 273 \\ + 116 \\ \hline 389 \end{array}$$

**Example 2**

$$502 + 496 = \boxed{\phantom{000}}$$

**Steps**

$$\begin{array}{r} 502 \\ + 496 \\ \hline 998 \end{array}$$

1. Arrange the numbers vertically
2. Add **2** ones to **6** ones to get **8** ones
3. Add **0** tens to **9** tens to get **9** tens
4. Add **5** hundreds to **4** hundreds to get **9** hundreds



---

## Work to do

Add

1.    186  
    + 202  
\_\_\_\_\_

2.    214  
    + 375  
\_\_\_\_\_

3.    382  
    + 417  
\_\_\_\_\_

4.    406  
    + 511  
\_\_\_\_\_

5.    215 + 340 =

6.    461 + 392 =

7.    600 + 392 =

8.    812 + 161 =

9.    710 + 281 =

10. 827 + 172 =

## Add Two 3 - digit numbers

### Example 1

$$\begin{array}{r} 625 \\ + 247 \\ \hline \end{array}$$

#### Steps

1. Add **5** ones to **7** ones to get **12** ones
2. Regroup **12** ones as **1** tens and **2** ones
3. Write **2** ones in the ones column and take **1** tens to the tens column.
4. Add **1** tens to **2** and **4** to get **7** tens
5. Add **6** hundreds to **2** hundreds to get **8** hundreds

$$\begin{array}{r} | \\ 625 \\ + 247 \\ \hline \end{array}$$

$$\begin{array}{r} 872 \\ \hline \end{array}$$

### Example 2

$$463 + 528 = \boxed{\phantom{00}}$$

#### Steps

1. Arrange vertically
2. Add **3** ones to **8** ones to get **11** ones
3. Regroup **11** ones as **1** tens and **1** ones
4. Write **1** ones in ones column and take **1** tens to tens column.
5. Add **1** tens to **6** and **2** to get **9** tens
6. Add **4** hundreds to **5** hundreds to get **9** hundreds

$$\begin{array}{r} 463 \\ + 528 \\ \hline 991 \end{array}$$



---

## Work to do

$$\begin{array}{r} 1. \quad 226 \\ + 154 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 371 \\ + 209 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 465 \\ + 128 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 345 \\ + 236 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 514 \\ + 239 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 427 \\ + 353 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 729 \\ + 231 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 648 \\ + 117 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 856 \\ + 128 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 183 \\ + 207 \\ \hline \end{array}$$

## Add Two 3 - digit numbers

### Example 1 Steps

$$\begin{array}{r} 365 \\ + 452 \\ \hline \end{array}$$

1. Add **5** ones to **2** ones to get **7** ones
2. Add **6** tens to **5** tens to get **11** tens. Regroup **11** tens as **1** hundreds and **1** tens
3. Write **1** in the tens column and take **1** hundreds to the hundreds column.
4. Add **1** hundreds to **3** and **4** hundreds to get **8** hundreds.

$$\begin{array}{r} 365 \\ + 452 \\ \hline 817 \end{array}$$

### Example 2 Steps

$$614 + 295 = \boxed{\phantom{00}}$$

$$\begin{array}{r} 614 \\ + 295 \\ \hline 909 \end{array}$$

1. Add **4** ones to **5** ones to get **9** ones
2. Add **1** tens to **9** tens to get **10** tens. Regroup **10** tens as **1** hundreds and **0** tens
3. Write **0** in the tens column and take **1** hundreds to the hundreds column.
4. Add **1** hundreds to **6** hundreds and **2** hundreds to get **9** hundreds



---

## Work to do

$$\begin{array}{r} 179 \\ + 340 \\ \hline \end{array}$$

$$\begin{array}{r} 264 \\ + 485 \\ \hline \end{array}$$

$$\begin{array}{r} 346 \\ + 382 \\ \hline \end{array}$$

$$\begin{array}{r} 473 \\ + 356 \\ \hline \end{array}$$

$$\begin{array}{r} 667 \\ + 252 \\ \hline \end{array}$$

$$\begin{array}{r} 782 \\ + 176 \\ \hline \end{array}$$

$$7. \quad 449 + 290 = \boxed{\phantom{00}}$$

$$8. \quad 236 + 193 = \boxed{\phantom{00}}$$

$$9. \quad 527 + 281 = \boxed{\phantom{00}}$$

## Number Patterns

### Example 1

Work out the missing numbers

**550, 600, 650, 700, \_\_\_, \_\_\_.**

#### Steps

1. Get the rule by getting the difference between two numbers following each other.
2. The rule is **50** more than the previous number.
3. To get the next number, add **50** to **700**. The next number is **750**.
4. To get the next missing number, add **50** to **750**. The number is **800**.

### Example 2

**425, 430, \_\_\_, 440, \_\_\_, 450, 455**

#### Steps

1. The rule is count on in **5s** to get the next number.
2. By counting on the first missing number after **430** is **435** and the second missing number is **445**.



---

## Work to do

Fill in the missing numbers

1. 310, 385, 460, 535 \_\_\_\_\_, \_\_\_\_\_
2. 460, 520, 580, 640 \_\_\_\_\_, \_\_\_\_\_
3. 200, 250, 300, 350 \_\_\_\_\_, \_\_\_\_\_
4. 300, 375, \_\_\_\_\_, 475, 500, \_\_\_\_\_
5. 570, 590, \_\_\_\_\_, 630, 650, \_\_\_\_\_
6. 250, 400, 550, 700, \_\_\_\_\_, \_\_\_\_\_
7. 280, 360, 440, 520 \_\_\_\_\_, \_\_\_\_\_

## Subtracting Two 2 - digit Numbers

### Examples

1. 
$$\begin{array}{r} 98 \\ - 67 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ - 67 \\ \hline \end{array}$$

#### Steps

1. Subtract 7 ones from 8 ones to get 1 ones.
2. Subtract 6 tens from 9 tens to get 3 tens.

$$\begin{array}{r} 98 \\ - 67 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ - 67 \\ \hline 31 \end{array}$$

2.  $72 - 30 =$

#### Steps

1. Arrange vertically.
2. Subtract 0 ones from 2 ones to get 2 ones.
3. Subtract 3 tens from 7 tens to get 4 tens.

$$\begin{array}{r} 72 \\ - 30 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ - 30 \\ \hline 42 \end{array}$$

### Work to do

#### Subtract

1. 
$$\begin{array}{r} 57 \\ - 36 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 64 \\ - 22 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 85 \\ - 60 \\ \hline \end{array}$$



---

$$\begin{array}{r} 4. \quad 79 \\ - 55 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 38 \\ - 26 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 96 \\ - 74 \\ \hline \end{array}$$

7. A school had **56** clean cups, thirty two cups were used. How many were not used?
8. A head teacher had **49** mathematics books. She gave **25** to grade three learners. How many remained?
9. A class of **55** learners visited an old peoples' home. Twenty learners cleaned the rooms. The rest washed utensils. How many learners washed the utensils?
10. A school had **77** learners in one year. **25** learners were transferred. How many were left?

## Subtracting a single digit number from a 3-digit number

### Example 1

$$\begin{array}{r}
 476 \\
 - 5 \\
 \hline
 \end{array} \quad \text{Steps}$$

1. Subtract 5 ones from 6 ones to get 1 ones.  
 2. Bring down 7 tens and 4 hundreds.

$$\begin{array}{r}
 476 \\
 - 5 \\
 \hline
 471 \\
 \hline
 \end{array}$$

### Example 2

$$546 - 3 = \boxed{\phantom{00}}$$

Steps

$$\begin{array}{r}
 546 \\
 - 3 \\
 \hline
 \end{array}$$

1. Arrange vertically.  
 2. Subtract 3 ones from 6 ones to get 3 ones.  
 3. Bring down 4 tens and 5 hundreds.

## Work to do

Subtract

1.

$$\begin{array}{r}
 138 \\
 - 4 \\
 \hline
 \end{array}$$

2.

$$\begin{array}{r}
 234 \\
 - 1 \\
 \hline
 \end{array}$$

3.

$$\begin{array}{r}
 308 \\
 - 5 \\
 \hline
 \end{array}$$



---

4.      449

$$\begin{array}{r} 449 \\ - \quad 7 \\ \hline \end{array}$$

6.      506

$$\begin{array}{r} 506 \\ - \quad 6 \\ \hline \end{array}$$

7.      676

$$\begin{array}{r} 676 \\ - \quad 2 \\ \hline \end{array}$$

8.      789

$$\begin{array}{r} 789 \\ - \quad 2 \\ \hline \end{array}$$

9. Eight hundred and ninety nine bags of maize were given to a zone. Kaloleni primary school received **6** bags. How many bags were left for the other schools?
10. During a school tree planting day **349** trees were planted. Teachers planted 8 trees. How many trees did pupils plant?

## Subtract two 2 - digit numbers

### Example 1

$$\begin{array}{r} 82 \\ - 47 \\ \hline \end{array}$$

#### Steps

1. Since you cannot subtract **7** ones from **2** ones, regroup **8** tens as **7** tens and **10** ones.
2. Add **10** ones to **2** ones to get **12** ones.
3. Subtract **7** ones from **12** ones to get **5** ones.
4. Subtract **4** tens from the remaining **7** tens to get **3** tens.

$$\begin{array}{r} 82 \\ - 47 \\ \hline 35 \end{array}$$

### Example 2

$$70 - 34 = \boxed{\phantom{00}}$$

#### Steps

$$\begin{array}{r} 70 \\ - 34 \\ \hline 36 \end{array}$$

1. Arrange vertically.
2. Regroup **7** tens as **6** tens and **10** ones.
3. Subtract **4** ones from **10** ones to get **6** ones.
4. Subtract **3** tens from the remaining **6** tens to get **3** tens.



---

## Work to do

### Subtract

$$\begin{array}{r} 72 \\ - 48 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 67 \\ - 18 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ - 19 \\ \hline \end{array}$$

$$\begin{array}{r} 33 \\ - 27 \\ \hline \end{array}$$

$$\begin{array}{r} 85 \\ - 56 \\ \hline \end{array}$$

1. A shopkeeper has **42** packets of biscuits. He sells **27** packets. How many packets were left?
2. A farmer harvested **64** bags of maize. He gave out **38** bags to a childrens home. How many bags of maize were left?
3. A Grade **3** class had **80** learners. One day **32** learners went for a trip. How many were left?
4. A matchbox had **32** sticks. In one week **14** were used. How many were left?

## Subtract a single digit number from a 3 - digit number

### Example 1

$$\begin{array}{r} 684 \\ - 5 \\ \hline 679 \end{array}$$

### Steps

1. Since you can not subtract **5** ones from **4** ones, regroup **8** tens as **7** tens and **10** ones.  
Add **10** ones to **4** ones to get **14** ones.
2. Subtract **5** ones from **14** ones to get **9** ones.
3. Bring down the remaining **7** tens and **6** hundreds.

### Example 2

$$\begin{array}{r} 172 \\ - 3 \\ \hline 169 \end{array}$$

### Steps

1. Since you can not subtract **3** ones from **2** ones, regroup **7** tens as **6** tens and **10** ones.  
Add **10** ones to **2** ones to get **12** ones.
2. Subtract 3 ones from **12** ones to get **9** ones.
3. Bring down the remaining **6** tens and **1** hundreds



---

## Work to do

### Subtract

1.  $346$

$- 7$

---

2.  $553$

$- 5$

---

3.  $460$

$- 4$

---

4.  $271$

$- 6$

---

5.  $892$

$- 8$

---

6.  $934$

$- 7$

---

1. Abdi had **615** kg of flour in his shop. He sold **6** kg. How many were left?
2. Alex had **783** goats. **4** died. How many were left?
3. A class had **150** textbooks. **2** got lost. How many were left?
4. A shopkeeper had **124** packets of milk. She sold **5** packets. How many packets were left?

## Subtracting two 3 - digit numbers

### Example 1

I.

$$\begin{array}{r} 738 \\ - 526 \\ \hline \end{array}$$

#### Steps

1. Subtract **6** ones from **8** ones to get **2** ones.
2. Subtract **2** tens from **3** tens to get **1** tens
3. Subtract **5** hundreds from **7** hundreds to get **2** hundreds

$$\begin{array}{r} 738 \\ - 526 \\ \hline 212 \end{array}$$

### Example 2

$482 - 381 =$

#### Steps

1. Subtract **1** ones from **2** ones to get **1** ones.
2. Subtract **8** tens from **8** tens to get **0** tens
3. Subtract **3** hundreds from **4** hundreds to get **1** hundreds

$$\begin{array}{r} 482 \\ - 381 \\ \hline 101 \end{array}$$



---

## Work to do

### Subtract

1. 
$$\begin{array}{r} 264 \\ - 152 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 986 \\ - 731 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 697 \\ - 224 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 455 \\ - 340 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 347 \\ - 105 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 888 \\ - 777 \\ \hline \end{array}$$

7. A garden had **719** seedlings. In one day **616** seedlings were sold. How many were left?
8. A wholesale shop had **328** bags of fertilizer. In one month, **120** bags were sold. How many were left?
9. Ole Sakida had **478** sheep. He sold **324**. How many were left??
10. A tank had **566** litres of water. A family used **323** litres. How many were left?

## Subtract 2 - digit numbers from 3 - digit numbers

### Example 1

$$\begin{array}{r} 442 \\ - 36 \\ \hline 406 \end{array}$$

#### Steps

1. Since you can not subtract **6** ones from **2** ones, regroup **4** tens as **3** tens and **10** ones. Add **10** ones to **2** ones to get **12** ones.
2. Subtract **6** ones from **12** ones to get **6** ones.
3. Subtract **3** tens from **3** tens to get **0** tens.
4. Bring down the **4** hundreds.

### Example 2

$$\begin{array}{r} 753 \\ - 26 \\ \hline 727 \end{array}$$

#### Steps

1. Since you can not subtract **6** ones from **3** ones, regroup **5** tens as **4** tens and **10** ones. Add **10** ones to **3** ones to get **13** ones.
2. Subtract **6** ones from **13** ones to get **7** ones.
3. Subtract **2** tens from the remaining **4** tens to get **2** tens.
4. Bring down the **7** hundreds.



