# GJS – PRIMARY FOUR – ENGLISH REVISION WORK - SET 3

**Name:** …… **Stream** ……

Describing objects

**New words**

| | | | | | |
|---|---|---|---|---|---|
| long | rectangle | triangle | hard | circular | round |
| black | narrow | straight | sharp | smooth | heavy |

Constructing sentences using new words

**Examples**

1. Our class wall clock is round.
2. My uniform is green
3. A sack of beans is too heavy for me to lift alone.
4. We have a triangular flower garden at home.
5. John has a long ruler in his bag.

**Exercise 1**

Construct meaningful sentences using the following words

1. smooth _____
2. long _____
3. rough _____

4. light _____

5. hard _____

6. circular _____

7. colour _____

8. short _____

9. soft _____

10. rectangular _____

**Using …… than ……**

We use the word than in the comparative form when describing two objects.

**Examples**

1. The blue book is thick. The green book is thicker.

   **The green book is thicker than the blue one**.

2. A car is fast. An aeroplane is faster.

   **An aeroplane is faster than a car**

3. A Street is narrow. A path is narrower.

   **A path is narrower than a street**.

**Exercise 2**

Use the words in the comparative degree to complete the sentences.

1. That bag is _____ than that pair of shoes. (black)
2. The desk is _____ than the table. (dry)
3. Cotton is _____ than cloth. (soft)
4. The car is_____ than a motorcycle. (quick)
5. Of the two objects, the stone is the _____ (heavy)
6. This room is _____ than that one. (wide)
7. The chair is _____ than the cupboard. (new)
8. Of the two rulers, which is the _____? (long)
9. Amina's dress is _____ than Apio's. (beautiful)
10. Of the two objects, the stone is the _____ (hard)

**Using …… the ……**

We use **the** when we are describing more than two or more things.

**Examples**

1. Which is the biggest of the three animals? (cat, goat, cow)

   **The cow is the biggest of the three animals**.
2. Which is the heaviest of the three items? (cooker, bed, kettle)

   **The bed is the heaviest of the three items**.
3. Which is the fastest of the three animals? (dog, hare, rabbit)

   **The hare is the fastest of the three animals**.

**Exercise 3**

Fill in the gaps with the superlative forms of the words given in the brackets.

1. It is the _____ cow on Mr. Tumbo's farm. (fat)
2. Her house was the _____ of all the three. (nice)
3. Primary four classroom has the _____ surface. (rough)
4. Our cat is the _____ animal. (wise)
5. Our school is the _____ missionary school in Uganda. (old)
6. A lion is the _____ of all the wild animals. (brave)
7. Tin wore the _____ coat in the class. (beautiful)
8. River Nile is the _____ river in Africa. (long)
9. Bogere's shirt was the _____ on team. (clean)
10. Their hut is the _____ in the whole village. (tiny)

Giving Directions

**New words**

| | | | | | | |
|---|---|---|---|---|---|---|
| across | behind | round about | before | in front | far | near |
| under | above | corner | down | junction | along | next |

**Exercise 3**

(a) Fill in the missing letters

| | | | |
|---|---|---|---|
| **1.** f __ r | **4.** do __ __ | **7.** in f _ _t | **10.** ju__ __t__on |
| **2.** ac__ __ss | **5.** n __ __r | **8.** n__ __t | |
| **3.** sign p_ _ t | **6.** be _ _ nd | **9.** af__ __r | |

(b) Use these words to construct meaningful sentences.

a) in front of

_____

b) opposite to

_____

c) before

_____

d) corner

_____

e) far from

_____

f) round about

_____

g) junction

_____

(c) Arrange these words in alphabetical order.

1. near, after, before, next

_____

2. corner, behind, opposite, far

_____

3. side, in front, down, next

_____

4. hand, round, sign, junction

_____

(d) Give the opposites of the underlined words in the sentences.

1. The market is not far from our house.

   _____

2. The guests arrived before the host.

   _____

3. Mary stood at the right hand side of her mother.

   _____

4. The mat was hidden behind the door.

   _____

5. We all put up our hands when the teacher asked the question.

   _____

**Using: The …… is ……**

We use this structure to describe the location of a place or something in relation to its size.

**Examples**

1. The market is opposite to the playground.
2. My school is near the police station.
3. The hospital is after the mosque.
4. Kasoma's shop is not far from the centre.
5. Rose is standing infront of the classroom.
6. Mark is driving in the middle of the road.

**Exercise 4**

Re-arrange the words in brackets to make correct words and fill in the gaps.

1. Our_____ is far from our home. (loosch)
2. The clinic is opposite the (ketrma)
3. The _____ is across the road. (ruchch)
4. The _____ is near our home. (holebore)
5. The pole is in the_____ of our school. (ddlemi)
6. The_____ is far from the main road. (armf)
7. The hospital is _____ you reach the school. (rebefo)
8. The lake is not_____ from here. (arf)
9. The boy is sitting_____ to the television. (seclo)
10. The school is _____ the clinic. (near)
11. The church is _____ the main road. (eraft)
12. The boy kicked the ball _____ the road. (ossacr)

**Using: …… is nearer ……; or …… farther ……; or …… closer to ……**

This structure is used to compare the distance between two places.

**Examples**

1. Our school is nearer the market than the church.
2. The mountain is farther from our home than from the lake.
3. The cat is closer to the fire than the boy.
4. The journey to the borehole is shorter than the journey to the lake.

**Exercise 5**

Join the following sentences using; …… than ……)

1. The signpost is near the school. The gate is nearer the school.

   _____

   _____

2. The Eastern route is closer to our home. The Western route is close to our home.

   _____

   _____

3. The police station is close to town. The taxi park is closer to town.

   _____

   _____

4. The bus stop is close to the bookshop. The pole is closer to the bookshop.

   _____

   _____

5. The house is close to the butcher's. The shops are closer to the butcher's.

   _____

   _____

6. The salon is near the house. The tree is nearer the compound.

   _____

   _____

7. The conductor is near the driver. The passenger is nearer the driver.

   _____

   _____

8. Our trading centre is far from the town. Our village is farther from town.

_____

_____

9. The puppy is close to the gate. The cat is closer to the gate.

_____

_____

10. The doll is near the bed. The baby is nearer the bed.

_____

11. The kraal is close to the compound. The tree is closer to the compound.

_____

_____

The market is far from the church. The market is farther from the mosque.

