The Past Simple tense. (yesterday tense )
Change these sentences into the Past Simple tense.

1. I get up early in the morning.
2. They pay the workers on the last day of the month.
3. She sings very well.
4. They do homework everyday.
5. She is here today.
6. Petero sweeps the house very well.
7. She gives wrong information to people.
8. The children enjoy rice and beef.
9. We say the truth to be set free.
10. Why do you write such?
The Present Perfect Tense

This is the use of has / have and the Past participle of the verb.
Change these sentences into the present perfect tense.

11. Peter sang an interesting song.
12. The girls will take all their text books.

13. Our teacher will declare a seven o'clock curfew.

14. The president will mark our books tomorrow.

15. Dr. Ricky treats patients.

16. Mr. Mutebi drives cars with very old number plates.

17. Susan grows plenty of fruits.

18. Primary Five girls write a lot of work.

19. She will sell off her car next month.

20. She takes the back seat.
Interrogative sentences.

These are sentences which ask questions.

Activity.

Write these sentences in interrogative form.

1. I want to stay here.

2. He studies at Gayaza Junior.

3. These are bad apples.

4. You were late yesterday.

5. They will go there.

6. He has told you.

7. We must speak the truth.

8. She ought to start at once.

9. You can do it.

10. We have given them the materials.

Turn the following sentences into the negative form.

1. My chair is broken.

2. A snake climbs the tree,
3. They informed their parents.

4. We must call them here.

5. The girls play with balls.

6. I shall ring you today.
7. The beggar took nothing from her.

8. It is a long way from here to Japan

9. I have eaten a lot of food today.

10. It is ready.

**Abbreviations.**

Write these abbreviations in full.

1. P.S.V _________________________________
2. No.________________________________
3. Rev________________________________
4. Rd_______________________________
5. Ave_______________________________
6. Ref. ______________________________
7. D.E.O___________________________
8. Dept____________________________
9. e.g.______________________________
10. Mc _____________________________
11. sms____________________________

**Active and Passive voice.**

Change these sentences into positive voice.

**Examples: I**
A. Joseph blew the whistle.
   The whistle was blown by Joseph.

1. The boys dug a hole.

2. Children drank all the water.

3. Samson ride the bike.


5. The ladies carried big pots of water.

Example 2:

B. Edward is reading a book.
   A book is being read by Edward.

6. Joshua is breaking a glass.

7. Someone is writing work now.

8. Joella is singing the national anthem.

9. Gertrude is weaving a basket now.

10. The teachers are marking the pupils work.
**Example 3.**

Job has broken a glass.
A glass has been broken by Job.

11. We have informed them.

12. Juliet has brought a new knife.

13. The young girl has eaten a banana.

14. The woman has washed utensils.

15. The trader has delivered the goods.

**D. Example 4**

The boys eat posho and beans.

**Posho and beans are eaten by boys.**


17. The doctor examines patients.

18. Flavia sings a song.

19. The mechanic repairs damaged vehicles.

20. Teachers teach pupils.
E. Example 5.

My grandmother will take the hoe.

The hoe will be taken by my grandmother.

21. The boys will graze the cattle tomorrow.

22. Goerge will drive daddy’s car.

23. Mary will clean the room tomorrow.

24. Kapere the mechanic will repair that car.

25. We shall submit our letters.

Conditional clause 2 (if 2)

Here, we talk about impossibilities. We normally use ‘would’ and the Past Simple tense.

Activity.

Change the sentences into if (2) (use ‘would’).

1. If I get money, I will travel to town.

2. If Sam attends my wedding meeting, I will thank him.

3. If he gets a passport, he will travel to London.

4. If you stay indoors, you will not be infected by Corona virus.
5. If you revise your work, you will not be caught off side.

6. If you get money, you will fly to China.

7. We shall pass if we are given enough time.

8. She will attend the lessons if she is informed.

9. The learners will score very good marks if they concentrate.

10. If I get time, I will visit you in the holidays.

**Gender**

Gender is refers to male or female.

**Activity**

Fill in the table below.

<table>
<thead>
<tr>
<th>Masculine gender</th>
<th>Feminine gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. actor</td>
<td></td>
</tr>
<tr>
<td>2. bachelor</td>
<td></td>
</tr>
<tr>
<td>3. _______________</td>
<td>bride</td>
</tr>
<tr>
<td>4. dog</td>
<td></td>
</tr>
<tr>
<td>5. ram</td>
<td></td>
</tr>
<tr>
<td>6. _______________</td>
<td>niece</td>
</tr>
<tr>
<td>7. stepmother</td>
<td></td>
</tr>
<tr>
<td>8. hero</td>
<td></td>
</tr>
<tr>
<td>9. fox</td>
<td></td>
</tr>
<tr>
<td>10. king</td>
<td></td>
</tr>
</tbody>
</table>
Poetry
Read the poem and answer the questions that follow in full sentences.