---

## Work to do

### Subtract

1.  $426$

$- 71$

---

2.  $914$

$- 37$

---

3.  $836$

$- 58$

---

4.  $632$

$- 18$

---

5.  $619$

$- 34$

---

6.  $708$

$- 72$

---

7.  $257$

$- 82$

---

1. A fish pond had **508** fish. On one day, **67** died. How many were left?
2. A farmer harvested **335** bags of beans. In June he sold **82** bags. How many were left?
3. A shopkeeper had **124** packets of milk. She sold **5** packets. How many packets were left?

## Subtract multiples of 10

### Example 1

$$\begin{array}{r} 300 \\ - 100 \\ \hline 200 \end{array}$$

#### Steps

1. Subtract 0 ones from 0 ones to get 0 ones.
2. Subtract 0 tens from 0 tens to get 0 tens.
3. Subtract 1 hundreds from 3 hundreds to get 2 hundreds.

OR

4. Count backwards by hundreds from 300 to 100.
5. Get how many hundreds you have counted, which is 2 hundreds (200).

### Example 2

$$670 - 520 = \boxed{\phantom{00}}$$

#### Steps

$$\begin{array}{r} 670 \\ - 520 \\ \hline 150 \end{array}$$

1. Arrange vertically.
2. Subtract 0 ones from 0 ones to get 0 ones.
3. Subtract 2 tens from 7 tens to get 5 tens.
4. Subtract 5 hundreds from 6 hundreds to get 1 hundreds.



---

## Work to do

### Subtract

$$\begin{array}{r} 90 \\ - 40 \\ \hline \end{array}$$

$$\begin{array}{r} 120 \\ - 110 \\ \hline \end{array}$$

$$\begin{array}{r} 360 \\ - 30 \\ \hline \end{array}$$

$$\begin{array}{r} 880 \\ - 440 \\ \hline \end{array}$$

$$\begin{array}{r} 790 \\ - 690 \\ \hline \end{array}$$

$$\begin{array}{r} 650 \\ - 50 \\ \hline \end{array}$$

$$\begin{array}{r} 240 \\ - 220 \\ \hline \end{array}$$

$$\begin{array}{r} 70 \\ - 60 \\ \hline \end{array}$$

$$\begin{array}{r} 430 \\ - 430 \\ \hline \end{array}$$

10. A school took **80** learners for a music festival. **30** learners performed a traditional dance and the rest recited a poem. How many learners recited a poem?

## Number patterns

### Example 1

Work out the missing numbers

200, 195, 190, 185, \_\_\_, \_\_\_

#### Steps

- I. Get the rule by getting the difference through subtraction between two numbers following each other.

The rule is subtract 5 from the number before.

To get the next number, subtract 5 from 185.

The next number is 180.

To get the next missing number, subtract 5 from 180. The number is 175.

### Example 2

900, 800, 700, \_\_\_, \_\_\_, 400

#### Steps

- I. Get the rule by getting the difference through subtraction between two numbers following each other.
2. The rule is 100 less.
3. To get the next number, count backwards from 700 to get 600 and 500.



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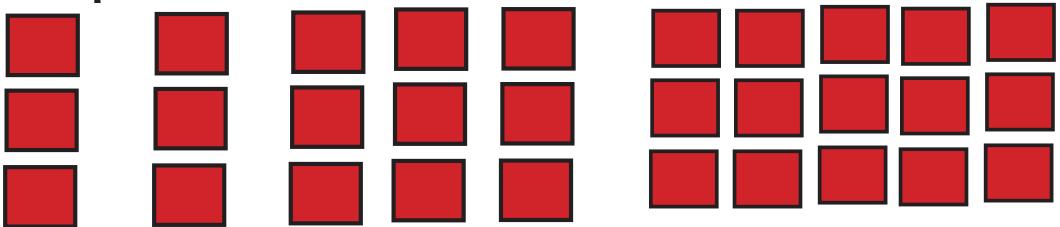
## Work to do

Fill in the missing numbers

1. 55, 50, 45, 40, \_\_, \_\_
2. 117, 115, 113, \_\_, \_\_, 107
3. 170, 160, 150, \_\_, \_\_, 120
4. 288, 284, 280, \_\_, \_\_, 268
5. 390, 387, 384, \_\_, \_\_, 375
6. 800, 750, 700, 650, \_\_, \_\_.
7. 520, 420, 320, 220, \_\_, \_\_
8. 713, 710, 707, \_\_, \_\_, 698

## Multiplying numbers

### Example



$$3 + 3 + 3 + 3 + 3 = 15$$

$$5 \times 3 = 15$$

### Work to do

Multiply



$$5 \times 1 = \boxed{\phantom{0}}$$

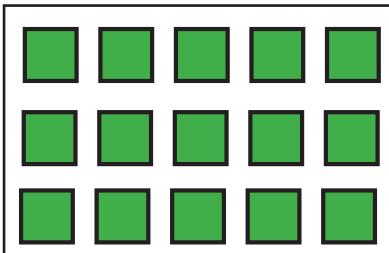


$$5 \times \boxed{\phantom{0}} = \boxed{\phantom{0}}$$

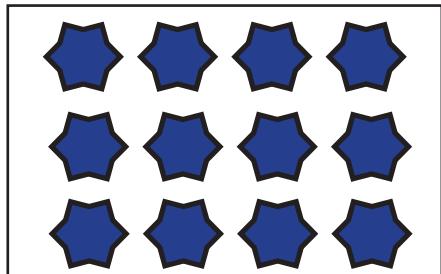


## Write in multiplication

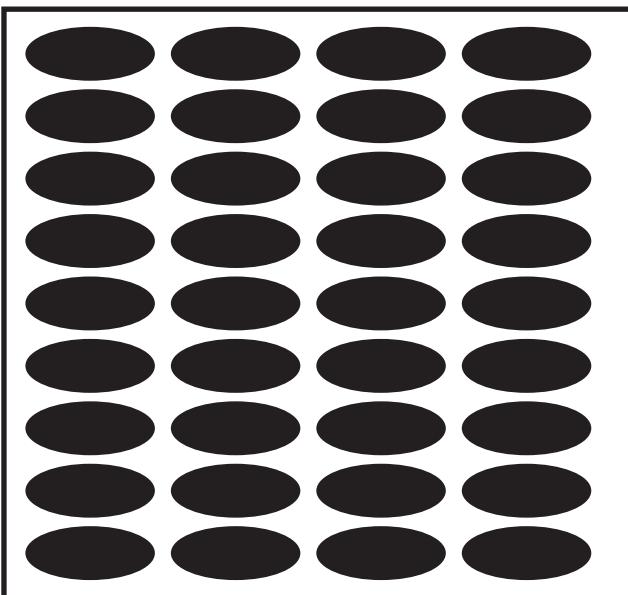
3.



4.



5.



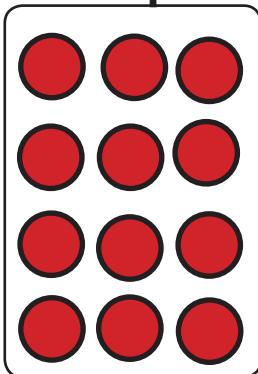
$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

6. Complete the table

$\times$	1	2	3	4	5	6	7	8	9
1									
2					10				
3								24	
4									
5						30			

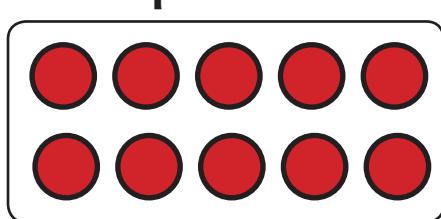
## Multiplying numbers

### Example 1



$$4 \times 3 = 12$$

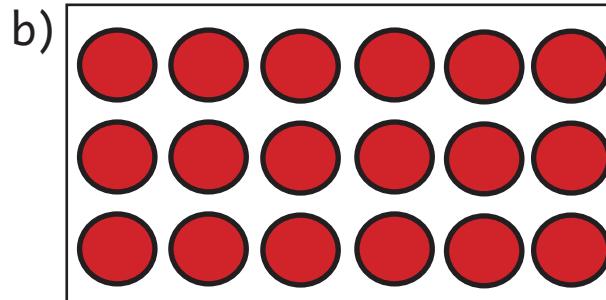
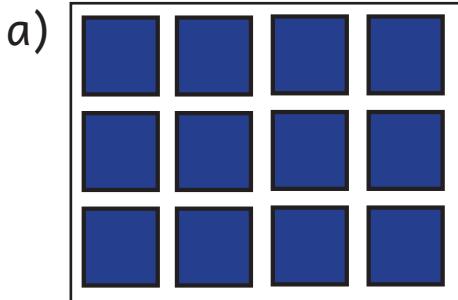
### Example 2



$$2 \times 5 = 10$$

## Work to do

1. Write the following multiplication



$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

2. Multiply

a)  $\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$

b)  $\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$

c)  $\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$

d)  $\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$



### 3. Multiply

a)  $5 \times 4 =$

b)  $3 \times 4 =$

c)  $5 \times 1 =$

d)  $4 \times 4 =$

e)  $4 \times 2 =$

f)  $4 \times 1 =$

### 4. Fill in the multiplication table

<b>X</b>	1	2	3	4	5
1					
2					
3			6		
4					
5					25

## Multiplying numbers

### Example

$$3 \times 6 = \boxed{\phantom{00}}$$



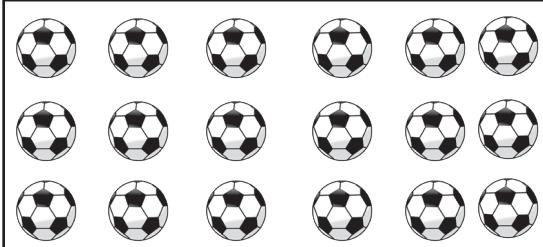
There are **3** groups each with **6** chicks.

The multiplication is  
 $3 \times 6 = 18$

### Work to do

There are **3** groups each with **6** balls. Write as multiplication.

I.



$$\boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

### 2. Multiply

a)  $6 \times 6 = \boxed{\phantom{00}}$

b)  $6 \times 7 = \boxed{\phantom{00}}$

c)  $6 \times 8 = \boxed{\phantom{00}}$



3. Multiply

a)      9  
  ×    6  
        

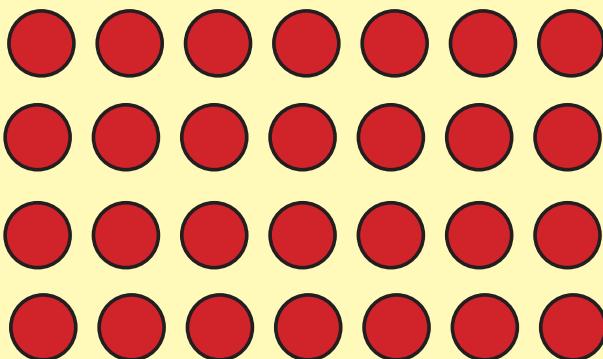
b)      10  
  ×    6  
        

4. Peter works out **6** mathematics questions each day. How many questions will he work out in **5** days?
5. Kaunda eats **5** bananas each day. How many bananas will he eat in **6** days?

## Multiplying numbers

### Example

$$4 \times 7 = \boxed{\quad}$$



There are 4 groups of 7 birds each.

The multiplication is

$$4 \times 7 = 28$$

### Work to do

- I. There are 3 groups each with 7 balls Write as multiplication.



$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

2. Multiply

a)  $7 \times 5 = \boxed{\quad}$

b)  $7 \times 4 = \boxed{\quad}$

c)  $7 \times 7 = \boxed{\quad}$



---

3.

a)      7

$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

b)      7

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

4. A teacher uses **2** pieces of chalk each day.

How many pieces will she use in **7** days?

5. John plants **3** trees at home each month.

How many trees does John plant in **7** months?

## Dividing numbers

## Multiplication table

X	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

## Example 1

$$18 \div 6 = \boxed{\phantom{0}}$$

From **18** move up to find **6** in the first row.  
From **18** move across to find **3** in the first column

$$18 \div 6 = 3$$

## Example 2

$$15 \div 3 = \boxed{\phantom{0}}$$

From **15** move up to find **3** in the first row.  
From **15** move across to find **5** in the first column

$$15 \div 3 = 5$$



---

## Work to do

Divide

1.  $9 \div 3 = \boxed{\phantom{00}}$

5.  $18 \div 9 = \boxed{\phantom{00}}$

2.  $10 \div 2 = \boxed{\phantom{00}}$

6.  $20 \div 4 = \boxed{\phantom{00}}$

3.  $12 \div 6 = \boxed{\phantom{00}}$

7.  $25 \div 5 = \boxed{\phantom{00}}$

4.  $16 \div 8 = \boxed{\phantom{00}}$

8. A mother shared **24** oranges equally among **4** children. How many oranges did each child get?

9. A class teacher shared **18** pencils between **3** groups of learners. How many pencils did each group get?

10. A farmer put **15** water melons into **3** baskets equally. How many water melons were put in each basket?

## Dividing numbers

Multiplication table

X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

### Example

$$72 \div 8 = \boxed{\phantom{00}}$$

From 72 move up to find →  $72 \div 8 =$   
8 in the first row.

From 72 move across to  
find 9 in the first column.

$$72 \div 8 = 9$$



---

## Work to do

Divide

1.  $72 \div 9 = \boxed{\phantom{00}}$

5.  $21 \div 7 = \boxed{\phantom{00}}$

2.  $90 \div 10 = \boxed{\phantom{00}}$

6.  $27 \div 3 = \boxed{\phantom{00}}$

3.  $14 \div 7 = \boxed{\phantom{00}}$

7.  $36 \div 6 = \boxed{\phantom{00}}$

4.  $15 \div 5 = \boxed{\phantom{00}}$

8. Bakari had **36** mathematics books. He shared equally among **9** groups in his grade. How many did each group get?
9. Wavinya had **64** rubbers. She shared equally among **8** of her friends. How many did each friend get?
10. A shopkeeper had **72** bags of rice. He shared them equally among **8** other shopkeepers. How many bags did each shopkeeper get?