_____

_____

**<u>Using: Although ……</u>**

**Examples**

1. I gave them the direction. They got lost.

   **Although I gave them the direction, they got lost**.

2. The lights showed red. The driver did not stop.

   **Although the lights showed red, the driver did not stop**.

3. Martha lives in Kampala City. She doesn't know the route to Kibuli Hospital.

   **Although Martha lives in Kampala City, she doesn't know the route to Kibuli Hospital**.

**Exercise 6**

Join these sentences beginning: Although ……

1. Kiprotich did not practice well. He won the race.

   _____

   _____

2. I arrived early at the airport. I missed the plane.

   _____

   _____

3. The signpost was very expensive. Mr. Mukasa bought it.

   _____

   _____

4. Moses directed me to the National Theatre. I got lost.

   _____

   _____

5. The children were behind the classroom playing. The teacher continued teaching.

   _____

   _____

6. The traffic is very noisy. It does not disturb pupils in the classroom.

   _____

   _____

7. Annet failed her mock exams. Annet copied.

   _____

   _____

8. His parents are very poor. He is in a good school.

_____

9. Kasibante followed the instructions in the paper. He scored low marks.

_____

_____

10. My father is very rich. My father doesn't buy meat at home.

_____

_____

**Exercise 7**

The pupils of Kamengo Primary School passed PLE very well last year. The headteacher took them out for lunch at Africana Hotel. The table below shows what happened at the hotel. Study it carefully and in full sentences answer the questions that follow.

| **Name of pupil** | **Sex** | Food | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | **Rice** | **Fish** | **Posho** | **Peas** | **Soda** | **Juice** | **Water** |
| Opila Pila | M | ✓ | X | X | ✓ | X | ✓ | X |
| Kantu Jore | M | X | ✓ | ✓ | ✓ | ✓ | X | ✓ |
| Zani Niza | F | ✓ | ✓ | X | ✓ | X | ✓ | ✓ |
| Para Sam | M | X | X | ✓ | X | ✓ | ✓ | ✓ |
| Mato Kin | F | X | ✓ | ✓ | ✓ | X | ✓ | X |
| Ddemu Gal | F | X | X | X | X | X | ✓ | X |
| Saza Hana | M | X | X | ✓ | ✓ | ✓ | ✓ | ✓ |
| Ode Chals | F | ✓ | ✓ | ✓ | ✓ | X | X | X |
| Kwata Mpora | F | X | ✓ | X | ✓ | X | ✓ | ✓ |

**Key**: ✓ – was served X – was not served **F** – Female **M** – Male

**Questions**

a) What is the information about?

_____

_____

b) Who was served the most items?

_____

c) How many pupils are shown on the table?

_____

d) Which child did not eat anything?

_____

e) What was the most liked drink?

_____

f) According to the table, which child was not given any drink?

_____

_____

g) Which food was least served?

_____

h) How many girls enjoyed fish?

_____

i) Who is likely to have paid the bill?

_____

j) Which item was not taken by only two pupils?

_____

_____

k) Who enjoyed more drinks than the rest of the pupils?

_____

l) Why do you think the pupils were taken for lunch?

_____

_____

## The Present Simple Tense

We use the present simple tense to express feelings by adding "**s**" "**es**" or "**ies**" to the verbs representing singular nouns and pronouns.

For plural nouns and pronouns, we do not add letters "**s**" "**es**" or "**ies**" to the verbs.

**Examples**

1. Annet rests whenever she gets tired. (rest)
2. Jedida feels happy when she is at school. (feel)
3. We usually recite poem about feelings. (recite)

**Exercise 8**

Fill in the blank spaces with the present simple tense of the verbs in the brackets.

1. Whenever it _____ , I feel cold. (rain)
2. Otema _____ , water whenever he feels thirsty. (drink)

3. Jamila _____ whenever she feels happy. (sing)
4. Okot _____ to hospital whenever he falls sick. (go)
5. He _____ off his shirt whenever he feels hot. (put)
6. She _____ her face whenever something scares her. (scare)
7. He _____ after work. (rest)
8. She _____ with her dog everyday. (play)
9. They _____ thirsty every time they play in the hot sun. (feel)
10. Peter feels sad whenever the teacher _____ him. (beat)

**Using ……. because …….**

We use this conjunction when we mention the reason why we feel the way we do.

Examples

1. She feels sad. Her daddy is sick.
   **She feels sad because her daddy is sick.**
2. He feels scared. Kidnappers tried to kidnap him.
   **He feels scared because kidnappers tried to kidnap him.**
3. We are putting on sweaters. It is cold.
   **We are putting on sweaters because it is cold.**
4. I am sad. I have not gone to school today.
   **I am sad because I have not gone to school today.**
5. Omara is hungry. He has not eaten porridge.
   **Omara is hungry because he has not eaten porridge.**

**Exercise 9**

Join the sentences using: ……. because ……

1. We feel proud. Our school won the football match.

_____

_____

2. He is unhappy. He doesn't go to school.

_____

3. He is tired. He climbed a high mountain.

_____

4. They are unhappy. Their team lost the match.

_____

_____

5. She feels sad. She lost her money.

_____

6. I fee dizzy. I have been standing for long hours.

_____

_____

7. He feels ashamed. He doesn't know how to read and write.

_____

_____

8. Zam feels happy. I attended her birthday party.

_____

_____

9. Akena got a gift from the visitor. Akena is happy.

_____

_____

10. Kevin is sick. Kevin is still in the bed.

_____

11. The teacher is very angry. The pupils dodged his exercise.

_____

_____

12. Lumansi failed the weekly test. Lumansi is unhappy.

_____

_____

13. We have been working. We are very tired.

_____

14. There is a wild dog in the classroom. The pupils are so worried.

_____

_____

15. Doreen swam the whole day. Doreen is tired.

_____

**Vocabulary:**

excuse lend sorry please borrow request

thank forgive apologise

**New words in sentences for example**

1) Excuse me teacher, may I come in?

2) May I <u>borrow</u> your ruler, please?

**Exercise 10**

a) <u>Re-arrange these letters to form correct words</u>.

1. useexc – _____
2. nkstha – _____
3. rryso – _____
4. givefor – _____
5. dlen – _____
6. rrowbo – _____
7. pelesa – _____
8. bivoureha – _____
9. letepo – _____
10. uestreq – _____

b) **Identify polite words given in the brackets and use them to fill in the gaps in each sentence**.