Oh, Uganda!
What can I call you?
A widow, widower, spinster,
 Bachelor or orphan?
For you’re miserable.
It’s because of you
The deadly disease, covid -19.
A lock down everywhere,
Curfew declared by the president,
What a misery!
Your origin, China, is known
Your destination is unknown
You spread rapidly
You’re a visitor but no invitation
Who is your sponsor?
You have inconvenienced all Ugandans,
Social life no more
People keep in doors saying
Social distance, social distance.
Rise up fellow Ugandans
Sanitize your hands
Report covid 19 suspects to the doctors.
Avoid crowds!

Questions:
1. How many stanzas are in the poem?

2. Suggest a suitable title for the above poem.

3. Who is the poet?

4. What is Uganda according to stanzas I?

5. Why is Uganda miserable?

6. According to the poem, who declared curfew?

7. Which visitor is being talked about in stanza 3?
8. Do you think pupils like you have also been inconvenienced? Explain.
__________________________________________________ _____________________________________

9. What advice has been given by Eddie?
__________________________________________________ _____________________________________

10. In which class is Eddie?
__________________________________________________ _____________________________________

11. What is the writer's mood?
__________________________________________________ _____________________________________

12. In which way has the virus inconvenienced the parents?
__________________________________________________ _____________________________________

13. Give one word or group of word to mean the underlined words in the poem.
   i) Sanitize ________________________________________________
   ii) widow _________________________________________________
   iii) orphan ________________________________________________
   iv) lock down __________________________________________
1. Define the following terms:
   a) Measurements
   b) Length
   c) Area
   d) Volume
2. Give the basic unit for measuring:
   a) Length
   d) Area
   c) Volume
3a) What is the difference between regular and irregular shaped objects?
   ____________________________________________________
   b) Find the volume of the cuboid below

   ![](image)

   5cm
   2cm
   6cm
c) Find the height of the figure below with volume of $36\text{cm}^3$

![Diagram of a rectangular prism with dimensions 6cm x 2cm x h cm]

2cm

6cm

a) Which method is used to find the volume of regularly shaped objects?

b) Why is it called so?

c) Name the two instruments used in the method mentioned in 4(a) above.

(i) [Blank]

(ii) [Blank]

d) Find the volume of the irregular objects below.

5a) Give the meaning of the following words.

i) Weight
ii) Mass

iii) Density

b) State any three differences between mass and weight.

<table>
<thead>
<tr>
<th>Mass</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>i)</td>
</tr>
<tr>
<td>ii)</td>
<td>ii)</td>
</tr>
<tr>
<td>iii)</td>
<td>iii)</td>
</tr>
</tbody>
</table>

c) How can you find the density of an object?

____________________________________________________________________________________

d) Which instrument is used to measure the density of liquids?

____________________________________________________________________________________

e) Find the density of an object of mass 150g and volume 30cc.

____________________________________________________________________________________

f) If the mass of a cuboid is 480g and its volume is 120cm, find its density.

____________________________________________________________________________________

g) Calculate the volume of a stone of mass 48g and density 6g/cc.
6a) What is the difference between floating and sinking objects?

b) Give any two examples of both floating and sinking objects.

<table>
<thead>
<tr>
<th>Floating objects</th>
<th>Sinking objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>i)</td>
</tr>
<tr>
<td>ii)</td>
<td>ii)</td>
</tr>
</tbody>
</table>

c) Three liquids paraffin, water and mercury were put in a test tube and shaken. They settled as shown in the diagram below.

i) Name the liquid marked x, y and z

x________________________ y________________________ z________________________

ii) Why does liquid X settle on top?

iiii) Why does liquid Z settle at the bottom?

TOPIC: WEATHER CHANGES (WATER)

1. Identify any two people made water sources.
2. State any three properties of water.
   a) __________________________________________________________________
   b) __________________________________________________________________
   c) __________________________________________________________________

3. Give any three uses of water to plants.
   a) __________________________________________________________________
   b) __________________________________________________________________
   c) __________________________________________________________________

4. What are water borne diseases?
   ________________________________________________________________________

5. Name any three common water borne diseases.
   a) ________________________________________ b) ____________________________
   c) ________________________________________

6. Utensils were washed and not wiped, then kept in a cupboard. The following day they were found dry.
   a) What happened to the water on the utensils?
      ________________________________________________________________________
   b) What form of energy leads to the disappearance of that water?
      ________________________________________________________________________

7. What is solid water called?
   ________________________________________________________________________
8. Name the process by which water becomes a solid.

9. Use the diagram to answer questions that follow.

a) What do we call the formation of water being collected?

b) Name the substance marked Z.

c) What physical change takes place inside the kettle?

d) After sometimes of heating there will be no more water in the kettle. What happens to the water?