## Dividing numbers

### Multiplication table

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

### Example 1

$$32 \div 4 = \boxed{\phantom{0}}$$

### Steps

1. Write  $32 \div 4$  in long form.
2. From 32 move up to find 4, in the first row.
3. From 32 move across to find 8, in the first column.
4. Write 8 on top of the long division sign.
5. Multiply 8 by 4 to get 32 and subtract 32 to get 00.

$$\begin{array}{r}
 4 \overline{)32} \\
 8 \\
 \hline
 -32 \\
 \hline
 00
 \end{array}$$



## Example 2

$$9 \overline{)90}$$

$$\begin{array}{r} 10 \\ 9 \overline{)90} \\ - 90 \\ \hline 00 \end{array}$$

## Work to do

Divide

1.  $6 \overline{)48}$

5.  $8 \overline{)32}$

2.  $8 \overline{)64}$

6.  $9 \overline{)45}$

3.  $9 \overline{)27}$

7.  $8 \overline{)24}$

4.  $7 \overline{)63}$

8. Eight learners shared **72** mangoes equally. How many mangoes did each learner get?
9. A father shared **54** biscuits among his **6** children. How many biscuits did each child get?
10. Seven teachers shared **35** bottles of mineral water equally. How many bottles of mineral water did each teacher get?

# MEASUREMENT

## LENGTH

Week 8 Lesson 4

### Adding and subtracting length



#### Activity 1

Measure the longer and the shorter lengths of your classroom floor.

Floor distance	Length in metres
Longer length	
Shorter length	
Longer length	
Shorter length	

#### Add the lengths

Longer length    shorter length

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

Longer length    longer length

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

Shorter length    shorter length

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$



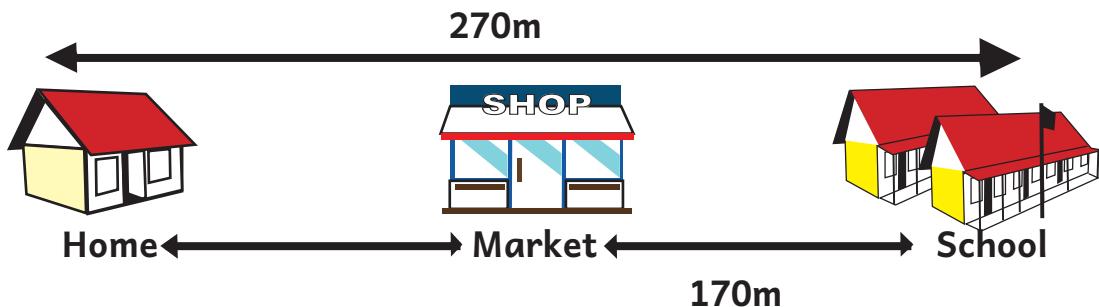
## Activity 2

Measure the lengths

	Longer length	Shorter length
Teacher table		
Learner desk/ bench		
The classroom window		

## work to do

I. Look at the following



- a) Asha walks from home to the school. How many metres does she walk altogether?

\_\_\_\_\_

- b) Asha walks from school to the market. How many metres does she walk altogether? \_\_\_\_\_

- c) How many metres does Asha walk from the market to her home? \_\_\_\_\_

- 
2. Mercy had a string measuring **64** metres. She used **31** metres to make a basket. How many metres of string was she left with?
  3. Joshua ran **240** metres on Monday morning. He also ran **155** metres in the evening. How many metres did he run altogether?



## Estimating length



### Activity 1

Measure the lengths

Object	Length in metres
Length of class room	
Length of chalkboard	
Length of a block of classrooms	

# Work to do

## Estimate and measure

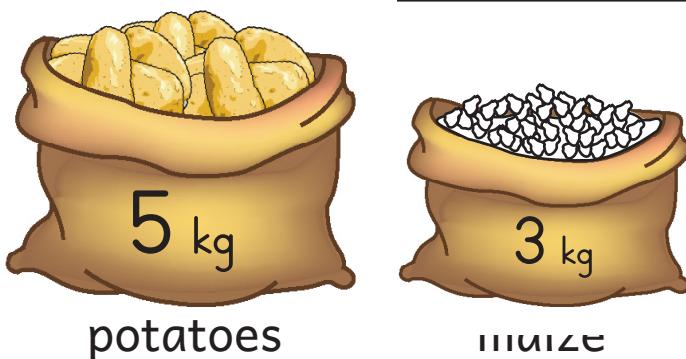
Object	Estimate	Actual	How close was the estimate
Width of class			
Length of tables			
Length of desk			
Length of classroom floor			
Lenth of football pitch			



## Adding mass in kilograms

### Example

What is the total mass of potatoes and maize?



$$5\text{kg} + 3\text{kg} = 8\text{kg}$$

The total mass of potatoes and maize is **8kg**

### Work to do

1. Jane has **2** of kg beans and **7** kg of maize. How many kg does she have altogether?
2. Peter has **4** kg of coffee and **3** kg of tea leaves. How many kg does he have altogether?
3. Halima has **2** kg of meat and **3** kg of potatoes. How many kg does she have altogether?
4. In a hotel, there are **20** kg of rice and **14** kg of vegetables. How many kg are there altogether?
5. A school has **12** kg of sugar and **5** kg of coffee. How many kg are there altogether?

## Subtracting mass in kilograms

### Example

Halima has **18 kg** of potatoes, she gave Jacinta **5 kgs**. How many kgs were left?



$$18\text{kg} - 5\text{kg} = 13\text{kg}$$

Halima is left with **13 kg** of potatoes

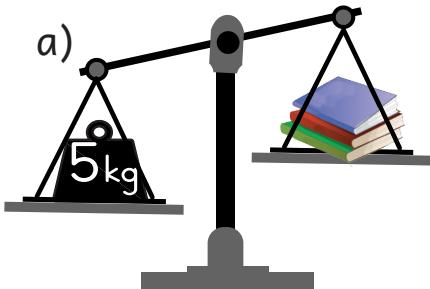
### Work to do:

1. James bought **25 kg** of meat. He gave **10 kg** to John. How many kg was he left with?
2. Mary had **16 kg** of beans. She cooked **9 kg**. how many kg were left?
3. Jane has **22 kg** of sugar. She gave Asha **10 kg**. How many kg of sugar was she left with?

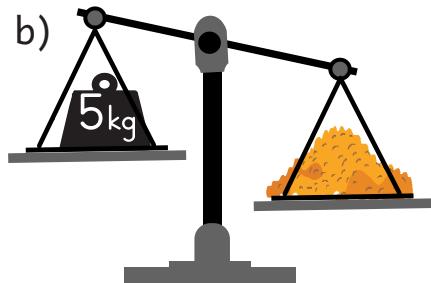
## Estimating mass

### Activity

i. Estimate the mass in kilograms.



Estimate mass of wood \_\_\_\_\_



Estimate mass of sand \_\_\_\_\_

2. Measure      Mass of wood is \_\_\_\_\_?

Mass of sand is \_\_\_\_\_?

3. How close were the estimates?

## Work to do

### Activity

Estimate and measure

Object	Estimate in kg	Actual in kg	How close was the estimate
Books			
Bags			

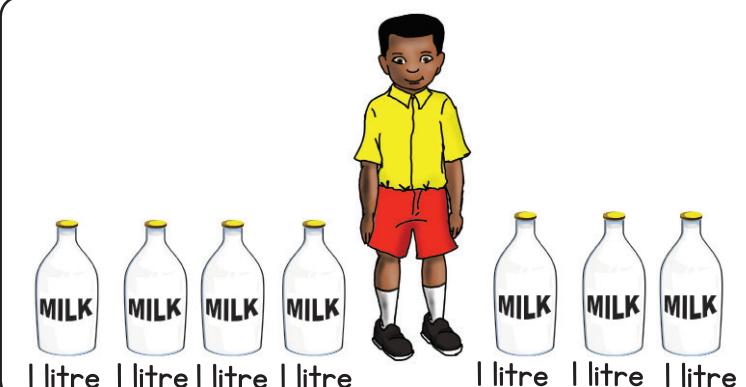
<b>Object</b>	<b>Estimate in kg</b>	<b>Actual in kg</b>	<b>How close was the estimate</b>
Shoes 			
Stones 			
Soil 			
sand 			



## Adding capacity

### Example

John bought 4 litres of milk. His grandmother brought him



3 litres of milk. How many litres does he have altogether?  $4 \text{ litres} + 3 \text{ litres} = 7 \text{ litres}$

### Work to do

1. Jane wanted to make tea. She used 2 litres of milk and 5 litres of water. How many litres of tea did she make?
2. Juma had 23 litres of water. He was given 8 more litres. How many litres of water does he have altogether?
3. A tank had 134 litres of water. Helen added 57 litres of water into the tank. How many litres does it have altogether?
4. A cook prepared 14 litres of porridge in the morning. He prepared 9 litres of porridge in the afternoon. How many litres of porridge did he prepare altogether?
5. Mary bought 12 litres of juice. Ann bought 9 litres of juice. How many litres of juice did they have altogether?

## Subtracting capacity

### Example

A car had **26** litres of petrol. It used **14** litres.  
How many litres were left?

$$\mathbf{26 \text{ litres} - 14 \text{ litres} = 12 \text{ litres.}}$$

### Work to do

1. Juma had **43** litres water. He used **5** litres.  
How many litres of water was left?
2. A shopkeeper had **93** litres of milk. He sold **38** litres. How many litres of milk were left?
3. A school tank had **532** litres of water. The school used **117** litres. How many litres of water were left?
4. Amina had **749** litres of diesel. She sold **63** litres. How many litres of diesel were left?
5. A bucket had **26** litres of water. Mwau used **15** litres. How many litres were left.

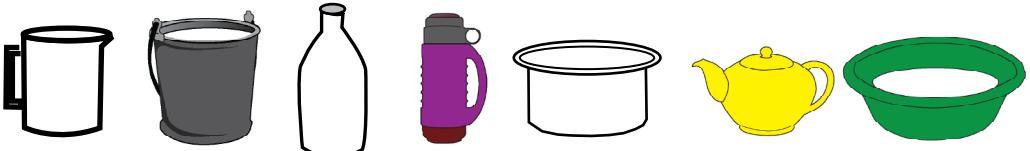


## Estimating capacity

### Activity

Estimate capacity of each container.

How many litres can each container hold?

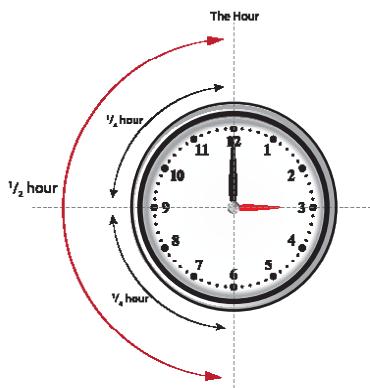


### Work to do

Estimate and measure.

Containers	Estimate in litres	Actual in litres	How close was the Estimate?
1.			
2.			
3.			
4.			
5.			
6.			
7.			

## Reading and telling time “to” the hour



### Examples



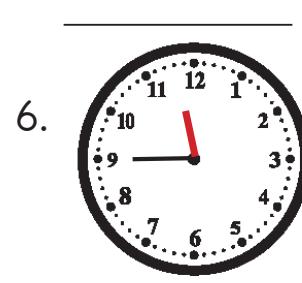
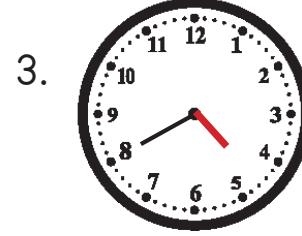
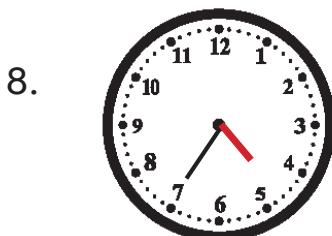
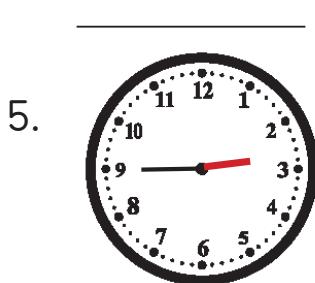
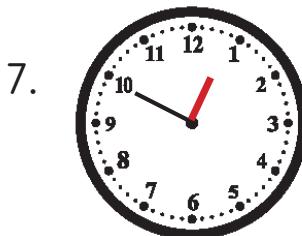
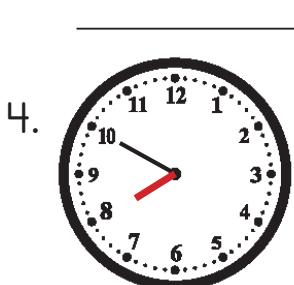
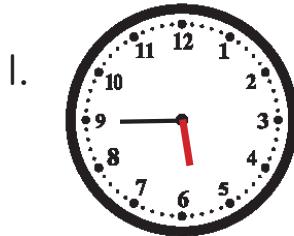
1. Quarter to 12 o'clock



2. 20 minutes to 10 o'clock

### Work to do

What is the time?



## Reading and telling time

### Examples

What is the time?

Time within the day time

**1 : 30**

*half past 1*

**12 : 15**

*quarter past 12*

**4 : 30**

*half past 4*

Time within the night

**8 : 00**

*8 o'clock*

**1 : 30**

*half past 1*

**4 : 30**

*half past 4*

### Work to do

What is the time?

**During the day time**

1.

**11 : 45**

2.

**3 : 15**

3.

**3 : 00**

4.

**9 : 15**

5.

**2 : 00**

6.

**12 : 00**

---

## During the night

7.

**10 : 00**

8.

**12 : 30**

9.

**12 : 05**

---

10.