1. May I use your pen, _____ ? (please, by force)
2. _____ me please, may I pass? (Execute, Excuse)
3. Patricia _____ her parents every morning. (quarrels with, greets)
4. Can you _____ me your pencil, please? (leave, lend)
5. Good children should _____ their compound. (clean, destroy)
6. We must _____ our teachers and parents. (respect, disobey)
7. Prefects should _____ bad behaviour to the teachers. (report, encourage)
8. Alinda should _____ for her mistakes. (boast, apologise)

**GJS – PRIMARY FOUR – SOCIAL STUDIES REVISION WORK - SET 3**

**Name:** …… **Stream** ……

## PHYSICAL FEATURES

Physical features are natural landforms and their drainage.

**Examples of physical features**

| | | | | | |
|---|---|---|---|---|---|
| Hills | Plains | Streams | Mountains | Rivers | Seas |
| Plateau | Lakes | Oceans | Valleys | Swamps | |

**Physical features are divided into two, namely**;

1) Drainage features
2) Relief features

**Drainage features** are natural landforms which hold water.

Examples of drainage features are; Rivers, Swamps, Lakes, Streams.

**Relief features** are natural landforms which give the land shape.

Relief means the general appearance of the land/earth's surface.

Examples of relief features are; Mountains, Valleys, Plains, Plateau, Hills.

**Assignment 1**

1. Define the term relief.

_____

2. Name any two examples of drainage features.

_____

3. Write another word to mean swamp.

_____

4. What do we call the natural landforms of an area?

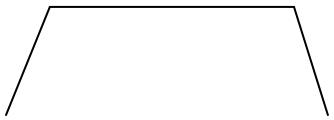
_____

## Plains and Plateau

A plateau is a raised flat topped piece of land.

A plateau is also called a table land.

The plateau covers the largest part of our district and country.

A Symbol for a plateau 

Economic activities done on plateaus

Tourism Lumbering Fishing Mining Hunting

Brick making Quarrying

**Mining** is the extraction of minerals from the ground.

Examples of minerals mined in Uganda are; Salt, Lime stone, Copper and Crude oil.

**Problems facing people who live on plains and plateaus**.

Drought, Floods, Dangerous wild animals, Disease vectors etc.

Examples of vectors in plains and plateaus are;

Tsetse flies, Mosquitoes, Ticks

**Solutions to the problems facing people who live on plains and plateaus**.

Planting trees to control floods

Spraying using insecticides to kill pests and vectors

Using mosquito nets to prevent vector bites.

**Importance of plateaus and plains**

Plateaus are used for industrialization

Plateaus are used for farming

Plateaus are a source of minerals.

**Assignment 2**

1. What is a plateau?

_____

2. Identify any two activities carried out on plateaus.

_____

3. State any one way farmers living on plateaus can control pests and disease vectors. _____

4. Which physical feature covers the biggest part of our district?

_____

**Mountains/Highlands**

Mountains are large steep pieces of land.

Mountains are the highest physical features.

**Examples of mountains in Uganda** are;

Mt. Rwenzori, Mt. Elgon, Mt. Moroto, Mt. Mufumbiro, Mt. Napak

**Highest peaks of mountains**

| Mountain | | Peak |
|---|---|---|
| Rwenzori | - | Margherita |
| Moroto | - | Sokdek |
| Elgon | - | Wagagai |
| Mufumbiro | - | Muhavura |

**Assignment 3**

1. Name the peak of the tallest mountain in Uganda.

_____

2. Which mountain in Uganda has snow on its highest peak?

_____

3. Name the mountain which is said to be the origin of Bamasaaba people.

_____

4. What is the local name for Mt. Elgon?

_____

5. Why are mountain tops not good for human settlement?

_____

6. How are farmers living on slopes of mountains able to control soil erosion?

_____

**Districts with mountains in Uganda**

Mbale Bududa Sironko Manafwa Bulambuli Bukwo

Kabaale Kisoro Kasese Bundibugyo

**Economic activities done in hilly/mountainous areas**

Farming Tourism Hunting Mining

**Crops that grow well on slopes of mountains**

Bananas Passion fruits Arabica coffee Irish potatoes Beans Maize

**Note**: Such crops grow well on slopes of mountains due to presence of fertile soil and reliable rainfall.

**Uses of mountains**

Mountains help in the formation of relief rainfall.

Mountains are sources of minerals

Mountains attract tourists who are a source of income to the government.

**Problems faced by people living on slopes of mountains**

- Soil erosion
- Land slides
- Poor transport network.

**Solutions to the problems facing people living on slopes of mountains**

- Planting trees
- Keeping donkeys for transport
- Practicing contour ploughing

**Assignment 4**

1. Which method of farming would you advise Joan a farmer in Bududa to use?

_____

2. What do we call the series of connected mountains?

_____

3. Why do farmers in hilly areas terrace their gardens?

_____

4. Why do people in hilly areas keep donkeys?

_____

5. Which tool do mountain climbers use to locate place?

_____

6. Name the highest peak of mountain Elgon.

_____

## Hills in our district

A hill is a fairly high piece of land

**Or**: A hill is a raised land higher than the surrounding land.

NB: A long chain of hills is a range.

Examples of hills are;

Gayaza hill  Namirembe hill  Old Kampala hill  Rubaga hill  Kololo hill

### Uses of Hills

1) Hills help to promote tourism
2) Hills are used for mining
3) Hills act as grazing grounds for animals
4) They are used for settlement.

### Problems faced by people living on hills.

Soil erosion

Dangerous animals

Poor road networks

Mud slides

### Solutions to the problems facing people living on hills

Rearing of donkeys for transport

Adopting terrace farming

Planting trees

**Activities done on hills**

Stone quarrying

Hunting

Tourism

Cattle keeping

Mining

**Assignment 5**

What is the raw-material for cement?

_____

Give one importance of stones

_____

**Fill the table below**

| **Mountain** | **Peak** |
|---|---|
| Mt. Rwenzori | _____ |
| _____ | Wagagai |
| Mt. Mufumbiro | _____ |
| Mt. Moroto | _____ |

## Valleys in our district

A valley is a low lying land between hills or mountains.

The steep sides of hills, mountains or valleys are called escarpments

The major valley in Uganda is called the Rift Valley. It is found in Western Uganda.