WEATHER

10. What is weather?

11. Name any four elements of weather.
   a) __________________________  c) __________________________
   b) __________________________  d) __________________________

12. Give the instrument used to measure;

   a) atmospheric pressure
b) amount of rainfall

c) speed of wind

13. What is the importance of a weather station?

14. Why do meteorologists keep a daily record of weather?

15. Which instrument is used to measure the lowest and highest temperature of the day?

16. Why is a Stevenson screen painted white?
DIVISIBILITY TEST OF NUMBERS

1. Divisibility test of 2

   A number is divisible by 2 if it is an even number.

   A number is divisible by 2 if it ends with 0, 2, 4, 6 or 8.

   Or A number is divisible by 2 if the digit in the ones place is 0, 2, 4, 6 or 8.

   NOTE: Any whole number divisible by 2 is called an **even number**.

   - All even numbers end with: - 0, 2, 4, 6 or 8
     Examples: - 10, 12, 20, 14, 16, 18, 58, 2020, 98.........

**Activity**

a) Why is 78 an even number?

b) When is a number divisible by 2?

c) From the list below identify numbers which are divisible by 2: - 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 30, 178.

d) From the numbers 128, 135, 240, 2020, 95, 2018

   pick numbers which are divisible by 2.

2. Divisibility test of 3.

   A number is divisible by 3 if the sum of its digits is divisible by 3, or is a multiple of 3.
a) Test 72 and see if it is divisible by 3.

\[ 72 = 7 + 2 \quad 9 \div 3 = 3 \]

\[ = 9 \quad 72 \text{ is divisible by } 3. \]

b) Why is 72 divisible by 3?

72 is divisible by 3 because the sum of its digits is divisible by 3 or is a multiple of 3.

c) Test 312 and see if it’s divisible by 3

\[ 312 = 2+1+2 \quad 6 \div 3 = 2 \]

\[ = 6 \quad 312 \text{ is divisible by } 3 \]

d) Why is 312 divisible by 3?

312 is divisible by 3 because the sum of its digits is divisible by 3 or is a multiple of 3.

**Activity**

a) When is a number divisible by 3?

b) Test the following numbers and see if they are divisible by 3.

a) 144 \quad c) 12 \quad e) 81

b) 29 \quad d) 60 \quad f) 32

c) Prove that 123 is divisible by 3 (Give reason with evidence first)

d) Why is 96 divisible by 3 (Give a reason with evidence first)
3. Divisibility test of 5.

A number is divisible by 5 if it ends with 0 or 5.

Note:- All multiples of 5 are divisible by 5.

Examples of numbers divisible by 5.

5, 10, 15, 20, 25, 200, 100, 2020, 515.................

Activity

a) When is a number divisible by 5?

b) from the numbers 135, 402, 240, 25 and 98.

Pick numbers which are divisible by 5.

c) Identify any four numbers which are divisible by 5.

d) Why is 290 divisible by 5?


A number is divisible by 10 if the last digit is “0”

Note: A number which divisible by 10 is also divisible by 2 and 5.

Examples: - 10, 20, 30, 100, 410, 2020.................

Activity.

a) When is a number divisible by 10?
b) Identify any five numbers which are divisible by 10.

c) From the numbers 212, 90, 120, 325 and 1000 pick and write numbers which are divisible by 10.

Say true or false

a) Is 45 divisible by 10? ________________________________

b) Is 250 divisible by 10? ________________________________

c) Is 401 divisible by 10? ________________________________

d) Is 2020 divisible by 10? ________________________________

Types of Numbers

A number: - Is a symbol or word that represents a quantity or an amount.

- Whole numbers
- Triangular numbers

- Counting / Natural numbers

- Even numbers
- Square numbers

- Odd numbers
- Cube numbers

- prime numbers
- Rectangular numbers

- Composite number

1. Whole numbers

These are all positive numbers with zero inclusive.

Note: The first whole number is zero (0)

Whole numbers (0-9) are the mothers of all other numbers.

Whole numbers (0 – 9) are the basic symbols of Hindu Arabic numerals.

Examples: - 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 100......................
Activity

a) What are whole numbers?
______________________________________________________________________________________

b) What is the first whole number?
______________________________________________________________________________________

c) List all the first ten whole numbers.

d) List all the whole numbers between 10 and 21.

e) Given that:  - A = \{ \text{whole numbers greater than 39 but less than 46} \}
List all the elements of A

f) Given that: B = \{ \text{Whole numbers greater than 99 but less than 100} \}
List all the elements of B.

**COUNTING | NATURAL NUMBERS.**

These are the set of numbers that we use to learn how to count.

Note:
_ Counting numbers are also called natural numbers._
_ Any number you can use for counting things is called a counting number: the_ 
_ The first counting number is 1._

Zero is not a counting number.