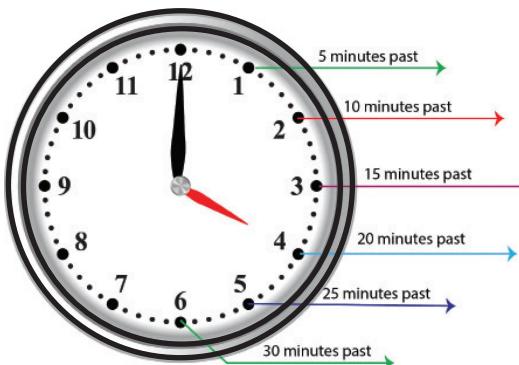
**12 : 00**

---

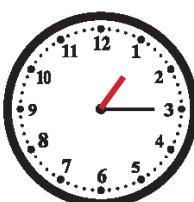
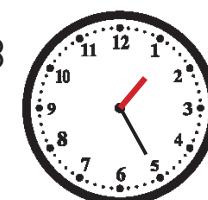


## Writing time “past” the hour

### Examples

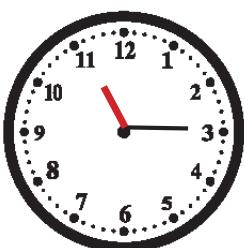


3 o'clock

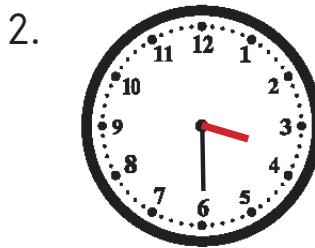
15 minutes  
past 1 o'clock25 minutes  
past 1 o'clock

### Work to do

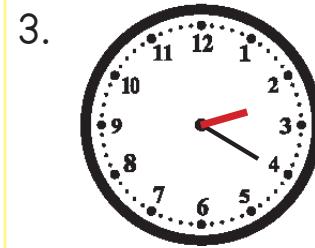
What is the time?



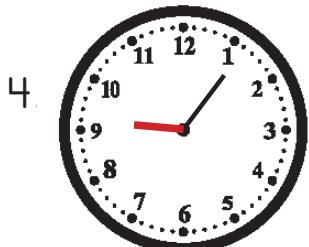
\_\_\_\_ minutes past 11



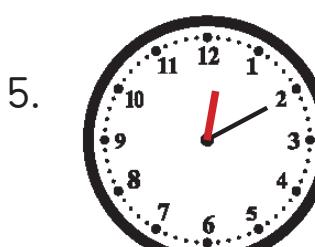
\_\_\_\_ minutes past \_\_\_\_



\_\_\_\_ minutes past \_\_\_\_



\_\_\_\_ minutes past \_\_\_\_

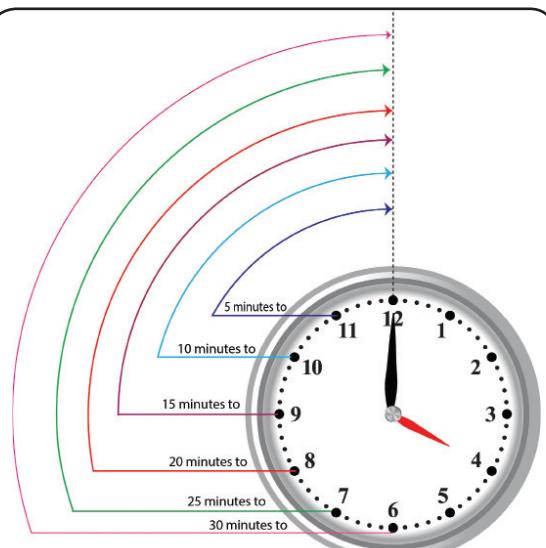


\_\_\_\_ minutes past \_\_\_\_



\_\_\_\_ minutes past \_\_\_\_

## Writing time “to” the hour



**Examples**



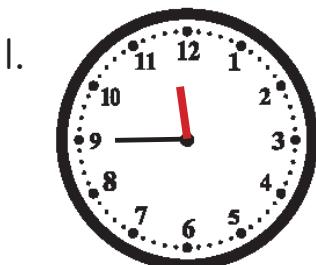
15 minutes  
to 8 o'clock



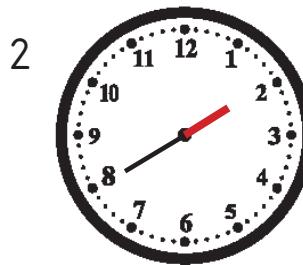
20 minutes  
to 2 o'clock

### Work to do

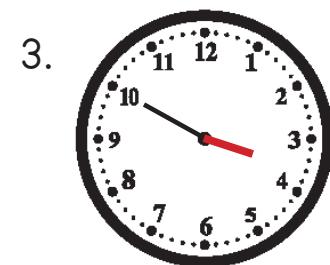
What is the time?



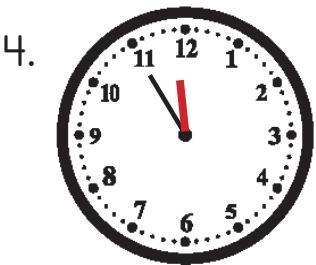
\_\_\_\_\_ minutes past 11



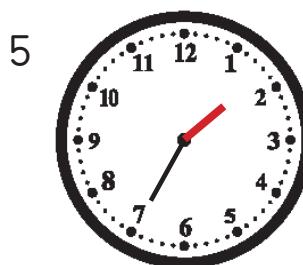
\_\_\_\_\_ minutes past \_\_\_\_\_



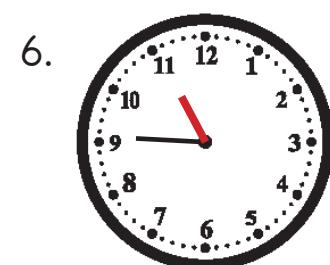
\_\_\_\_\_ minutes past \_\_\_\_\_



\_\_\_\_\_ minutes past \_\_\_\_\_



\_\_\_\_\_ minutes past \_\_\_\_\_



\_\_\_\_\_ minutes past \_\_\_\_\_



## Shopping activities involving change.

Use the classroom shop. **Examples**



1. Peter has a sh.1000 note. How many sh.500 notes will he get?



Peter gets  
two sh.500  
notes as  
change.

**Change is the same amount of money but in different denominations.**

2. Hellen has five sh.100 notes. How many sh.500 notes will she get?



Hellen gets  
one sh. 500  
note as  
change.

---

## Work to do

1. Juma has a sh.**200** note. How many one hundred shillings notes will he get as change?
2. Judy has a sh.**100** note. How many sh.**50** notes will she get as change?
3. Abdi has a sh.**200** note. How many sh.**50** notes will he get as change?
4. Moses has a sh.**500** note. How many sh.**100** notes will he get as change?
5. Asha has a sh.**1000** note. How many sh.**200** notes will she get as change?
6. Mary has five sh.**200** notes. How many sh.**1000** notes will she get as change?
7. Tom has a sh.**1000** note. How many five hundred shillings notes will he get as change?



## Shopping activities involving balance.

### Examples

Using the classroom shop

1. Tom had a sh.1000 note. He bought a bag for sh.600. How much money was he left with?

**Sh.1000 – sh.600 = sh.400  
sh 400 is the balance.**

2. Asha had a sh.500 note. She bought a book for sh.320. What was the balance?

**sh.500 – sh.320 = sh.180**



### Work to do

1. Martin had a sh.500 note. He bought a stool for sh.300. What balance did he get?
2. David had a sh.1000 note. He bought a school bag for sh.950. What balance did he get?
3. Joan has a sh.500 note. She bought petrol for her care for sh.350. What balance did she get?

## Adding and subtracting money

### Example 1

Mary had sh. **345**. Her mother gave her sh. **225** more. How much money did she have altogether?

$$\begin{array}{r}
 \text{sh.} \\
 345 \\
 + 225 \\
 \hline
 570
 \end{array}$$

### Example 2

Maurice had sh. **32**. He spent sh **16**. How much money was he left with?

$$\begin{array}{r}
 \text{sh.} \\
 32 \\
 - 16 \\
 \hline
 16
 \end{array}$$

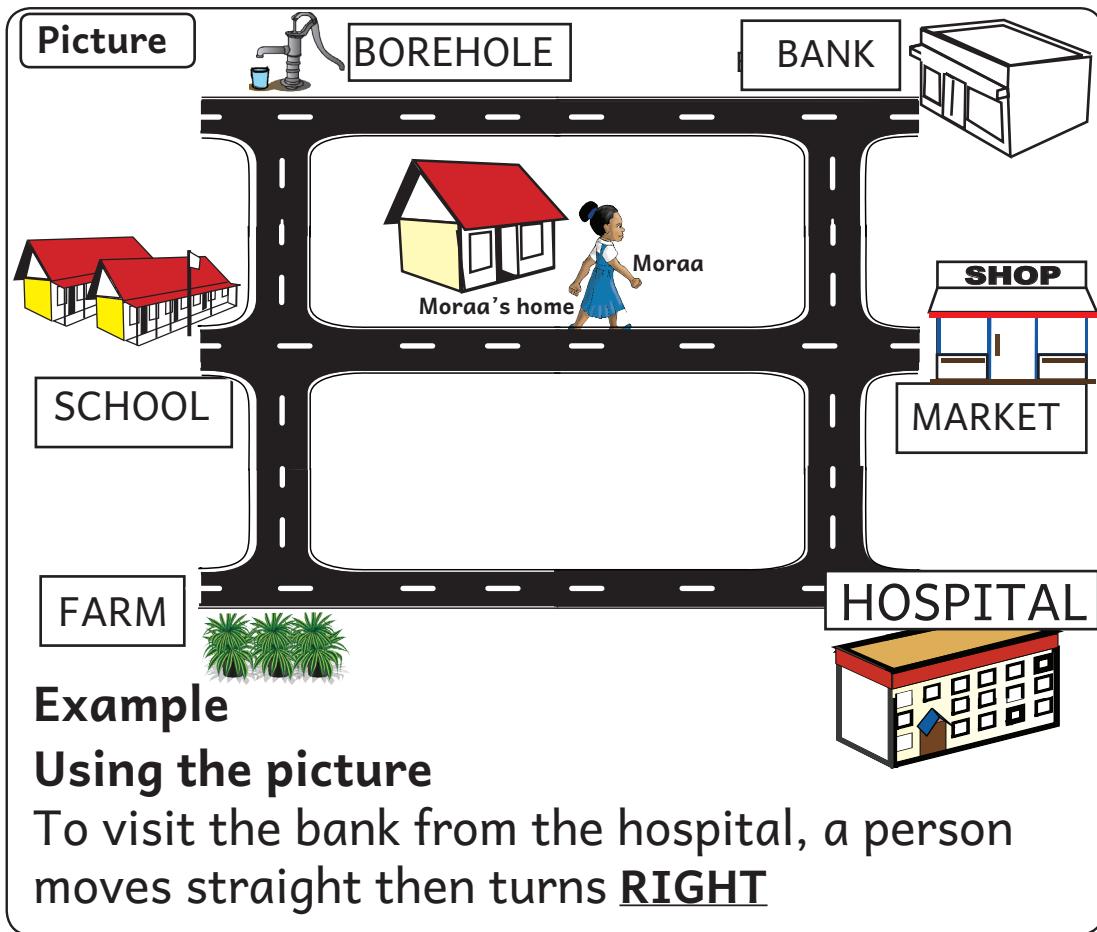
### Work to do

1. Peter bought sugar for sh.**176**. He also bought flour for sh **206**. How much did he spend altogether?
2. Babu spent sh **341** at the market. He spent sh.**270** on transport. How much did he spend altogether?
3. A family spends sh.**514** on lunch. It also spends sh.**275** on super. How much does it spend altogether?



- 
4. A watchman is paid sh.**626** a day. A sweeper is paid sh.**302** a day. How much are they paid altogether?
  5. Peris had sh. **714**. She used sh.**220** to buy a dress. How much money was she left with?
  6. Joshua has sh **403**. He uses sh **53** to buy a toy. How much money is he left with?
  7. Onesmus was given sh.**256**. He used sh **141**. How much money was he left with?

### Turning to the Right



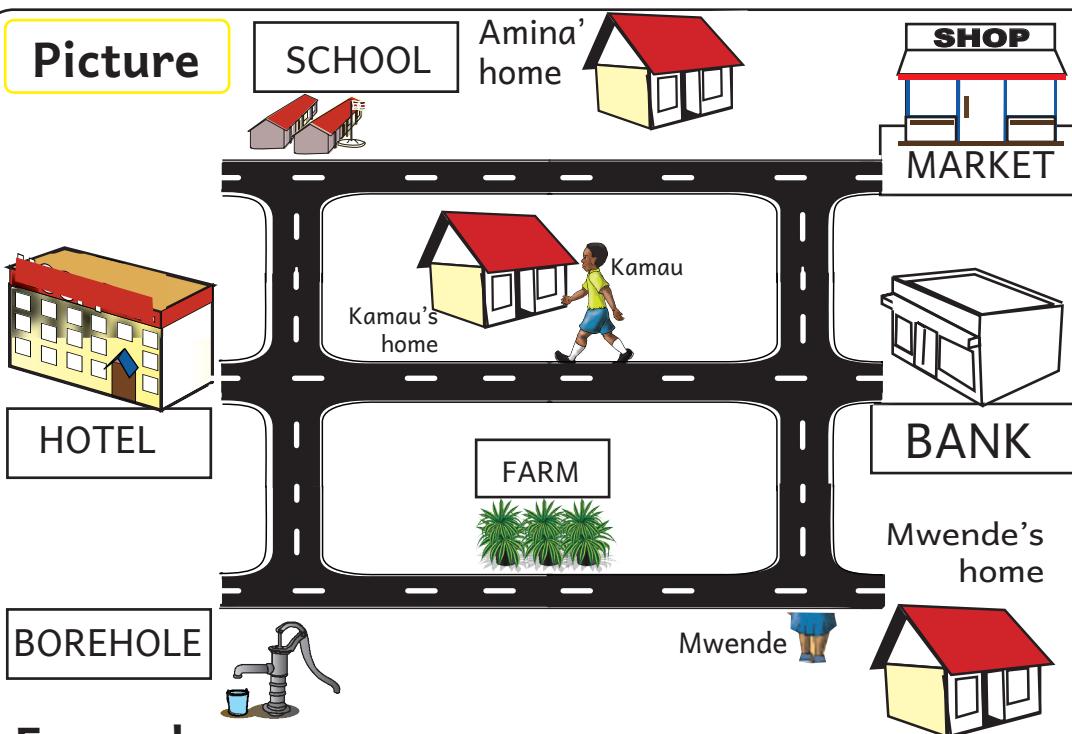
### Work to do

Fill in

1. To visit the bore hole from the hospital, one walks straight then turns \_\_\_\_\_
2. From the market to the bank one will walk straight then turn \_\_\_\_\_
3. From the farm to Mora's home you walk straight then turn \_\_\_\_\_