**Lakes found in the rift valley**.

Lake Albert

Lake Edward

**Districts found in the rift valley**

Kasese Kabaale Kibaale Masindi Bundibugyo Kisoro

**Importance of valleys**

Valleys are for tourist attraction

Valleys are used for mining

**Activities carried out in the rift valley**.

Fishing Farming Tourism Quarrying

**Problems facing people living in valleys**

- Soil erosion
- Disease vectors
- Floods
- Dangerous wild animals
- Poor road networks

**Assignment 6**

1. Draw a map symbol for;

   (a) Hill (b) Rift valley

2. What do we call the steep slopes of the rift valley?

_____

3. Why do antelopes prefer living on hills?

_____

4. Which type of rainfall is received by people living on hilly places?

_____

5. Why do farmers in Kasese terrace their gardens?

_____

6. Name the highest peak of Mt. Rwenzori.

_____

**Problems facing people living in valleys**

Valley easily flood

Valleys are hiding places for bad people.

Road construction in valleys is very difficult.

**Note**: Altitude is the height of the land above sea level.

**Assignment 7**

Identify any two districts found in the Rift valley.

_____ _____

Who is a leader?

_____

Identify any four types of leaders.

_____

What title is given to the ruler of the Basoga?

_____

Mention any four tribes in Uganda.

_____

What title is given to the person who heads a district?

_____

Write **DIS** in full.

_____

**Swamps in our district**

A swamp is a water logged area with vegetation.

**Examples of swamps**

Temangalo swamp, Kalerwe swamp, Rubigi swamp,

Rwajali swamp Busega swamp

**Crops which grow well in swamps**

Yams, Sugarcane Rice

**Examples of plants which grow in swamps**

Papyrus water lilies

**Importance of swamps**

Swamps act as sources of water for home use

Swamps act as fishing grounds

Swamps filter water going to lakes

Swamps are sources of raw materials for making crafts.

**Dangers of swamps**

Swamps easily flood

Swamps are breeding areas for very many disease vectors

Swamps are hiding places for dangerous people.

**Human activities that lead to destruction of swamps**

- Poor disposal of garbage
- Swamp reclamation
- Industrialisation
- Road construction
- Bricklaying

N.B: **Swamp reclamation** is the act of draining swamps for other human activities.

**Industrialisation** is the growth of industries in an area.

**Assignment 8**

1. Draw the map symbol for swamps.

_____

2. Define a wetland.

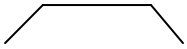
_____

3. Give one danger of constructing houses in swamps.

_____

4. What do these symbols represent?



_____ _____ _____ _____

5. Which body is responsible for protecting swamps?

_____

6. Write NEMA in full.

_____

7. State one role of NEMA

_____

## Lakes in Uganda

A lake is a mass of water in a basin

**Examples of lakes in Uganda**; Lake Victoria, Lake Kyoga, Lake George Lake Edward, Lake Katwe, Kabaka's lake, Lake Opeta, Lake Mburo Lake Bunyonyi, Lake Wamala, Lake Nakivali, Lake Bisina, Lake Kijanebalora

**Assignment 9**

1. What is a lake?

_____

2. Name the largest lake in Uganda.

_____

3. Name the water body which joins Lake George to Lake Edward.

_____

4. Identify any one man-made lake in Uganda.

_____

5. Which lake in Uganda is;
   a) a source of salt? _____
   b) a source of crude oil? _____
6. Which major economic activity is carried out on lakes?

_____

7. Give any two uses of lakes to man.

_____

**Types of Lakes**

1) Seasonal lakes
2) Permanent lakes

**Seasonal lakes** are lakes whose water reduce during the dry season.

An example of a seasonal lake in Uganda is Lake Kijanebalora.

**Permanent lakes** are lakes which have water throughout the year

Examples of permanent lakes are; Lake Kyoga, Lake Victoria.

**Importance of lakes**

- Lakes are sources of water for home and industrial use.
- Lakes are used for transport
- Lakes are used for fishing
- Lakes help in rain formation
- Some lakes are used for mining
- Some lakes act as natural boundaries for places.

**Note**:

1) Some lakes have local names e.g

   Lake Victoria - Nalubaale (meaning home of gods)
   Lake Albert - Mwitanzigye

2) Lake Bunyonyi is the deepest lake in Uganda.
3) Lake Albert is the source of crude oil
4) Lake Katwe is known for salt mining
5) Lake Victoria is the largest lake in Uganda.

Some lakes have Islands.

An Island is a place which is completely surrounded by water bodies.

Examples of ports on lakes

Lake Victoria - Port Bell in Luzira, Port Jinja, Port Bukakata

**Assignment 10**

Draw a symbol for a permanent lake.

How do lakes benefit industries?

_____

In which district is Kabaka's lake?

_____

Identify any one lake in Wakiso district.

_____

Name the local name for Lake Albert

_____

What does the word Nalubaale mean?

_____

## Rivers

A river is a stream of water flowing in a specific direction.

A river is a mass of fast flowing water on earth's surface.

**Types of rivers**

a) Permanent rivers
b) Seasonal rivers

**Permanent rivers**: These are rivers which flow throughout the year.

**Examples of permanent rivers**

1) River Nile (longest river in Uganda)
2) River Kafu
3) River Semliki
4) River Katonga
5) River Achwa
6) River Ssezibwa (in our district – Wakiso)

**Seasonal rivers**

Seasonal rivers are rivers which dry up or have little water in a dry season.

**Examples of seasonal rivers**

1) River Mayanja (in Wakiso District)
2) River Agago
3) River Mpongo

**Assignment 11**

1. Define a river.

_____

2. Apart from permanent rivers, give any one other type of rivers.

_____

3. Why are seasonal rivers called so?

_____

4. Draw the symbol for;

   (a) Seasonal River (b) Permanent River

5. Mention any one river found in Wakiso district.

_____

6. What is the longest river in Uganda?

_____

7. Name the national park where Lake George and Lake Edward are found.

_____

**Parts of a river**

A river has the following parts;

Tributary, Confluence, Distributary, River mouth, River source

A **Tributary** is a small river joining the big river

A **Distributary** is a small river branching off the main/big river

A **Confluence** is a point where two or more rivers meet.

A **River source** is a place where a river begins.

A **River mouth** is a place where a river pours its water.