- Negative numbers are not counting numbers.
- Counting numbers are a subset of whole numbers

Examples: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 40, 100, 109...
a) What are counting numbers?
_________________________________________________________________________________

b) What is the first counting number?
____________________________

c) List all the first ten counting numbers.
____ ____ ____ ____ ____ ____ ____ ____ ____

d) List all the counting numbers between 20 and 31.

e) Given that:- D= \{\text{counting numbers greater than 48 but less than 55}\}

List all the elements of set D

f) Given that:- E=\{\text{all counting greater than 10 but less than 11}\}

List all the elements of set E.

3. **Even numbers.** These are numbers when divided by 2 give 0 as a remainder.

OR

These are the numbers which are divisible by 2.

Note: All even numbers end with 0, 2, 4, 6, or 8

- The first even number is 0.

Examples: 0, 2, 4, 6, 8, 10, 22, 34, 46, 58, 2020 etc.

**Activity**

a) What are even numbers?
_________________________________________________________________________________

b) ______________________________

c) What is the first even number?
_________________________________________________________________________________

d) How do even numbers end?
e) List the first five even numbers.

f) Given that: \( F = \left\{ \text{Even numbers greater than 5 but less than 17} \right\} \)

Find \( n(F) \)

g) Given that: \( G = \left\{ \text{Even numbers between 49 and 61} \right\} \)

List all the elements of set \( G \).

4. **Odd numbers:** - These are numbers when divided by 2 give 1 as a remainder.

Or These are numbers which are not exactly divisible by 2.

Note: - All odd numbers end with 1, 3, 5, 7 or 9.

- The first odd number is 1.

Examples: - 1, 3, 5, 7, 9, 11, 23, 35, 47, 59, 2019.................

**Activity**

a) What are odd numbers?

_____________________________________________________________________________________

b) What is the first odd number?

_____________________________________________________________________________________  

c) How do odd numbers end?

_____________________________________________________________________________________  

d) List the first five odd numbers.

_____________________________________________________________________________________  

e) Given that: \( H = \left\{ \text{odd numbers greater than 10 but less than 20} \right\} \)

List all the elements of \( H \).
f) Given that: \( K = \{ \text{odd numbers between 30 and 42} \} \)

Find \( n(k) \)

5. **Prime numbers**: are the numbers which have only two factors 1 and itself.

Note: if a number is prime, its multiples are not prime numbers.

- Prime numbers don't have a pattern.
- If a number is not prime, then it is a composite number.
- The first prime number is 2

Examples: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31

Activity

a) What are prime numbers?

b) Study the table below and answer questions that follow. Identify the prime number and then cross all its multiples.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
</tr>
</tbody>
</table>

i) List all the prime numbers less than 12.

ii) List the prime numbers between 24 and 32.

**6. Composite numbers**: are the numbers which have more than 2 factors.

Note: If a number is not prime, then it's a composite number.
The first composite number is 4.

Examples: 4, 6, 8, 9, 10, 12, 14, 15, 16

Activity

a) What are composite numbers?

b) Study the table below and answer the questions on it. (Identify all the prime numbers, the rest are composite number).

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

i) List all the composite numbers between 2 and 11.

ii) List all the composite numbers greater than 19 but less than 29.

iii) Given that: \( M = \{ \text{odd composite numbers less than 20} \} \)

Find \( n(M) \)
7. **Triangular numbers**: - are the numbers got by adding consecutive counting numbers from 1.

<table>
<thead>
<tr>
<th>Counting numbers</th>
<th>Triangular numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1 + 2</td>
<td>3</td>
</tr>
<tr>
<td>1 + 2 + 3</td>
<td>6</td>
</tr>
<tr>
<td>1 + 2 + 3 + 4</td>
<td>10</td>
</tr>
<tr>
<td>1 + 2 + 3 + 4 + 5</td>
<td>15</td>
</tr>
<tr>
<td>1 + 2 + 3 + 4 + 5 + 6</td>
<td>21 etc.</td>
</tr>
</tbody>
</table>

**Activity**

(a) What are triangular numbers?

b) Find the next four triangular numbers from 21.

(Follow the working in the table above)

c) Find the next numbers in the sequence.

1, 3, 6, 19, 15, 21, ____, ____, _____

8. **FINDING TRINGULAR NUMBERS USING THE FORMULA**

Triangular numbers = \( n(n + 1) \) \[ \frac{1}{2} n(n + 1) \]

Note: - \(n\) stands for the position of a number.

a) What is the 3\textsuperscript{rd} triangular number.

\[
\text{Triangular numbers} = \frac{n(n + 1)}{2} = 3 \times 2 = 6
\]

The third triangular number is 6
b) Find the tenth triangular numbers

\[
\text{triangular No } = \frac{1}{2} n(n + 1) = (1 \times 5)(11) = 5 \times 11 = \frac{1}{2} \times 10(10+1) = 55
\]

The tenth triangular number is 55.