## Turning to the Left

### Picture



### Example

### Using the picture

To fetch water from the borehole Kamau walks straight then turns to the **LEFT**

## Work to do

### Fill in

1. For Mwende to visit Amina she walks straight then turns \_\_\_\_\_
2. From the hotel to the market the farmer will move straight then turn \_\_\_\_\_
3. To reach Mwende's home from the bank, a person moves straight then turns \_\_\_\_\_



**TERM 3**



*Property of the Government of Kenya*

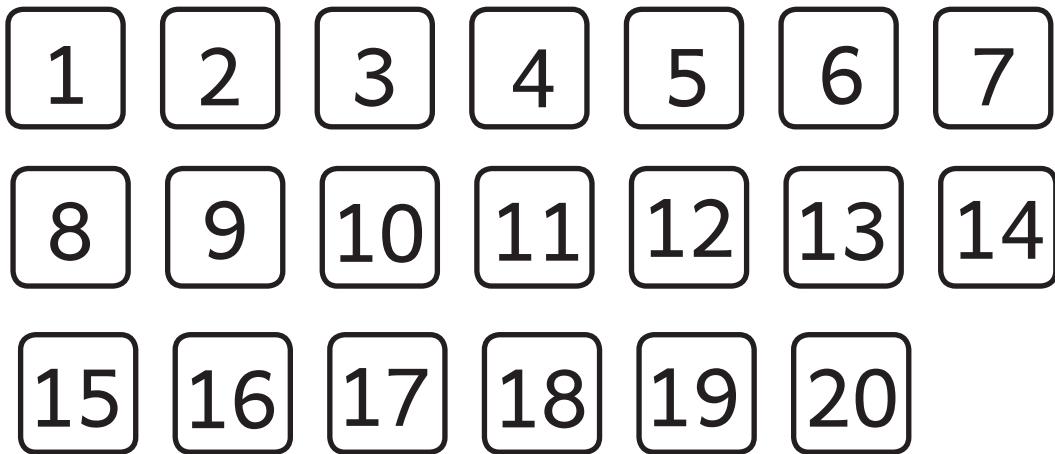
# NUMBERS

## NUMBER CONCEPT

Week 1 Lesson 1

### Position names

Number cards



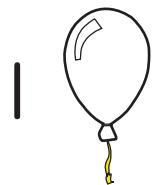
### Activity

Match the number cards above with their position.

eleventh	11	fifteenth	_____
twelfth	_____	sixteenth	_____
thirteenth	_____	seventeenth	_____
fourteenth	_____	eighteenth	_____
nineteenth	19	twentieth	_____

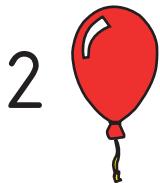
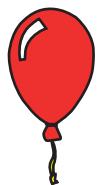
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## Work to do



1

6



2

7



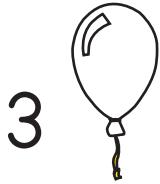
11



16

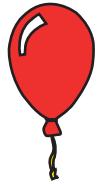


4



3

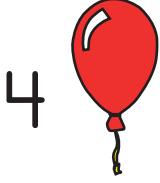
8



12



17

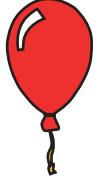


4

9



13



18

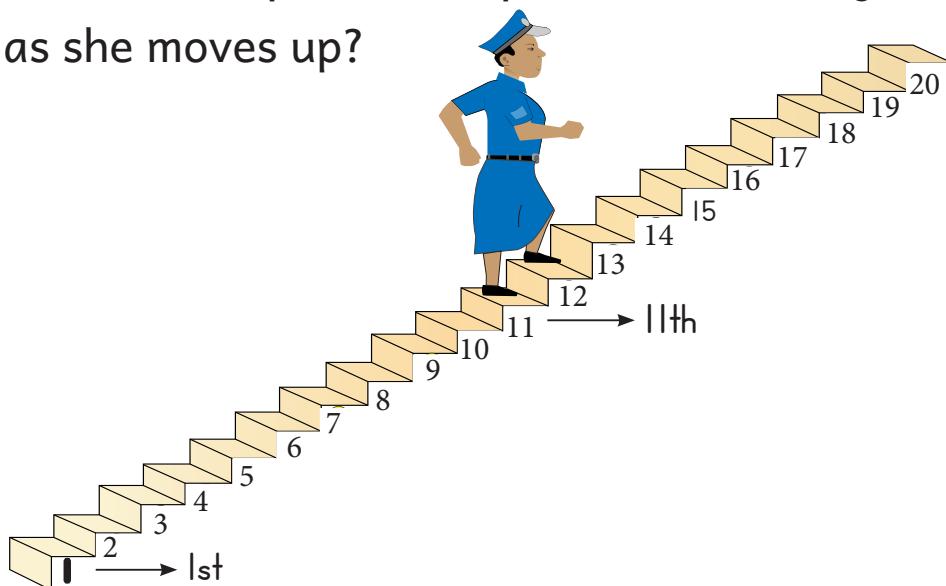


What is the position of the red balloons?

## Position 1st to 20th

### Example

What is the position of policewoman's right foot as she moves up?



### Work to do

Complete the table

Number	Position
11	11th
12	12th
13	13th
14	14th
15	15th
16	
17	
18	
19	
20	

## Counting in Tens

### Activity

Count

80, 90, 100, 110, 120, 130, 140

310, 320, 330, 340, 350, 360, 370

520, 530, 540, 550, 560, 570, 580

920, 930, 940, 950, 960, 970, 980, 990

810, 800, 790, 780, 770, 760, 750

1000, 990, 980, 970, 960, 950, 940

600, 590, 580, 570, 560, 550, 540

### Work to do

Fill in the missing numbers

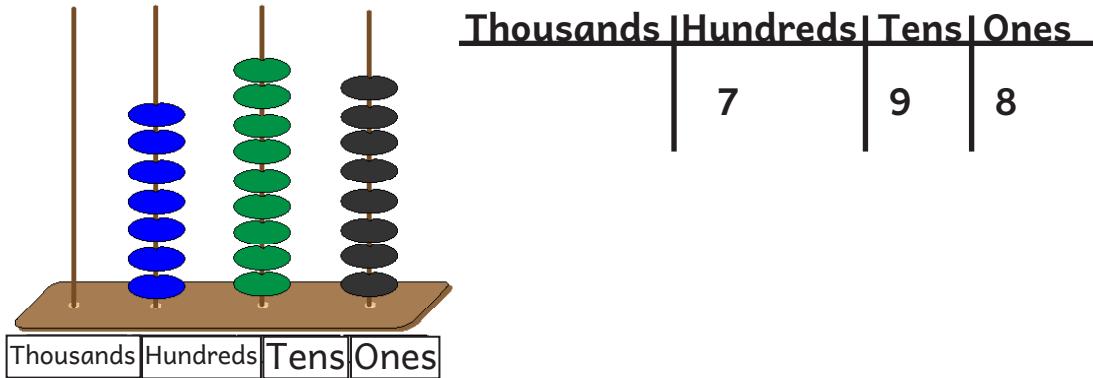
1. 280, 290, 300, 310, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
2. 360, 350, 340, 330, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
3. 580, 570, 560, 550, 540, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
4. 780, 790, 800, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
5. 890, 900, 910, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_



## Place value

### Example 1

798 can be shown as follows

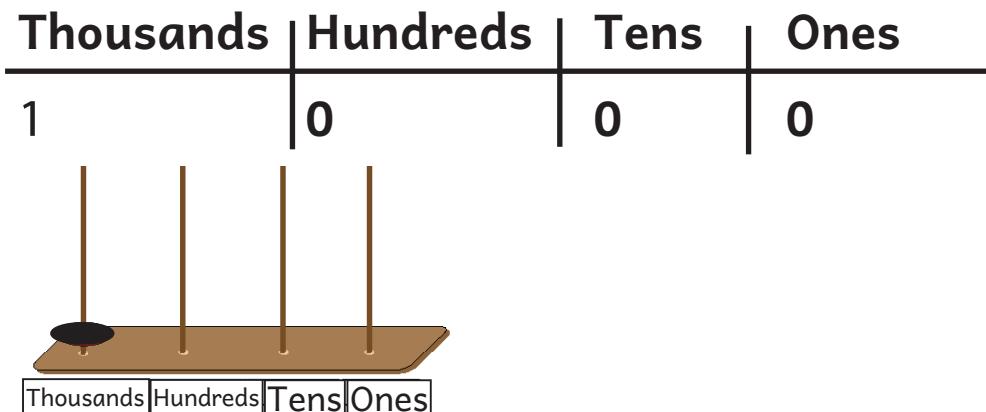


7 hundreds, 9 Tens , 8 Ones

---

### Example 2

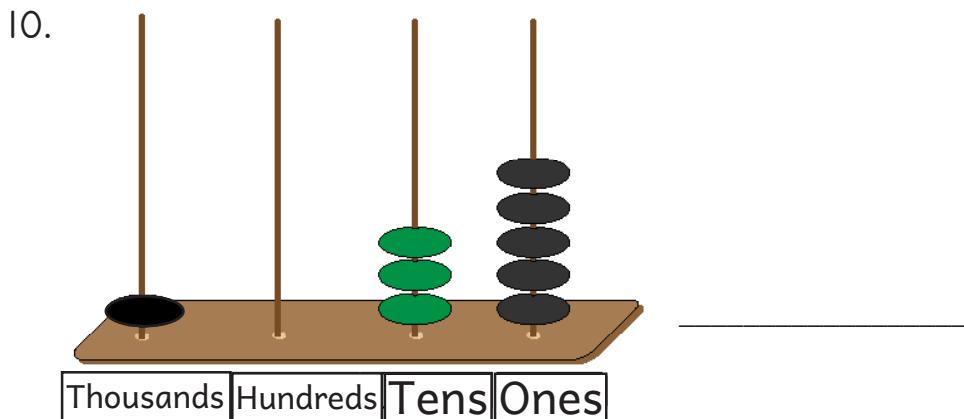
1000 is shown on the place value chart as



That is 1 thousands 0 hundreds, 0 tens and 0 ones.

**Work to do****Fill in the missing numbers**

1.  $205 = \underline{\hspace{1cm}} \text{ hundreds } \underline{\hspace{1cm}} \text{ tens } \underline{\hspace{1cm}} \text{ ones}$
2.  $983 = \underline{\hspace{1cm}} \text{ hundreds } \underline{\hspace{1cm}} \text{ tens } \underline{\hspace{1cm}} \text{ ones}$
3.  $\underline{\hspace{1cm}} = \underline{4} \text{ hundreds } \underline{5} \text{ tens } \underline{6} \text{ ones}$
4.  $7291 = \underline{\hspace{1cm}} \text{ thousands } \underline{\hspace{1cm}} \text{ hundreds } \underline{\hspace{1cm}} \text{ tens } \underline{\hspace{1cm}} \text{ ones}$
5.  $8457 = \underline{\hspace{1cm}} \text{ thousands } \underline{\hspace{1cm}} \text{ hundreds } \underline{\hspace{1cm}} \text{ tens } \underline{\hspace{1cm}} \text{ ones}$
6.  $\underline{\hspace{1cm}} = \underline{1} \text{ thousands } \underline{3} \text{ hundreds } \underline{4} \text{ tens } \underline{9} \text{ ones}$
7.  $\underline{\hspace{1cm}} = \underline{5} \text{ thousands } \underline{9} \text{ hundreds } \underline{8} \text{ tens } \underline{6} \text{ ones}$
8.  $3546 = \underline{\hspace{1cm}} \text{ thousands } \underline{\hspace{1cm}} \text{ hundreds } \underline{\hspace{1cm}} \text{ tens } \underline{\hspace{1cm}} \text{ ones}$
9.  $521 = \underline{\hspace{1cm}} \text{ thousands } \underline{\hspace{1cm}} \text{ hundreds } \underline{\hspace{1cm}} \text{ tens } \underline{\hspace{1cm}} \text{ ones}$



## Reading Numbers 1 to 1000

Read

101	204	350	427	505
687	790	812	855	900
999	1000	10	20	35
40	45	50	65	70
11	12	13	33	47
67	89	93	26	555
452	835	326	142	742

### Work to do

1. In turns learners pair out and read whole numbers using number cards.
2. In groups learners read whole numbers using number cards.

## Reading and writing numbers in words

### Activity

Match

#### Number

12

15

23

35

57

69

70

80

94

100

#### Words

**fifteen**

**thirty five**

**eighty**

**twelve**

**fifty seven**

**ninety four**

**One hundred**

**twenty three**

**sixty nine**

**seventy**

### Work to do

Write the numbers

#### Number

1. 66

2. 27

3. 58

4. 98

5. 19

6. \_\_\_\_\_

7. 99

8. \_\_\_\_\_

#### Words

Sixty six

\_\_\_\_\_

fifty eighth

\_\_\_\_\_

Fifty nine

\_\_\_\_\_

One hundred



## Number Patterns 1 to 1000

### Example 1

Work out the missing numbers

20, 25, 30, \_\_\_, \_\_\_, \_\_\_, 50

Counting on in 5's the missing numbers are

35, 40, 45

### Example 2

Work out the missing numbers

1, 5, 9, \_\_\_, \_\_\_, 21, \_\_\_, 29

The rule is adding 4 to get the next number.

From 9 the next numbers is  $9 + 4$  to get 13

The next number is  $13 + 4$  to get 17.

From 17 the next is  $17 + 4$  to get 21.

From 21 the next number is  $21 + 4$  to get 25

### Example 3

Work out the missing numbers

403, 413, 423, \_\_\_, \_\_\_

By counting on in 10's the missing numbers are 433, 443.

### Work to do

Fill in the missing numbers

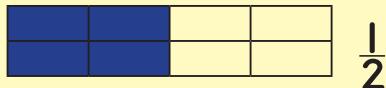
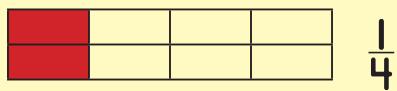
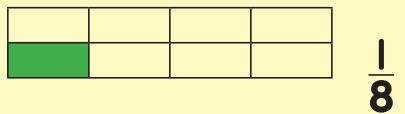
1. 30, 29, 28, 27, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
2. 128, 129, 130, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
3. 432, 434, 436, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
4. 770, 760, 750, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
5. 830, 880, 930, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
6. 228, 223, 218, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_



### Comparing $\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{1}{8}$

#### Example

Which fraction is bigger?