**Examples of river sources**

**a)** Mountains **c)** Seas **e)** Oceans

**b)** Lakes **d)** Swamps

**Examples of river mouths**

a) Swamps c) Lakes

b) Lakes d) Oceans

**Assignment 12**

1. Name any two examples of drainage features.

_____

2. Where is the source of river Nile?

_____

3. Mention any two examples of river sources

_____ _____

4. **Match correctly**

| | |
|---|---|
| a) Source | A small river joining the big river |
| b) Confluence | A place where the river pours its water |
| c) Tributary | A place where two or more rivers meet |
| d) Mouth | A small river branching off the big river |
| e) Distributary | A place where a river begins |

5. Name the longest river in Uganda.

_____

**Feature found on rivers**

- Waterfalls
- Swamps
- Ox-baw lakes
- Islands
- Rapids

Waterfalls is a point where a river breaks from a higher altitude to a lower altitude.

**Examples of falls in Uganda**

1) Murchison falls
2) Karuma falls on River Nile
3) Itanda falls on River Nile
4) Owen falls on River Nile
5) Sipi falls
6) Sezibwa falls on River Sezibwa
7) Kalagala falls

**Uses of waterfalls**

a) Waterfalls are used to generate Hydro-electric power.
b) Waterfalls attract tourists.
c) Waterfalls help in rain formation.
d) Waterfalls are sources of water for home use.

**Dangers of waterfalls**

Waterfalls make water transport difficult.

**Assignment 13**

1. What is a river?

_____

2. Identify any two features found on rivers.

   (i) _____

   (ii) _____

3. Define the term waterfalls.

_____

4. Draw the symbol for waterfalls

5. Name any two examples of waterfalls on River Nile.

   1) _____ 2) _____

6. What term is used to refer to;

   (a) a point where two or more rivers meet?

_____

   (b) a point where a river originates?

_____

7. Give one importance of waterfalls to people.

_____

**Uses of Lakes and Rivers**

a) They help in the formation of rainfall.

b) They are used as fishing grounds.

c) They are used for transport.

d) Rivers are used to generate HEP.

e) Some are sources of minerals.

f) They are sources of water for industrial and home use.

**Dangers of Lakes and Rivers**

a) They flood incase of heavy rainfall.

b) They habour dangerous wild animals that can kill people.

c) They are breeding places for many vectors.

d) People drown in lakes and rivers.

**Problems faced by lakes and rivers**

- Drought
- Pollution (water pollution)
- Dumping of garbage

**Possible solutions to the problems faced by lakes and rivers**.

- Planting trees
- Discouraging water pollution
- Sensitising people about the dangers of water pollution

**Assignment 14**

1. How are lakes and rivers important to the people of our community?

_____

2. Draw and name one means of water transport.

_____

3. Mention any one problem facing lakes and rivers.

_____

4. State any one way problems facing lakes and rivers can be overcome.

_____

5. Write any two dangers of lakes to people.

   (i) _____

   (ii) _____

6. What are drainage features?

_____

7. Identify any one drainage feature found in your district.

_____

8. Mention any two animals which stay in water.

_____

9. What type of rainfall is received by people living near lakes and rivers?

_____

**GJS – PRIMARY FOUR – SCIENCE REVISION WORK - SET 3**

**Name:** …… **Stream** ……

## Crop Growing

What is a crop?

**A crop is plant grown for a purpose.**

**Crops are plants grown by people.**

Importance of crops

Source of income (cash crops)

For food (home consumption)

Types of crops

- Cereals (grains/monocotyledonous)
- Legumes/leguminous dicotyledonous)
- Root crops
- Fruit crops
- Vegetables

Resources needed for crop growing

Land, Capital, Time,

Labour, Management, Information,

## Assignment 1

1. Give four examples of cereals

_____ _____

_____ _____

2. List down examples of leguminous crops/legumes

_____

3. Identify any two characteristics of leguminous crops

   (i) _____

   (ii) _____

4. Write down five examples of fruit crops

_____

_____

5. Mention three types of vegetables.

_____

## Resources needed for crop growing

### 1. Land

Farmers need land to grow crops.

Ways of getting land

- Inheriting land
- Buying land
- Renting land

### 2. Labour

Work on the farm/garden should be done using people, machines or animals (oxen)

**Types of Labour**

- Family labour
- Communal labour
- Hired labour

**3. Capital**

A farmer needs money to buy requirements and equipment e.g seeds, garden tools etc.

**4. Time**

Farmers need to know the timing of seasons e.g season of planting.

**5. Management**

Caring for the crops in the garden or farm

Ways of caring for crops

- Weeding - pruning - manuring - mulching
- thinning - controlling pests

**Information is needed for the following reasons**;

- To know improved crop varieties
- To know improved methods of farming
- To know pests and diseases which attack crops
- To know prices of harvested crops.

**Assignment 2**

1. State the best season for;

(a) planting crops _____

(b) Harvesting crops _____

2. Define the following terms

Pruning: _____

Thinning: _____

Weeds: _____

3. Why do farmers mulch their gardens?

_____

**Groups of crops**

1) Annual crops
2) Perennial crops

**Annual Crops**

These are crops which have short life span. They are planted seasonally and harvested in one season.

**Examples of annual crops** are;
beans, maize, millet, sorghum, simsim, rice
soya beans ground nuts.

**Perennial Crops**

These are crops which have long life span. They are crops which live for many years.

**Examples of perennial crops** are
Coffee, Bananas, Cocoa, Sugarcane, Vanilla, Tea

**Methods of planting crops**

1) Row planting method/planting in rows.
2) Broadcasting method

**<u>Row planting</u>**

This is when planting materials are put in the soil in lines.

**Advantages of row planting**

- It makes weeding easy
- It makes harvesting easy
- It controls easy spread of pests and diseases
- It avoids wastage of seeds and other planting materials
- It allows proper spacing of crops

**Disadvantages of row planting**

- It needs much labour
- It is time consuming
- It requires large piece of land

**Examples** of plants which are planted in rows are;

Cassava, Beans Pineapple, Potatoes Cabbage

**Assignment 3**

1. Mention any two annual and perennial crops grown in your communities.
   (a) Annual crops _____ _____
   (b) Perennial crops _____ _____

2. In which season are plants very green? _____
3. In which season do trees shed their leaves? _____
4. Name the plants which shed their leaves during dry season

   _____

## Broadcasting method

This is the putting of seeds in the soil while scattering them.

### Advantages of broadcasting method

- It saves time
- It does not need a lot of labour
- It does not waste nutrients in soil

### Disadvantages of broadcasting method

- It makes weeding difficult
- It makes harvesting difficult
- Pests and diseases can easily spread
- Plants compete for nutrients and sunlight.