Activity

Find the following triangular numbers using the formula “Triangular number = \( n(n + 1) \) OR \( \frac{1}{2} n(n + 1) \)

a) What is the first (1\text{st}) triangular number?

b) Find the 5\text{th} triangular number.

c) What is the sixth triangular number

d) Find the twelfth triangular?

e) What is the eighth triangular number?

f) Find the product of the 7\text{th} and 4\text{th} triangular numbers.
9. **Square numbers:** are the numbers got by multiplying a counting number by itself.

OR Square numbers: are the numbers got by adding consecutive odd numbers.

<table>
<thead>
<tr>
<th>Counting number</th>
<th>Square number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$1^2 = 1 \times 1$</td>
</tr>
<tr>
<td>2</td>
<td>$2^2 = 2 \times 2$</td>
</tr>
<tr>
<td>3</td>
<td>$3^2 = 3 \times 3$</td>
</tr>
<tr>
<td>4</td>
<td>$4^2 = 4 \times 4$</td>
</tr>
<tr>
<td>5</td>
<td>$5^2 = 5 \times 5$</td>
</tr>
<tr>
<td>6</td>
<td>$6^2 = 6 \times 6$</td>
</tr>
<tr>
<td>7</td>
<td>$7^2 = 7 \times 7$</td>
</tr>
<tr>
<td>8</td>
<td>$8^2 = 8 \times 8$</td>
</tr>
</tbody>
</table>

a) Find the missing 3 square numbers in the above table.

b) Find the next numbers in the sequence

\[1^3, \ 4^5, \ 9^7, \ 16^9, \ 25, \ \ldots, \ \ldots, \ \ldots\]

c) Find the next numbers in the sequence.

\[1, \ \ldots, \ \ldots, \ \ldots\]

\[1\times1, \ (2\times2), \ (3\times3), \ (4\times4), \ (5\times5)\]

\[\ldots, \ \ldots, \ (\_\_\_), \ (\_\_\_), \ (\_\_\_)\]

d) Find the square of the following numbers.
Note: - To square is to make a number raise to the power 2.

**Examples**

i) Find the square of 3

Square of 3 = $3^2$

\[= 3 \times 3\]

\[= 9\]

ii) What is the square of 12?

Square of 12 = $12^2$

\[= 12 \times 12\]

\[= 144\]

**Activity**

i) What is the square of 4.

ii) Find the square of 11

iii) Workout the square of 6

iv) What is the square of 10

v) Find the square of 1

vi) Find the sum of the square of 5 and the square of 8.
Cube numbers.
These are the numbers got by multiplying a counting number by itself 2 times.

<table>
<thead>
<tr>
<th>Counting numbers</th>
<th>Cube number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(1^3 = 1 \times 1 \times 1)</td>
</tr>
<tr>
<td>2</td>
<td>(2^3 = 2 \times 2 \times 2)</td>
</tr>
<tr>
<td>3</td>
<td>(3^3 = 3 \times 3 \times 3)</td>
</tr>
<tr>
<td>4</td>
<td>(4^3 = 4 \times 4 \times 4)</td>
</tr>
<tr>
<td>5</td>
<td>(5^3 = 5 \times 5 \times 5)</td>
</tr>
<tr>
<td>6</td>
<td>(6^3 = 6 \times 6 \times 6)</td>
</tr>
</tbody>
</table>

Find the cube of the following numbers.
Note: - To cube is to make a number raise to the power 3.

**Examples**

1) Find the cube of 4
Cube of \(4 = 4^3\)
\[1^2 \times 6\]
\[= (4 \times 4) \times 4\]
\[= 16 \times 4\]
\[= 64\]

ii) What is the cube of 11
Cube of \(11 = 11^3\)
\[1 \times 1 \times 1(10+1)\]
\[= (11 \times 11) \times 11\]
\[= 121 \times 11\]
\[= 1331\]

Activity

a) Complete the above table

b) What are cube numbers?

c) Find the cube of 10
d) What is the cube of 5

e) Workout the cube of 9

f) Find the cube of 6

g) Workout the cube of 12

h) Find the difference between the cube of 8 and the cube of 4.

**Rectangular numbers.**
These are numbers got by multiplying 2 consecutive numbers
OR These are numbers got by adding consecutive even numbers.