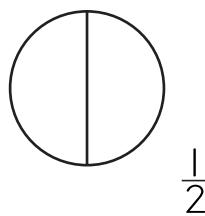
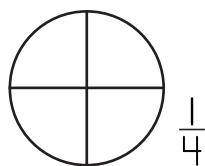
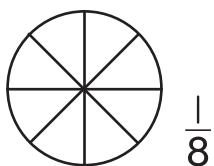
$\frac{1}{4}$  is bigger than  $\frac{1}{8}$

$\frac{1}{2}$  is bigger than  $\frac{1}{4}$

$\frac{1}{2}$  is bigger than  $\frac{1}{8}$

#### Work to do

1. Shade



2. Which is bigger?

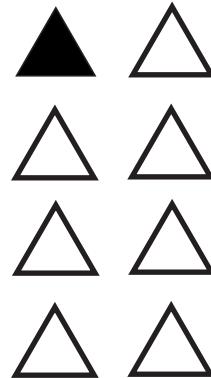
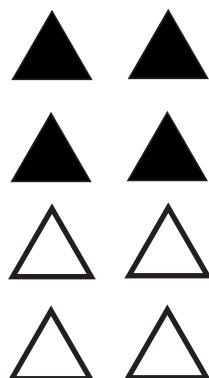
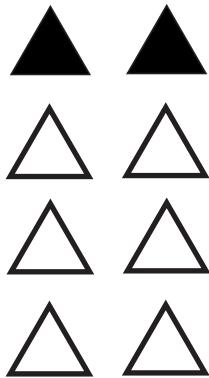
a)  $\frac{1}{8}$  or  $\frac{1}{2}$  ? \_\_\_\_\_

b)  $\frac{1}{2}$  or  $\frac{1}{4}$  ? \_\_\_\_\_

# Comparing $\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{1}{8}$

## Example

Which fraction is bigger?



$$\frac{1}{4} \text{ of } 8 = 2$$

$$\frac{1}{2} \text{ of } 8 = 4$$

$$\frac{1}{8} \text{ of } 8 = 1$$

$\frac{1}{2}$  greater than  $\frac{1}{4}$

$\frac{1}{4}$  greater than  $\frac{1}{8}$

$\frac{1}{2}$  greater than  $\frac{1}{8}$



---

## Work to do

Which fraction is bigger?

1.  $\frac{1}{2}$  of 20 or  $\frac{1}{4}$  of 20 ?

2.  $\frac{1}{4}$  of 16 or  $\frac{1}{8}$  of 16 ?

3.  $\frac{1}{4}$  of 12 or  $\frac{1}{2}$  of 32 ?

Which is the biggest fraction?

4.  $\frac{1}{4}$  of 24 or  $\frac{1}{2}$  of 32 or  $\frac{1}{8}$  of 24

5.  $\frac{1}{2}$  of 32 or  $\frac{1}{8}$  of 32 or  $\frac{1}{4}$  of 32

## Adding a 3 - digit number to a 1 - digit number

### Examples

1.  $472$

$$\begin{array}{r} + \\ 6 \\ \hline 478 \end{array}$$

2.  $690 + 8 = \boxed{\phantom{00}}$

$$\begin{array}{r} 690 \\ + 8 \\ \hline 698 \end{array}$$

### Work to do

Add

1.  $436$

$$\begin{array}{r} + \\ 3 \\ \hline \end{array}$$

2.  $247$

$$\begin{array}{r} + \\ 2 \\ \hline \end{array}$$

3.  $452$

$$\begin{array}{r} + \\ 7 \\ \hline \end{array}$$

4.  $650$

$$\begin{array}{r} + \\ 9 \\ \hline \end{array}$$

5.  $256 + 3 = \boxed{\phantom{00}}$

6.  $621 + 7 = \boxed{\phantom{00}}$

7.  $784 + 5 = \boxed{\phantom{00}}$

8.  $923 + 6 = \boxed{\phantom{00}}$

9. Ali had **800** goats. He bought **8** more goats. How many goats does he have now?
10. Mary had **102** packets of unga. She bought **7** more packets. How many packets does she have altogether?



**Adding a 3 - digit number to a 2 - digit number****Example**

$$\begin{array}{r} 670 \\ + 28 \\ \hline 698 \end{array}$$

$$2. \quad 572 + 27 = \boxed{\phantom{00}}$$

$$\begin{array}{r} 572 \\ + 27 \\ \hline 599 \end{array}$$

**Work to do**

Add

$$\begin{array}{r} 625 \\ + 34 \\ \hline \end{array}$$

$$\begin{array}{r} 216 \\ + 52 \\ \hline \end{array}$$

$$\begin{array}{r} 400 \\ + 60 \\ \hline \end{array}$$

$$\begin{array}{r} 608 \\ + 40 \\ \hline \end{array}$$

$$\begin{array}{r} 900 \\ + 99 \\ \hline \end{array}$$

$$6. \quad 921 + 65 = \boxed{\phantom{00}}$$

$$7. \quad 862 + 34 = \boxed{\phantom{00}}$$

$$8. \quad 743 + 51 = \boxed{\phantom{00}}$$

$$9. \quad 600 + 90 = \boxed{\phantom{00}}$$

10. Otieno had **125** bottles of juice. He bought **72** more bottles of juice. How many bottles of juice does he have altogether?

- II. Muso had **200** packets of pencils. He bought **66** more packets of pencils. How many packets of pencils does he have altogether?

**Adding a 3 - digit number to a 1 - digit number****Example**

$$\begin{array}{r} 172 \\ + 9 \\ \hline 181 \end{array}$$

$$\begin{array}{r} 409 \\ + 8 \\ \hline 417 \end{array}$$

**Work to do :****Add**

$$\begin{array}{r} 126 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 214 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 326 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 484 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 688 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 714 \\ + 8 \\ \hline \end{array}$$

$$7. \quad 525 + 8 = \boxed{\phantom{00}}$$

$$8. \quad 672 + 9 = \boxed{\phantom{00}}$$

$$9. \quad 918 + 8 = \boxed{\phantom{00}}$$

$$10. \quad 982 + 8 = \boxed{\phantom{00}}$$

- II.
11. Fatuma had **105** buttons in her shop. She bought another **6** buttons. How many buttons does she have altogether?
12. A box of mangoes weighs **126** kg. Another **48**kg of mangoes were added. How many kilograms are there altogether?



## Adding a 3 - digit number to a 2 - digit number

**Example**

$$\begin{array}{r} | \\ \text{l. } 462 \\ + 73 \\ \hline 535 \end{array}$$

$$2. 782 + 47 = \boxed{\phantom{00}}$$

Re-write this as

$$\begin{array}{r} | \\ 782 \\ + 47 \\ \hline 829 \end{array}$$

**Work to do**

Add

$$\begin{array}{r} | \\ \text{l. } 260 \\ + 57 \\ \hline \end{array}$$

$$\begin{array}{r} | \\ \text{2. } 384 \\ + 35 \\ \hline \end{array}$$

$$\begin{array}{r} | \\ \text{3. } 672 \\ + 47 \\ \hline \end{array}$$

$$\begin{array}{r} | \\ \text{4. } 652 \\ + 93 \\ \hline \end{array}$$

$$5. 567 + 42 = \boxed{\phantom{00}}$$

$$6. 784 + 55 = \boxed{\phantom{00}}$$

$$7. 856 + 63 = \boxed{\phantom{00}}$$

8. Peter had **246** bottles of soda in his shop. He bought **70** more bottles of soda. How many bottles of soda does he have altogether?

9. Juma has **256** oranges. Amina has **71** oranges. How many oranges do they have altogether?

10. Lesiampe has **174** goats. His brother Leshire has **92** goats. How many goats do they have altogether?

## Adding a 3 - single digit numbers

### Example 1

$$7 + 6 + 9 = \boxed{\phantom{00}}$$

Write **6** as **5 + 1**

$$7 + 5 + 1 + 9 =$$

$$7 + 5 + 10 =$$

Write **5** as **3 + 2**

$$7 + 3 + 2 + 10 =$$

$$10 + 2 + 10 =$$

$$2 + 20 = 22$$

### Example 2

$$5 + 8 + 6 = \boxed{\phantom{00}}$$

$$13 + 6 = 19$$

### Work to do

Add

1.  $3 + 4 + 8 = \boxed{\phantom{00}}$

2.  $6 + 7 + 5 = \boxed{\phantom{00}}$

3.  $7 + 4 + 6 = \boxed{\phantom{00}}$

4.  $7 + 8 + 6 = \boxed{\phantom{00}}$

5.  $8 + 9 + 7 = \boxed{\phantom{00}}$

6.  $9 + 9 + 9 = \boxed{\phantom{00}}$

7.  $\begin{array}{r} 6 \\ 4 \\ + 3 \\ \hline \end{array}$

8.  $\begin{array}{r} 7 \\ 6 \\ + 8 \\ \hline \end{array}$

9.  $\begin{array}{r} 9 \\ 8 \\ + 4 \\ \hline \end{array}$

10.  $\begin{array}{r} 6 \\ 9 \\ + 9 \\ \hline \end{array}$



**Adding two 3-digit numbers****Example**

$$\begin{array}{r} 1. \quad 467 \\ + 221 \\ \hline 688 \end{array}$$

$$2. \quad 159 + 740 = 899$$

$$\begin{array}{r} 769 \\ + 220 \\ \hline 989 \end{array}$$

**Work to do****Add**

$$\begin{array}{r} 1. \quad 375 \\ + 423 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 854 \\ + 135 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 695 \\ + 302 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 632 \\ + 103 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 191 \\ + 806 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 329 \\ + 260 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 807 \\ + 191 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 275 \\ + 310 \\ \hline \end{array}$$

$$9. \quad 737 + 251 = \boxed{\phantom{00}} \quad 10. \quad 426 + 302 = \boxed{\phantom{00}}$$

## Adding two 3 - digit numbers

### Example

I.  $235$

$+ 147$

$$\begin{array}{r} & | \\ 235 & \\ + 147 & \\ \hline 382 & \end{array}$$

### Steps

I. Add **5** ones to **7** ones to get **12** ones. Write **2** in ones column, and take **1** tens to tens column.

2. Add **1** tens to **3** tens to **4** tens to get **8** tens. write **8** in tens column.

3. Add **2** hundreds to **1** hundreds to get **3** hundreds Write **3** in the hundreds column.

2.  $281$

$+ 136$

$$\begin{array}{r} & | \\ 281 & \\ + 136 & \\ \hline 417 & \end{array}$$

### Steps

I. Add **1** ones to **6** ones to get **7** ones.

2. Add **8** tens to **3** tens to get **11** tens. Write **1** in tens column and take **1** hundreds to the hundreds column.

3. Add **1** hundreds to **2** hundreds to **1** hundreds to get **4** hundreds.

4. Write **4** in hundreds column.



## Work to do

Add

$$\begin{array}{r} 426 \\ + 348 \\ \hline \end{array}$$

$$\begin{array}{r} 257 \\ + 234 \\ \hline \end{array}$$

$$\begin{array}{r} 363 \\ + 129 \\ \hline \end{array}$$

$$\begin{array}{r} 227 \\ + 292 \\ \hline \end{array}$$

$$\begin{array}{r} 122 \\ + 181 \\ \hline \end{array}$$

$$\begin{array}{r} 479 \\ + 214 \\ \hline \end{array}$$

$$7. 546 + 219 = \boxed{\phantom{00}}$$

$$8. 127 + 292 = \boxed{\phantom{00}}$$

$$9. 248 + 171 = \boxed{\phantom{00}}$$

$$10. 567 + 182 = \boxed{\phantom{00}}$$

## Number patterns

### Example 1

Create a pattern in 5s starting at 150

You make 5 dashes \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

The pattern in 5s starting at 150 is

150, 155, 160, 165, 170, 175

### Example 2

Create a pattern in 10's starting at 300

You make 5 dashes \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

The pattern in 10's starting at 300 is

300, 310, 320, 330, 340, 350

## Work to do

### Create patterns

1. Create a pattern in 10's starting at 320
2. Create a pattern in 100's starting at 550
3. Create a pattern in 50's starting at 630
4. Create a pattern in 5's starting at 811
5. Create a pattern in 20's starting at 460



## Subtracting a 2 - digit number from a 3 - digit number

### Example 1

$$\begin{array}{r} 537 \\ - 24 \\ \hline 513 \end{array}$$

#### Steps

1. Subtract **4** ones from **7** ones to get **3** ones
2. Subtract **2** tens from **3** tens to get **1** tens.
3. Bring down **5** hundreds

### Example 2

$$897 - 25 = \boxed{\phantom{00}}$$

$$\begin{array}{r} 897 \\ - 25 \\ \hline 872 \end{array}$$

#### Steps

1. Arrange vertically
2. Subtract **5** ones from **7** ones to get **2** ones
3. Subtract **2** tens from **9** tens to get **7** tens.
4. Write **8** in the hundreds place

### Work to do

#### Subtract

1)  $378$   
 $\underline{- 52}$

2)  $267$   
 $\underline{- 23}$

3)  $146$   
 $\underline{- 15}$

4)  $489$   
 $\underline{- 63}$

5)  $596$   
 $\underline{- 42}$

6)  $985$   
 $\underline{- 14}$

---

7.  $689 - 72 =$

8.  $689 - 65 =$

10. A town has **196** adults. There are **84** men.  
How many are women?



## Subtracting a 2 - digit number from a 3 - digit number

### Example 1

- 266      **Steps**
- $$\begin{array}{r} 266 \\ - 82 \\ \hline \end{array}$$
1. Subtract **2** ones from **6** ones to get **4** ones.
  2. Since you can not subtract **8** tens from **6** tens, regroup **2** hundreds as **1** hundreds and **10** tens. Add **10** tens to **6** tens to get **16** tens.
  3. Subtract **8** tens from **16** tens to get **8** tens.
  4. Bring down the remaining **1** hundreds.
- $$\begin{array}{r} 1\cancel{6}6 \\ - 82 \\ \hline 184 \end{array}$$