### Gap filling

This is the planting of seeds or seedlings where they did not germinate.

### Ways of caring for crops

- Weeding
- Manuring
- Controlling pests and diseases
- Mulching
- Thinning
- Applying fertilizers
- Watering
- Pruning
- Staking

**Weeding**: This is the removal of unwanted plants from the garden.

Garden tools used for weeding

Hoe Hand fork Slasher

**Examples of weeds**

| | | | |
|---|---|---|---|
| Spear grass | Star grass | Elephant grass | Thorn apple |
| Black jack | Guinea grass | Couch grass | wondering jew |

Ways of controlling weeds

Slashing, uprooting, mulching, digging, crop rotation, spraying weeds using herbicides

**Assignment 4**

1. Give any two examples of seeds which are planted using broadcasting method.

_____

2. Why do farmers prefer to use broadcasting method?

_____

3. Give two examples where farmers can carry out gap filling.

_____

_____

4. What are weeds?

_____

5. Identify any two ways of caring for crops.

_____ _____

## Advantages of weeding a garden

- It makes harvesting easy
- It controls the spread of crop pests and diseases
- It reduces competition for sunlight, soil nutrients and space.

## Disadvantages of weeds in the garden

- They compete for sunlight, soil nutrients and space.
- They encourage easy spread of pests and diseases
- They reduce the yield of the crops
- They make harvesting difficult

## Uses of weeds to people

- Some weeds are used as medicine.
- Some are used as mulches
- Some weeds protect crops from pests, e.g Thorn apple
- Some weeds are used as animal feeds.

**Manuring**: Is the addition of dead plant and animal matter into the soil to make it more fertile.

Sources of Manure

- Animal dung and urine
- Plant remains
- Green plants

## Types of manure (natural fertilizers)

(1) Compost Manure
(2) Green Manure
(3) Farm Yard Manure (F.Y.M)

**Compost Manure**: It is got from plant materials and house hold refuse.

**Green Manure**: It is got from ploughed, buried and rotten green materials like legumes.

**Farm Yard Manure**: It is got from farm animal wastes, urine and their beddings.

**Mulching**: Is the covering of top soil with dry plant materials.

Materials used to mulch gardens are called mulches.

## Examples of mulches

- Elephant grass – chopped stems of bananas – Maize straws
- Coffee husks – spear grass –Banana leaves

## Advantages of mulching

It keeps water (moisture in the soil)

It controls soil erosion

It improves on soil fertility

It controls the rapid growth of weeds

## Disadvantages of mulching

- Mulches hide pests
- Some mulches can grow into weeds
- It is tiresome
- They can be a fire hazard

## Assignment 5

1. State any two uses of weeds to people

   (i) _____

   (ii) _____

2. Write F.Y.M in full.

_____

3. Write down any two examples of mulches.

(i) _____ (ii) _____

**Pruning**: This is the cutting of excess leaves or branches from a plant.

It is the removal of un-wanted parts of a plant.

**Advantages of pruning**

- It reduces the easy spread of crop diseases.
- It reduces competition for sunlight, water, nutrients and air.
- It reduces on the weight of a plant.
- It improves on crop yields.

**Garden tool used for pruning**

Secateurs/Pruner

**Thinning**: This is the removal of excess or over-crowded crops in the garden.

**Advantages of thinning**

- It reduces competition for crop nutrients.
- It reduces the easy spread of pests and diseases
- It improves on crop yields

**Watering**: Is the supply of water to crops in the dry season.

**Uses of water in soil**

- It is used for seed germination.
- It makes the soil soft for roots to grow easily.
- It softens the ground for easy weeding
- Plants use water to make their food
- Cools the environment and avoids drying of plants.

**Staking**: This is the giving extra support to plants with weak stems.

Crops that need staking are; Bananas, passion fruits, Tomatoes, etc.

**Advantages of staking**

It helps a plant to grow until it matures without breaking

It prevents the fruit from rotting as it sits on the ground

It allows the plant to get the necessary sunlight.

**Assignment 6**

1. Name the garden tool used to prune.

_____

2. Why is it necessary to prune crops?

_____

_____

3. Define the term thinning.

_____

4. Why do farmers water their crops in the dry season?

_____

_____

5. Why is it important to stake growing crops?

_____

_____

## Crop rotation

Crop rotation is the growing of different types of crops on the same piece of land season after season (seasonally)

## Advantages of crop rotation

- It improves soil fertility.
- It controls soil erosion.
- It controls crop pests and diseases.

**Note**:

1) Legumes are alternated with non-leguminous crops. This is because legumes add nutrients to the soil.

2) Shallow rooted crops are alternated with deep rooters. This is because it balances the use of nutrients from soil at different levels of the soil.

**Pests**: These are living organisms that destroy or damage crops.

**Examples of pests** are;

- Army worms - Maize stalk borer - Birds - Locusts - Aphids
- Cotton stainer - Banana weevil - Squirrels - Snails -Rats
- Maize weevil - Bean weevil - Termites - Monkeys etc.

## Dangers of crop pests

They weaken plants

They lead to low yield/produce

They lead to poor growth of crops

They destroy crops

They reduce the quality of the yield.

## Ways of controlling crop pests

- Spraying pesticides
- Using scare crows to scare away pests e.g monkeys
- By practicing crop rotation
- By planting pest free materials
- Regular weeding
- Uprooting and burning infected crops
- Proper spacing
- Early planting
- By trapping
- By Poisoning
- By fencing
- Early harvesting

## Assignment 7

1. How is crop rotation important to farmers?

_____

2. How does crop rotation control pests in the garden?

_____

3. Name any two pests that damage stored crops

(i) _____ (ii) _____

4. Which way is the best for controlling crop pests and diseases?

_____

**Diseases of crops**

| **Diseases** | **Plant attacked** |
|---|---|
| Cassava mosaic | Cassava plant |
| Tomato blight | Tomatoes |
| Ground nut rosette | Groundnuts |
| Leaf spot | Maize |
| Maize streak | Maize |
| Powderly mildew | Mangoes, pawpaws |
| Smuts | Sugarcane, maize |
| Rust | Cereals e.g millet |
| Panama (Banana wilt) | Banana |

**Ways of controlling crop diseases**

1. By crop rotation
2. By spraying against pests and diseases
3. Uprooting and burning infected crops
4. Planting health materials
5. Proper spacing
6. Early planting

**Signs of crop diseases.**

- Poor growth of the plant
- The leaves become yellow in colour.
- Deformed leaves (the leaves develop abnormal shapes)
- Wilting of crops (wilting is the weakening of plants caused by heat, loss of water or disease)
- Brown or black spots developing on leaves, stems, fruits and roots
- Reduced yields
- Rotten crop parts.