Note – Rectangular numbers can be shown by making the shape of a rectangle.

```
(1 x 2)  (2 x 3)  (3 x 4)  (4 x 5)
```

<table>
<thead>
<tr>
<th>Consecutive numbers</th>
<th>Rectangular number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1 x 2</td>
<td>2</td>
</tr>
<tr>
<td>2 2 x 3</td>
<td>___</td>
</tr>
<tr>
<td>3 3 x 4</td>
<td>12</td>
</tr>
<tr>
<td>4 4 x 5</td>
<td>___</td>
</tr>
<tr>
<td>5 5 x 6</td>
<td>30</td>
</tr>
<tr>
<td>6 6 x 7</td>
<td>42</td>
</tr>
<tr>
<td>7 7 x 8</td>
<td>___</td>
</tr>
<tr>
<td>8 8 x 9</td>
<td>___</td>
</tr>
<tr>
<td>9 9 x 10</td>
<td>90</td>
</tr>
<tr>
<td>10 10 x 11</td>
<td>___</td>
</tr>
</tbody>
</table>

**Activity**

a) Complete the table above (Fill in the gaps)

b) Find the next numbers in the sequence
    \[ 2^4, 6^6, 12^8, 20^{10}, 30, \, \, \, , \, \, \, , \, \, \, \]
2. **FINDING RECTANGULAR NUMBERS USING THE FORMULA**

RECTANGULAR NUMBER = \( n(n + 1) \) (\( R_n = n(n + 1) \))

Note:- \( n \) stands for the position of a number.

a) What is the 3\(^{rd} \) rectangular number?

Rectangular No. = \( n(n + 1) \)

\[
\begin{align*}
&= 3(3 + 1) \\
&= 3(4) \\
&= 3 \times 4 \\
&= 12
\end{align*}
\]

The third rectangular number is 12.

b) Find the 9\(^{th} \) rectangular number

Rectangular No. = \( n(n + 1) \)

\[
\begin{align*}
&= 9(9 + 1) \\
&= 9(10) \\
&= 9 \times 10 \\
&= 90
\end{align*}
\]

Therefore the nineth rectangular number is 90.

**Activity**

Use the formula Rectangular number = \( n(n + 1) \) to find the following rectangular numbers.

a) What is the first rectangular number?

b) Find the 5\(^{th} \) rectangular number.

c) What is the 10\(^{th} \) rectangular number?

d) Find the 7\(^{th} \) rectangular number.

e) Find the twelfth rectangular number.

f) Find the sum of the 3\(^{rd} \) and 9\(^{th} \) rectangular number.
1. Mention any two economic activities carried out in the rift valley.

______________________________________________________________________________

b) Which arm of the rift valley passes through Uganda?

______________________________________________________________________________

c) Why are rift valley areas generally hot?

______________________________________________________________________________

2. Identify two examples of rift valley lakes?

______________________________________________________________________________

3. Point out one mineral mined within the rift valley.

______________________________________________________________________________

4. Mention any three types of lakes in Uganda.

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

5. State the process by which basin lakes were formed.

______________________________________________________________________________

b) Name the largest fresh water lake in Uganda?

______________________________________________________________________________

c) Mention any two characteristics of basin lakes.

______________________________________________________________________________

6. How were rift valley lakes formed?
b) State any three characteristics of rift valley lakes?

7. Explain why Lake Albert is not a salty lake yet it is in a rift valley?

8. What is the deepest lake in Uganda?

9. Mention any two problems faced by the people who live near lakes.

10. Identify any two dangers of water hyacinth.

b) How can the government control the problem of water hyacinth.

11. State any two reasons why the areas around L.victoria are densely populated.

12. How is Lake Albert related to Lake Edward?

13. Why are there variety of fish types in L.George and L.Edward?

b) Name the water channel that joins L.Edward to L. George.

14. Name the first European to see.
   i) L. Victoria
   ii) L.Edward
iii) L. Albert

15. What term is given to a point where a river starts flowing?
__________________________________________________ ______________________________

16. Mention three examples of permanent rivers in Uganda.
__________________________________________________ ___________________________

17. Identify any two tributaries of River Nile.
_______________________________________________________________________
_______________________________________________________________________

18. Use the diagram below to answer the questions that follow.

![Diagram of a river system]

Key
→ Direction to which the river is flowing.

a) Name the parts of the river marked.
   A. ______________________________________________
   B. _____________________________________________
   C. _____________________________________________
   D. _____________________________________________

b) State any two stages of a river.
   ______________________________________________
   ______________________________________________

19. State the economic importance of river at the upper course.
   _____________________________________________________________________

20. Mention any two countries through which R. Nile flows.
b) Why does R. Nile flow towards the North?

21. State two importance of waterfalls.

22. Identify the parts of river Nile from
   a) Lake Victoria to L. Albert.
   b) L. Albert to Nimule towns
   c) Nimule town to Mediterranean sea.

23. Give any two reasons why Victoria Nile is not commonly used for transport.

24. Mention two examples of waterfalls on R. Nile.

25. How is River Mubuku important to the people of Kasese.

26. State any one problem Uganda is likely to face without river Nile.

   b) Mention two examples of fish caught in L. Victoria.


30. What is an island?
b) Mention any two islands on L. Victoria.

31. Give one way physical features affect.
   a) The climate of an area
   b) Vegetation distribution.
   c) Population distribution.