### Example 2

- 646      **Steps**
- $$\begin{array}{r} 646 \\ - 73 \\ \hline \end{array}$$
1. Subtract **3** ones from **6** ones to get **3** ones.
  2. Since you can not subtract **7** tens from **4** tens, regroup **6** hundreds as **5** hundreds and **10** tens. Add **10** tens to **4** tens to get **14** tens.
  3. Subtract **7** tens from **14** tens to get **7** tens.
  4. Bring down the remaining **5** hundreds.
- $$\begin{array}{r} 5\cancel{6}46 \\ - 73 \\ \hline 573 \end{array}$$

---

## Work to do

### Subtraction

1.  $135$   
- 72  
\_\_\_\_\_

2.  $347$   
- 62  
\_\_\_\_\_

3.  $349$   
- 52  
\_\_\_\_\_

4.  $734$   
- 63  
\_\_\_\_\_

5.  $456$   
- 75  
\_\_\_\_\_

6.  $839$   
- 43  
\_\_\_\_\_

7.  $923$   
- 72  
\_\_\_\_\_

8.  $527$   
- 94  
\_\_\_\_\_

9.  $337$   
- 54  
\_\_\_\_\_

10. A farmer harvested **425** oranges. He gave **64** of them to children. How many oranges were left?



## Subtracting a 3 - digit number from a 3 - digit number

### Example 1

$$\begin{array}{r} 416 \\ - 245 \\ \hline \end{array}$$

#### Steps

1. Subtract **5** ones from **6** ones to get **1** ones.
2. Since you can not subtract **4** tens from **1** tens, regroup **4** hundreds as **3** hundreds and **10** tens. Add **10** tens to **1** tens to get **11** tens.
3. Subtract **4** tens from **11** tens to get **7** tens
4. Subtract **2** hundreds from the remaining **3** hundreds to get **1** hundreds

$$\begin{array}{r} 3\cancel{4}16 \\ - 245 \\ \hline 171 \end{array}$$

### Example 2

$$\begin{array}{r} 518 \\ - 457 \\ \hline \end{array}$$

#### Steps

$$\begin{array}{r} 4\cancel{5}18 \\ - 457 \\ \hline 61 \end{array}$$

1. Subtract **7** ones from **8** ones to get **1** ones.
2. Since you can not subtract **5** tens from **1** tens, regroup **5** hundreds as **4** hundreds and **10** tens. Add **10** tens to **1** tens to get **11** tens.
3. Subtract **5** tens from **11** tens to get **6** tens
4. Subtract **4** hundreds from the remaining **4** hundreds to get **0** hundreds

## Work to do

### Subtract

$$\begin{array}{r} 527 \\ - 241 \\ \hline \end{array}$$
  

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---

$$\begin{array}{r} 306 \\ - 245 \\ \hline \end{array}$$
  

---

---

$$\begin{array}{r} 675 \\ - 193 \\ \hline \end{array}$$
  

---

---

$$\begin{array}{r} 736 \\ - 373 \\ \hline \end{array}$$
  

---

---

$$\begin{array}{r} 957 \\ - 562 \\ \hline \end{array}$$
  

---

---

$$\begin{array}{r} 489 \\ - 197 \\ \hline \end{array}$$
  

---

---

$$\begin{array}{r} 778 \\ - 593 \\ \hline \end{array}$$
  

---

---

$$\begin{array}{r} 807 \\ - 432 \\ \hline \end{array}$$
  

---

---

9. A forester had **638** seedlings. He gave out **475** seedlings. How many seedlings was he left with?
10. A school bought **535** pencils. The headteacher gave **365** pencils to his learners. How many pencils were left?



## Subtracting multiples of 10

### Example 1

$$\begin{array}{r} 680 \\ - 130 \\ \hline \end{array}$$

#### Steps

1. Subtract 0 ones from 0 ones to get 0 ones.
2. Subtract 3 tens from 8 tens to get 5 tens
3. Subtract 1 hundreds from 6 hundreds to get 5 hundreds

$$\begin{array}{r} 680 \\ - 130 \\ \hline 550 \end{array}$$

### Example 2

$$770 - 40 = \boxed{\phantom{00}}$$

#### Steps

1. Arrange vertically
2. Subtract 0 ones from 0 ones to get 0 ones.
3. Subtract 4 tens from 7 tens to get 3 tens
4. Bring down 7 hundreds

$$\begin{array}{r} 770 \\ - 40 \\ \hline 730 \end{array}$$

## Work to do

### Subtract

$$\begin{array}{r} 190 \\ - 30 \\ \hline \end{array}$$

$$\begin{array}{r} 780 \\ - 70 \\ \hline \end{array}$$

$$\begin{array}{r} 670 \\ - 550 \\ \hline \end{array}$$

$$\begin{array}{r} 380 \\ - 160 \\ \hline \end{array}$$

$$\begin{array}{r} 940 \\ - 230 \\ \hline \end{array}$$

$$\begin{array}{r} 880 \\ - 370 \\ \hline \end{array}$$

$$7. \quad 440 - 320 = \boxed{\phantom{00}}$$

$$8. \quad 590 - 160 = \boxed{\phantom{00}}$$

$$9. \quad 680 - 150 = \boxed{\phantom{00}}$$

10. On Monday, **750** passengers got onto a train from Mombasa to Nairobi. At Voi, **30** passengers got off the train. How many passengers were left in the train?



## Numbers in patterns

### Example 1

Workout missing numbers

- I. 800, 750, 700, 650, \_\_\_, \_\_\_

### Steps

2. Get the rule by getting the difference through subtraction between two numbers following each other.
3. The rule is subtract 50.
4. To get the next number, subtract 50 from 650. The next number is 600.
5. To get the next missing number, subtract 50 from 600. The number is 550.

### Example 2

- I. 975, 825, \_\_\_, 525, 475, \_\_\_

### Steps

2. Get the rule by getting the difference through subtraction between two numbers following each other.
3. The rule is subtract 150.
4. To get the missing number, subtract 150 from 825 .The next number is 675.
5. To get the next missing number, subtract 150 from 475. The number is 325.

## Work to do

Work out the missing numbers

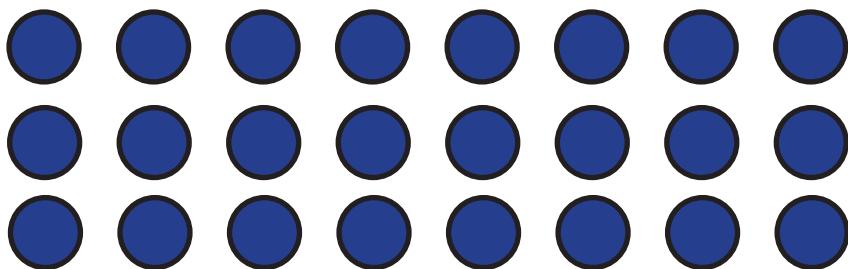
1. 535, 460, 385, 310, \_\_\_, \_\_\_
2. 640, 580, 520, 460, \_\_\_, \_\_\_
3. 450, 300, 250, 200, \_\_\_, \_\_\_
4. 500, 425, \_\_\_, 325, 300, \_\_\_
5. 650, 630, \_\_\_, 590, 570, \_\_\_
6. 850, 700, 550, 400, \_\_\_, \_\_\_
7. 520, 440, 360, 280, \_\_\_, \_\_\_



**Multiplying 8, 9 and 10****Example 1**

$$3 \times 8 = \square$$

There are 3 groups of 8 toy cars each

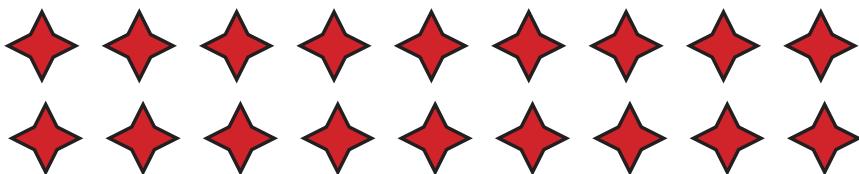


$$3 \times 8 = 24$$

**Example 2**

$$2 \times 9 = \square$$

There are 2 groups of 9 cows each



$$2 \times 9 = 18$$

---

## Work to do

### Multiply

1.  $8 \times 4 =$

5.  $9 \times 3 =$

2.  $8 \times 10 =$

6.  $9 \times 7 =$

3.  $10 \times 5 =$

7.  $8 \times 9 =$

4.  $8 \times 8 =$

8.  $\begin{array}{r} 10 \\ \times 2 \\ \hline \end{array}$

9.  $\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$

10.  $\begin{array}{r} 9 \\ \times 1 \\ \hline \end{array}$



# Multiplying 8, 9 and 10

Use multiplication table to multiply

$\times$	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

## Examples

$$1. \quad 8 \times 7 = 56$$

$$2. \quad 10 \times 9 = 90$$

## Work to do

Complete the multiplication table below

I.

X	1	2	3	4	5
8				32	
9		18			
10					50

## Multiply

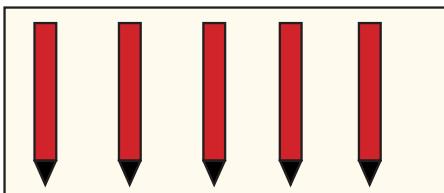
2.  $8 \times 9 = \boxed{\phantom{00}}$

3.  $9 \times 5 = \boxed{\phantom{00}}$

4.  $10 \times 8 = \boxed{\phantom{00}}$

5.  $9 \times 9 = \boxed{\phantom{00}}$



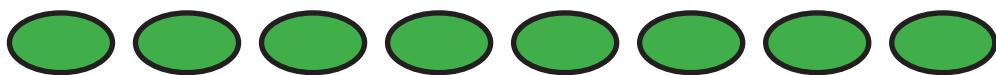
**Multiplying 8, 9 and 10 by 1 - 10****Examples**

- I. A pencil costs sh.10. How much do I pay for **5** pencils?

$$\begin{aligned} \text{Sh.10} + \text{sh.10} + \text{sh.10} + \text{sh.10} + \text{sh.10} \\ = 5 \times \text{Sh.10} = \text{sh.50} \end{aligned}$$


---

2. A cow has four legs. How many legs do **8** cows have?



$$8 \times 4 = 32 \text{ legs}$$

**Work to do****Multiply**

- I. Jane sells **10** apples every day. How many apples will she sell in **9** days?
2. A cow produces **8** litres of milk in a day. How many litres will it produce in **5** days?
3. James sells **9** packets of milk every day. How

- many packets of milk will he sell in **8** days?
4. A farmer planted **10** rows of cabbage in one hour. How many rows of cabbage did he plant in **5** hours?
5. There are **4** windows in a classroom. How many windows are there in **8** classrooms?



## Dividing numbers

X	1	2	3	4	5	6	7	8	9	↑ 9	↑ 10
1	1	2	3	4	5	6	7	8	9		10
2	2	4	6	8	10	12	14	16	18		20
3	3	6	9	12	15	18	21	24	27		30
4	4	8	12	16	20	24	28	32	36		40
5	5	10	15	20	25	30	35	40	45		50
6	6	12	18	24	30	36	42	48	54		60
7	7	14	21	28	35	42	49	56	63		70
8	8	16	24	32	40	48	56	64	72		80
9	9	18	27	36	45	54	63	72	81	90	
10	10	20	30	40	50	60	70	80	90		100

## Example

1.  $54 \div 6 = \boxed{\phantom{00}}$

## Steps

1. Read the number **54** on the multiplication table.
  2. Move horizontally on the row to identify **6**.
  3. Move vertically on the column to identify **9**.
- $54 \div 6 = 9$
- 9
- 6  $\overline{)54}$
- 54
- 00

2.  $9 \overline{)90}$

$$\begin{array}{r}
 & 10 \\
 9 & \overline{)90} \\
 - & 90 \\
 \hline
 & 00
 \end{array}$$

$90 \div 9 = 10$

## Work to do

### Divide

$$1. \quad 48 \div 6 = \boxed{\phantom{00}}$$

$$2. \quad 63 \div 7 = \boxed{\phantom{00}}$$

$$3. \quad 81 \div 9 = \boxed{\phantom{00}}$$

$$4. \quad 72 \div 8 = \boxed{\phantom{00}}$$

$$5. \quad 54 \div 6 = \boxed{\phantom{00}}$$

$$6. \quad 7 \overline{)49}$$

$$7. \quad 10 \overline{)60}$$

$$8. \quad 9 \overline{)63}$$

$$9. \quad 8 \overline{)64}$$



## Word questions involving division

### Example

**45** pupils were shared equally among **5** cars.  
How many pupils did each car carry.

$$45 \div 5 = \boxed{\phantom{00}}$$

$$45 \div 5 = 9$$

1. John shared sh **72** equally among **9** children.  
How much money did each get?
2. Nasieku shared **64** oranges equally among **8** children. How many oranges did each child get?
3. Halima had **36** fish. She shared them equally among her **4** daughters. How many fish did each daughter get?
4. Perez shared **24** biscuits equally among **6** children. How many biscuits did each child get?
5. An egg tray has **24** eggs. The eggs are shared equally among **3** people. How many eggs did each person get?
6. Mother had **56** bananas. She shared them equally among her **8** children. How many bananas did each child get?

# MEASUREMENT

## LENGTH

Week 6 Lesson 3

### Adding Lengths in Metres

#### Example

Add the lengths



$$\text{Longer length} + \text{shorter length} =$$

$$\text{Longer length} + \text{longer length} =$$

$$\text{Shorter length} + \text{shorter length} =$$

#### Work to do

1. The distance from grade **3A** to grade **3B** is **5** metres. The distance from grade **3B** to the staffroom is **8** metres. What is the distance from grade **3A** to the staffroom.



2. The distance from the gate to the office is **10** metres. John walked from the gate to the office and back. How many metres did he walk?
3. The distance from Bens home to the market is **450** metres. The distance from the market to the school is **360** metres. What is the distance in metres from Bens home to the school.