**Assignment 8**

1. Identify any two diseases that attack mainly cereals.
   (i) _____ (ii) _____

2. Why should farmers control disease in crops?

_____

3. Which disease attacks cassava?

_____

4. Name the chemical used to kill pests.

_____

5. State any effect of pests and diseases in crops.

_____

6. Name the garden tool used to spray pests and diseases.

_____

## Harvesting

This is the collecting of ready (mature) crops from the garden.

Harvesting is usually done in the dry season. This is to ensure proper drying of harvested crops before storage e.g maize, rice, beans sorghum etc.

## Methods of harvesting

- Hand picking e.g Coffee, tea, oranges
- Cutting e.g Banana, sugarcane
- Uprooting e.g Cassava, groundnuts, beans
- Digging out e.g potatoes, cassava

## Garden tools used to harvest

| **Tool** | **Purpose** |
|---|---|
| Sickle | Harvesting cereal crops |
| Hoe | Harvesting root crops |
| Panga | Harvesting banana, sugarcane |
| Knife | Harvesting millet, bananas |

## Disadvantages of early harvesting

- The seeds contain moisture
- Seeds shrink
- Less yield
- Seeds are good for planting in the next season

**Storing**: This is the keeping of food safe for future use.

## Reasons why farmers store food

- To be eaten in the dry season
- For planting in the next season
- To be sold when market prices are better

## Places where food can be stored

- Granaries - Ceilings - Holes - Calabashes
- Refrigerators - silos etc.

## Types of stores

1) Traditional stores
2) Modern stores

## Qualities of a good store

1) It should be well ventilated
2) The roof should be leak proof (water proof)
3) It should have rat guards
4) It should be clean and dry

## Assignment 9

1. Why is harvesting usually done in the dry season?

_____

2. Mention at least two garden tools for harvesting.

_____

3. Suggest any one method of harvesting.

_____

4. List down one place where food can be stored.

_____

5. Why are rat guards put on the granary?

_____

## Food preservation

Food preservation is the keeping of food for a long time without going bad.

### Methods of preserving food

| Method | Examples of food |
|---|---|
| Sun drying | Cassava, sweet potatoes, maize, sun flower, millet |
| Salting | Meat, fish |
| Smoking | Meat, fish |
| Tinning/canning | Meat, chicken, Tomatoes, milk |
| Refrigeration | All fruits, vegetables, meat, fish |

## Record keeping

This is the written information about activities done on a farm.

## Examples of farm records

1) Date when clearing of land is done.
2) Date when sowing of crops
3) Date when first weeding is done.
4) Date when harvesting is done.
5) Amount to be stored after harvesting and drying
6) Income and expenditure.

## Why farmers keep records

1) It enables a farmer to know when some activities are done in each season.
2) To keep the history of the farm
3) It enables a farmer to know the tool, equipment.
4) Records can be used to get bank loans.
5) It enables a farmer to know the profits and losses.
6) Records enable the farmer to be taxed fairly.

## Assignment 10

1. Identify any two local methods of preserving food.

_____ _____

2. Why do some farmers sun-dry their harvested crops?

_____

3. Which local method of preserving food can preserve food for a long time?

_____

4. Name any four garden tools used in clearing land.

_____ _____

_____ _____

5. Why do farmers need their crops?

_____

6. Which garden tool is used to carry harvested crops?

_____

# GJS – PRIMARY FOUR – MATHEMATICS REVISION WORK - SET 3

**Name:** …… **Stream** ……

## NUMERACY

### Number pattern and sequence

What a pattern?

(a) A **pattern** is an order of numbers that leads to a sequence.
**or**
A **pattern** is an order of numbers that leads to a set of other numbers (sequence)

(b) A **sequence** is a set of well defined numbers following a certain pattern.

### Categories of patterns

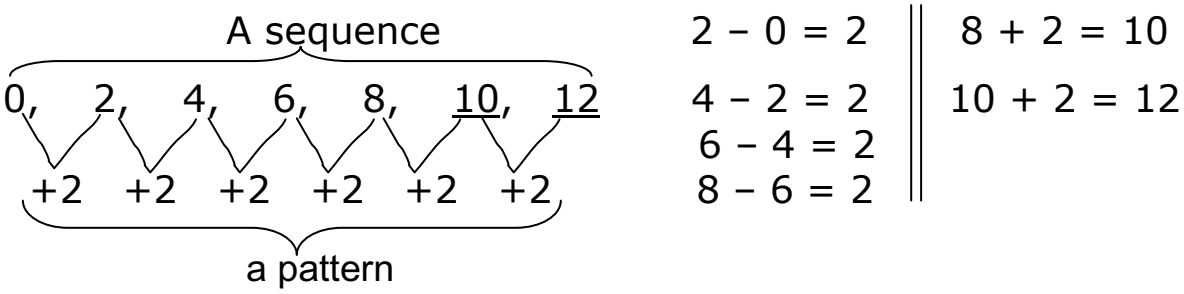
1) Increasing patterns
2) Decreasing patterns
3) Increasing and decreasing patterns

How to obtain patterns

- By adding
- By subtracting
- By multiplying
- By dividing
- sometimes basing on type of numbers such as prime numbers.

## Simple illustration for pattern and sequence

Sequence




N.B: {0, 2, 4, 6, 8, 10, 12}– (These form a sequence)

{+2, +2, +2, +2 …..}– These form a pattern

**Note**: Many times patterns and sequence are obtained from types of numbers as indicated below.

1) Whole numbers
2) Counting/natural numbers
3) Even numbers
4) Odd numbers
5) Prime numbers
6) Composite numbers
7) Square numbers
8) Cube numbers
9) Triangular numbers
10) Rectangular numbers
11) Cardinal numbers
12) Ordinal numbers

a) whole numbers

Whole numbers: This is a set of all natural numbers together with Zero written to infinity.