32. Study the map below and answer the question that follow.

   a) Draw the Equator on the map above.
   b) How is the formation of Mt. Marked A different from that of Mt. Marked B.
   c) Name the lakes marked.

  2. __________________________________________________________
  3. __________________________________________________________
d) Why is the lake mark 3 shallow?
________________________________________________________________________

33. State any two economic activities carried out in Kalangala district.
________________________________________________________________________

b) Give any two ways people contaminate water.
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

35. What are perennial crops?
________________________________________________________________________

b) Give two examples of perennial crops?
________________________________________________________________________

37. Identify any two problems faced by cattle keepers.
________________________________________________________________________

38. Mention the three types of coffee grown in Uganda.
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

b) Identify the type of industry you would encourage the people of Kalangala to set up and why?
________________________________________________________________________

39. Which British Missionary introduced cotton in Uganda in 1903?
________________________________________________________________________

40. What are non-traditional cash crops?
________________________________________________________________________

b) Give two examples of non-traditional cash crops.

**CLIMATE OF UGANDA**
1. Define the following terms.
i) Climate
ii) Weather
b) State how weather is different from climate.
________________________________________________________________________________________
2. Mention any three elements of weather.
________________________________________________________________________________________
________________________________________________________________________________________
3. Identify the two major aspects of climate.
________________________________________________________________________________________
________________________________________________________________________________________
4. Give the four major climatic zones of Uganda.
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
5. State two characteristics of equatorial climate.
________________________________________________________________________________________
________________________________________________________________________________________
6. Mention any two economic activities carried out in the equatorial climate.
________________________________________________________________________________________
________________________________________________________________________________________
7. Why does the equatorial region;
a) Receive two maximum rain seasons.______________________________
b) Hot and wet throughout the year.

c) Receive convectional rainfall.

8. Why does convectional rainfall occur mainly in the afternoon?

9. Give any two ways in which Ugandans have affected the equatorial region.

10. How is tropical climate described?

b) Outline two characteristics of tropical climate.

11. Mention any two districts that experience tropical climate in Uganda.

12. State two characteristics of semi desert climate.

b) Explain why Kabale is cooler than Kampala.

13. Explain why Kabale is cooler than Kampala.

14. What type of climate covers the biggest part of Uganda.
15. Why do semi deserts have cloudless skies?
_____________________________________________________________________________________

16. Name any two crops grown in mountain climate.
_____________________________________________________________________________________

b) Give a reason why the peaks of some mountains are snow capped.
_____________________________________________________________________________________

17. Study the graph below and answer the questions that follow.

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>450</th>
<th>400</th>
<th>350</th>
<th>300</th>
<th>250</th>
<th>200</th>
<th>150</th>
<th>100</th>
<th>50</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Months of the year</td>
<td>J</td>
<td>F</td>
<td>M</td>
<td>A</td>
<td>M</td>
<td>J</td>
<td>A</td>
<td>S</td>
<td>O</td>
<td>N</td>
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<td></td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

i) What type of climate is shown above?
_____________________________________________________________________________________

ii) Which month received the highest rainfall?
_____________________________________________________________________________________

iii) Name the hottest month.
_____________________________________________________________________________________
iv) Which month received the least rainfall.

v) Find the temperature range.

vi) State the relationship between rainfall and temperature.

18. What is meteorology?

b) What name is given to people who study weather?

19. State the importance of weather station in your school.

20. Mention to elements of weather station in your school.

22. How is a rain gauge important to a farmer?

b) Why should a rain gauge be placed 30cm above the ground?

c) Explain why a rain gauge is put in an open place.

24. How is a windsock similar to a wind vane in terms of their function?

25. In which units are the following measured.
   a) Rainfall
   b) Temperature
c) Altitude
d) Air pressure.

26. Name any two types of rainfall received in Uganda.

_______________________________________________________________________________________

27. Use the diagram below to answer the questions that follow.

a) Name the processes named?
   a) ______________________ b) ______________________ c) ______________________

b) Name the side of the mountain marked Z.

_______________________________________________________________________________________

c) What type of rainfall is shown in the diagram above?

_______________________________________________________________________________________

28. Why does Karamoja region receive frontal rainfall?

_______________________________________________________________________________________

29. Define the following.
   ii) Sea breeze

   ii) Land breeze

30. What is global warming?

_______________________________________________________________________________________

b) State any two causes of global warming.
31a) Mention one product got from each of the following crops.
   i) Cotton
   ii) Tobacco
   iii) Pyrethrum
   iv) Oil palm

32. What is farming?

b) Identify two types of farming carried out in Uganda?

33. State any two problems facing crop farmers in Uganda?

b) How do farmers control soil erosion?

34. Define the term irrigation.

b) Mention two irrigation schemes in Uganda.

35. Give examples of dairy products.

36. What is pastoralism?
b) Mention two examples of pastoral tribes in Uganda?

_____________________________________________________________________________________

37. How do the following factors affect climate in Uganda?

a) Altitude

b) Human activities.