## Subtracting lengths in metres

### Example 1

John has a 5m rope. He gives Paul 4m of the rope. How many metres of rope was John left with?

$$5\text{m} - 4\text{m} = 1\text{m}$$



### Example 2

Subtract 450m from 625m. Arrange as follows

$$\begin{array}{r} 625\text{m} \\ - \underline{450\text{m}} \\ \hline 175\text{m} \end{array}$$

$$625\text{m} - 450\text{m} = 175\text{m}$$

### Work to do

1. A piece of timber is 27m long. 7m is cut from it. How long is the remaining timber?
2. The length of a classroom block is 87m. A worker painted 58m. How many metres remained?



- 
3. Maria's home is **687m** from the market. After walking for **397m** from the market towards home, maria rested. How far was she from home when she rested?
  4. Peter left home for school, which is **200m** away. After walking for **70m**, Peter stopped. How far was he from the school?
  5. Mwende walked to the hospital which is **870m** away from home. After walking for **630m**, mwende rested. What was the remaining distance?

## Adding and subtracting mass in kilograms

### Example 1

What is the total mass of beans and maize?



Beans



Maize

$$26\text{kg} + 11\text{kg} = 37\text{kg}$$

The mass of beans and maize is **37kg**

### Example 2

Brandon has **28kg** of sugar. He gave Jusper **19kg**. How many kg were left?



$$28\text{kg} - 19\text{kg} = 9\text{kg}$$

Brandon is left with **9kgs** of potatoes

## Work to do

### Add

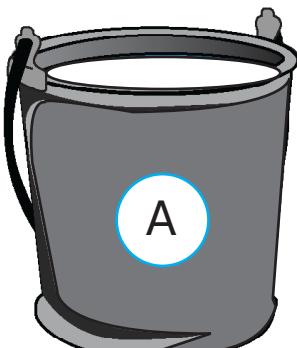
1. Maina has **4kg** beans and **18kg** of maize. How many kg does she have altogether.
2. Kuria has **37kg** of coffee and **16kg** of tea leaves. How many kg does he have altogether?
3. Kefa has **62kg** of meat and **7kg** of potatoes. How many kg does he have altogether?
4. A shopkeeper has **158kg** of sugar. He sells **28kg**. How many kg of sugar are left?
5. Patel had **120kg** of rice. he sold **75kg**. How many kg were left.
6. Jerry bought **25kg** of meat. He gave Elijah **17kgs**. How many kg was he left with?
7. Cyprine had **56kg** of beans. She cooked **9kg**. how many kg were left?
8. Juma has **42kg** of potatoes. She gave Fatuma **20kg**. How many kg of potatoes was she left with?

### Measuring capacity in litres

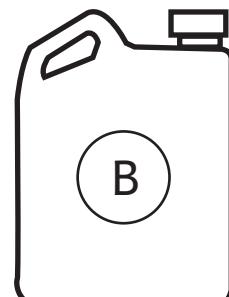
#### Activity

Measure to find out how much each can hold.

Use the 1 litre container to measure.



Container



Container

$$A = \underline{\hspace{2cm}} \text{ litres}$$

$$B = \underline{\hspace{2cm}} \text{ litres}$$

#### Work to do

Measure the capacity of the following containers using 1 litre container.

Container	Capacity in litres
Bucket	<hr/>
Jerrican	<hr/>
Sufuria	<hr/>
Basin	<hr/>
Jug	<hr/>

## Subtract capacity in litres

### Example

A lorry was transporting 81 litres of water. On the way, 7 litres spilled. How many litres of water were remained?

**Litres in the lorry = 81**

**Litres poured = 7**

**Litres left =**

$$81 \text{ litres} - 7 \text{ litre} = 74 \text{ litres}$$

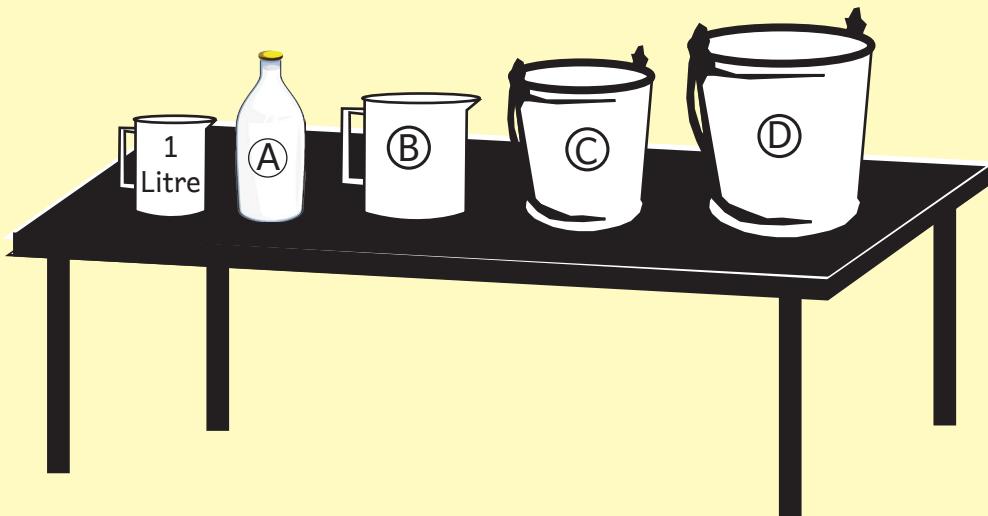
### Work to do :

1. Wambua has **53** litres of milk. He sold **19** litres. How many litres was he left with?
2. Wafula has **443** litres of cooking oil. He used **72** litres. How many litres was he left with?
3. A family had **773** litres of water at a party. They used **429** litres. How many litres was left?
4. A vehicle had **517** litres of petrol. It used **134** litres. How many litres were left?
5. A school tank had **896** litres of water. Learners used **524** litres. How many litres were left?

## Estimating capacity

### Activity

1. How many litres can container a, b, c and d hold? Record your estimates in the table.
2. Measure the actual capacity using 1 Litre container and record alongside the estimates.



### Work to do

Estimate and measure the capacity of containers

Containers	Estimate in Litres	Actual Litres	How close
A			
B			
C			
D			

## Add time in hours and minutes

### Example

1. John used **2 hours and 45 minutes** to cycle to the market. Rose used **4 hours and 5 minutes** to walk to the same market. How many hours and minutes did they use altogether?

John used **2 hours and 45 minutes**

Rose used **4 hours and 5 minutes**

$$\begin{array}{r} 2 \text{ hrs} \quad 45 \text{ mins} \\ + 4 \text{ hrs} \quad 5 \text{ mins} \\ \hline 6 \text{ hrs} \quad 50 \text{ mins} \end{array}$$

2. A bus used **4 hours and 51 minutes** to move to Nairobi. A lorry used **5 hours and 4 minutes**

to move to Nairobi. How many hours and minutes did the bus and the lorry use altogether?

Bus used **4 hours and 51 minutes**

Lorry used **5 hours and 4 minutes**

$$\begin{array}{r} 4 \text{ hrs} \quad 51 \text{ mins} \\ + 5 \text{ hrs} \quad 4 \text{ mins} \\ \hline 9 \text{ hrs} \quad 55 \text{ mins} \end{array}$$

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## Work to do

1. A tailor used **4** hours and **22** minutes to make a pair of trousers. He used **2** hours and **17** minutes to make a shirt. How many hours and minutes did he use altogether?
2. Perpetua used **2** hours and **34** minutes to wash clothes. She used **2** hours and **15** minutes to clean the compound. How many hours and minutes did she use altogether?
3. Teacher Joy used **1** hour and **15** minutes to teach language activities. She used **1** hour and **20** minutes to teach mathematics activities. How many hours and minutes did she use in teaching altogether?



## Subtract time in hours and minutes

### Example

1. Mr. Omolo used 1 hour and 45 minutes to run a race. Miss Claire used 1 hour and 15 minutes to run the same race. By how many hours and minutes was miss Claire faster than Mr. Omolo?

Mr. Omolo used 1 hour and 45 minutes

Miss Claire used 1 hour and 15 minutes

$$\begin{array}{r}
 1 \text{ hr} \quad 45 \text{ mins} \\
 - 1 \text{ hr} \quad 15 \text{ mins} \\
 \hline
 & & 30 \text{ mins}
 \end{array}$$

### Work to do

1. A cook used 3 hours and 44 minutes to roast meat. He used 2 hours and 12 minutes to bake a cake. How many more hours and minutes did he use in roasting?
2. A bus took 8 hours and 20 minutes to reach Nakuru. A matatu took 7 hours and 15 minutes. By how many hours and minutes was the matatu faster than the bus?

- 
3. A boda boda rider used **2** hours and **35** minutes to Pondamali market. A car used **1** hour and **25** minutes to reach the same market. By how many hours and minutes was the car faster than the boda boda?



## Relating money to goods and services

Picture showing goods and services



ja



Matatu



Doctor

Sh 130



School bag

Sh 900

Sh 200



Barber

Sh 50

Sh 400



air

Sh 850

### Work to do :

Fill in as a good or a service

Item	Good or Service	Amount
Hair cut	Service	sh.50
Flask	Good	sh. 300
Transport		sh. 200
Cloth repair		sh. 100
Book		sh 400
Pencil		sh. 20
School Sweater		sh. 800
Shoe repair		sh. 50

## Needs and wants

### Example

Complete the table using the following items: phone, car, clothes, toy, house, bus, radio, food, TV.

Needs	Wants

Fill in as needs and wants

Item	Needs	Wants
a) Bicycle		
b) Car		
c) Chair		
d) Table		
e) Pencil		
f) Duster		
g) Watch		
h) Clothes		
i) Toy		
j) House		
k) Book		
l) Food		



## Spending and saving

### Example

John received sh. **300** from his uncle. He spent sh. **50** on a book. How much did he save?

Shillings	Spending in shillings	Saving in shillings
300	50	250

### Work to do

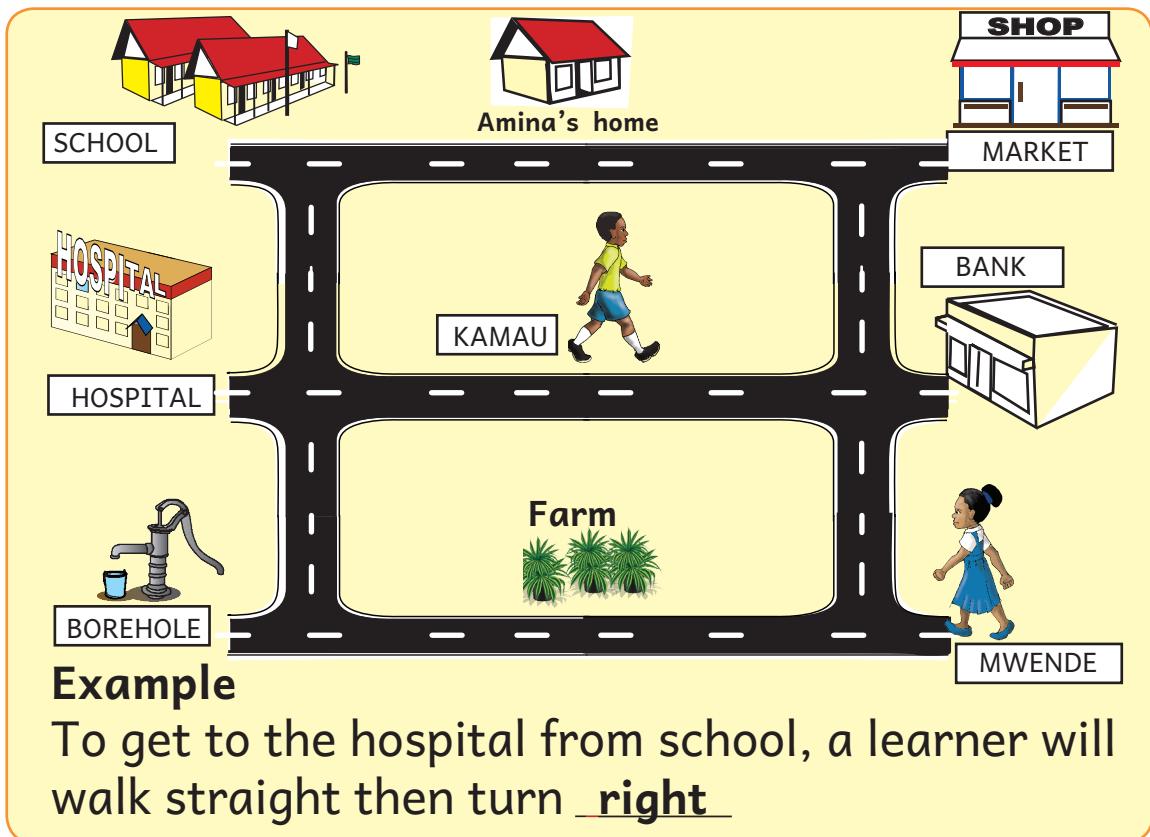
Fill in as a spending or saving

Shillings before spending	Spending in shillings	Saving in shillings
1. 500	300	200
2. 1000	400	_____
3. 650	250	_____
4. 500	400	_____
5. 200	150	_____
6. 400	350	_____
7. 1000	400	_____
8. 700	_____	400
9. 800	_____	300
10. 900	_____	500

# GEOMETRY

## POSITION AND DIRECTION Week 8 Lesson 4

### Turning to the right and left from a point



#### Example

To get to the hospital from school, a learner will walk straight then turn right

#### Work to do

Use the map above to fill in

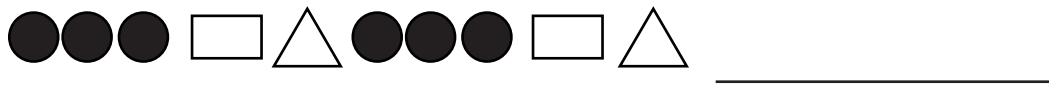
1. To get to school Mwende moves straight then turns \_\_\_\_\_
2. To visit the market Mwende will walk straight then turn \_\_\_\_\_
3. To walk to the market, Kamau will move straight then turn \_\_\_\_\_
4. From the school to the borehole, learners will walk \_\_\_\_\_
5. To visit the farm from school, a teacher will walk straight then turn \_\_\_\_\_



### Pattern making using shapes

#### Example

This is a pattern. On the right we put?



We put \_\_\_\_\_

#### Work to do

Complete the pattern