VEGETATION

1. Define the term vegetation.

_____________________________________________________________________________________

2. Mention the two types of vegetation.

_____________________________________________________________________________________

3. State any two characteristics of planted forests.

b) Give two examples of trees in the planted forests.

_____________________________________________________________________________________

4. How are wattle trees important to the leather industries?

_____________________________________________________________________________________

5. Mention two ways flowers are important to people.

_____________________________________________________________________________________

_____________________________________________________________________________________

6. Why is the government encouraging people to grow non-traditional cash crops?

_____________________________________________________________________________________

7. Give two examples of trees found in the natural forests.

_____________________________________________________________________________________

_____________________________________________________________________________________

8. Identify the vegetation zones of Uganda.

____________________________________________________________________________________

9. Which type of natural vegetation covers the largest part of Uganda.

____________________________________________________________________________________

10. State any two characteristics of equatorial rain forests.

____________________________________________________________________________________

____________________________________________________________________________________

b) Why are equatorial forests ever green?

____________________________________________________________________________________

c) Why are most game parks located in savanna grassland.

____________________________________________________________________________________

11. Why are most game parks located in savanna grassland.

____________________________________________________________________________________

12. What are deciduous trees?

____________________________________________________________________________________

b) Why do trees shed off their leaves during dry season?

____________________________________________________________________________________

13. State the importance of bamboo trees which grow on mountain slopes.

____________________________________________________________________________________

14. State any two reasons why the government is encouraging people to plat forests.

____________________________________________________________________________________

____________________________________________________________________________________

b) How do forests support the fishing industry?

____________________________________________________________________________________

15. Give a reason why the top of Mt. Rwenzori has no vegetation.

____________________________________________________________________________________
16. What is a swamp?
_______________________________________________________________________________________

17. Why do people drain swamps today?
_______________________________________________________________________________________

b) State two importance of swamps.
_______________________________________________________________________________________
_______________________________________________________________________________________

18. Mention any two food crops grown in swamps.
_______________________________________________________________________________________
_______________________________________________________________________________________

19. How can forests be a threat to national security?
_______________________________________________________________________________________

20. Define the following terms.
a) Afforestation
_______________________________________________________________________________________

b) Re-afforestation_____________________________________________________________________

b) Agro-
forestry_____________________________________________________________________________

c) Lumberling _________________________________________________________________________

21. What is the largest natural forest in Uganda?
_______________________________________________________________________________________

22. Mention one way the government can control deforestation.
_______________________________________________________________________________________

23. How does increase in population affect the vegetation?
_______________________________________________________________________________________

24. State one way in which vegetation controls soil erosion.
_______________________________________________________________________________________
25. What is a game park?

b) Identify one way a game park is different from a game reserve.

26. Apart from game parks, mention other three tourist attractions in Uganda.

27. Name the largest game park in Uganda.

28. Why are there no hippos and crocodiles in Kidepo valley National park?

29. Why are hotels built near game parks?

b) Name two districts that share Murchison falls national park?

30. Why is tourism called an industry?

b) Mention any two ways Ugandans benefit from tourism.

31. How are museums important to a country like Uganda?

32. Why is tourism also referred to as an invisible export?

33. How does tourism contribute to the development of the crafts industry?
34. Mention two examples of wild animals in game parks.
_____________________________________________________________________________________

35. Identify two problems faced by animals in game parks.
_____________________________________________________________________________________
_____________________________________________________________________________________

36. What is poaching?
_____________________________________________________________________________________

b) Give any two reasons why people carry out poaching.
_____________________________________________________________________________________

37. Name the herbivorous animal hunted for tusks or ivory.
_____________________________________________________________________________________

38. Identify the factors that have led to the establishment of the following.
   a) Cement industry._________________________________________________________________
   b) Mubuku irrigation scheme________________________________________________________
   c) Queen Elizabeth National Park.___________________________________________________

39. Mention two factors that affect vegetation distribution.
_____________________________________________________________________________________
_____________________________________________________________________________________

40. Give any two reasons why people cut down trees.
_____________________________________________________________________________________
_____________________________________________________________________________________

b) Why are trees planted in your school compound?
_____________________________________________________________________________________
41. Give two examples of wood fuel.

________________________________________________
________________________________________________

42. How are forests important to farmers.

_____________________________________________________________________________

43. Write the following in full.

i) NEMA

ii) UWEC

iii) NFA

44). Study the map and answer the questions about it.

a. Name the game parks named.

A_____________________________________________B____________________________________
C_____________________________________________D______________________________

b) Identify the type of vegetation covered by the area marked X

__________________________________________________ ___________________________________

c) Name the major tourist attraction found at the channel marked K.

__________________________________________________ ___________________________________

d) Why are there few people living in the area marked X