Examples of whole numbers are;

{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, …….}

**Examples of pattern and sequence on whole numbers**

a) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, (increasing pattern)

+1 +1 +1 +1 +1 +1 +1 +1 +1 +1 +1 +1

b) 99, 98, 97, 96, 95, 94, 93, 92, 91 (decreasing pattern)

-1 -1 -1 -1 -1 -1 -1 -1

**Counting/Natural numbers**: This is a set of numbers used in counting objects starting with 1, 2, …… to infinity.

Counting/natural numbers = {1, 2, 3, 4, 5, 6, 7, 8, …..}

**N.B**: Both counting and whole numbers have same form of patterns, the only difference is wholes start with "**0**" which is not the case in counting numbers.

**Exercise 1**

1. List down the first 9 counting numbers.

2. List down the first 3 whole numbers.

3. Set **P** is a set of whole numbers between 5 and 15. Find members of set **P**.

4. Find the sum of whole numbers between 9 and 20

5. Calculate the difference of the 3rd and 10th counting numbers.

6. Find the product of 3rd and the 13th whole number.

7. Complete the sequences below;

   a) 100, 101, 102, 103, _____ , _____ , _____ , _____ , 108, _____, _____

   b) 27, 26, 25, 24, _____ , _____ , _____ , _____ , _____

## Even and Odd numbers

(i) **Even Numbers**: This is a set of all numbers which are divisible by two.

Examples of even numbers – {0, 2, 4, 6, 8, 10, …….}

### Examples of patterns on even numbers

Complete the sequence

(a) 0, 2, 4, 6, 8, 10, 12, 14

+ 2 +2 +2 +2 +2 +2 +2

(b) 48 46 44 42 40 38 36 34

-2 -2 -2 -2 -2 -2 -2

(ii) **Odd Numbers**: This is a set of numbers which when divided by **2**, they give "**1**" as a remainder.

They are the opposites of even numbers. Odd numbers come after every an even number.

Examples of odd numbers – {1, 3, 5, 7, 9, 11, 13, ….}

Sequence and pattern of odd numbers

Complete the sequences below;

(a) 1, 3, 5, 7, 9, 11, 13, 15, 17

+2 +2 +2 +2 +2 +2 +2 +2

(b) 25, 23, 21, 19, 17, 15, 13, …..

-2 -2 -2 -2 -2 -2

**Exercise 2**

1. Work out the sum of the first 4 odd numbers

2. Find the product of the 3rd and 8th even numbers.

3. Set **W** is a set of even numbers between 24 and 30

   (a) List down the elements of set **W**.

   (b) Work out the product of the elements in the set above.

(c) List down all the subsets in set **W**.

4. Find the $13^{th}$ even number.

5. List down all the odd numbers between 19 and 38

6. Fill the blank spaces below;

   (a) 51, ☐ 47 ☐ 43, ☐ 39

   (b) 11, ☐ 15 , ☐ 19, ☐ 23

   (c) 44, ☐ 40, ☐ 36, ☐ 32, 30

   (d) 8, ☐ 12, ☐ 16, ☐ 20 ☐ ☐

7. Find the next number after 45, 43, 41, ……

8. Find the next number after 10, 11 ……..

## Composite and Prime Numbers

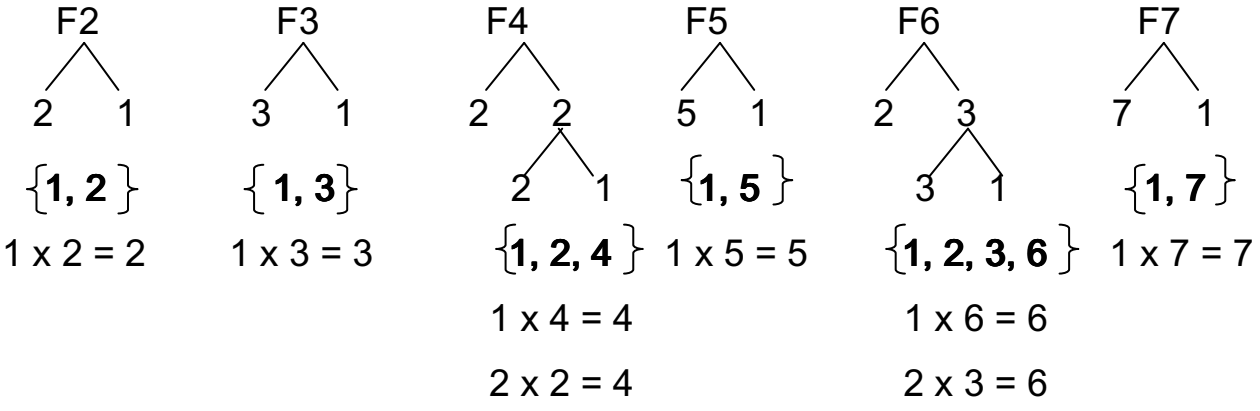
(i) **Prime Numbers**: This is a set of numbers with only two factors i. e "1" and itself.

Examples of Prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, …..

(ii) Composite Numbers: This is a set of numbers with more than two factors. They are the opposite of prime numbers. The first composite number is "**4**"
Examples of composite numbers – {4, 6, 8, 9, 10, 12, 14, 15, 16, …}

### Testing for Prime and Composite numbers using their factors

| Natural numbers | Factors | |
|---|---|---|
| 1 | {1} | |
| 2 | {1, 2} | Prime |
| 3 | {1, 3} | Prime |
| 4 | {1, 2, 4} | Composite |
| 5 | {1, 5} | Prime |
| 6 | {1, 2, 3, 6} | Composite |
| 7 | {1, 7} | Prime |
| 8 | {1, 2, 4, 8} | Composite |
| 9 | {1, 3, 9} | Composite |



## Exercise 3

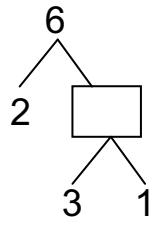
1. Find the first 5 prime numbers

2. List down the first 4 composite numbers

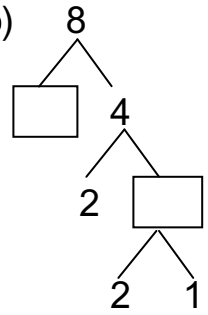
3. Find the product of 5 and the first composite number

4. Complete the statements below.

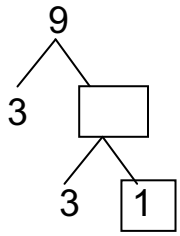
(a)




(**b**)




(**c**)



5. Work out the sum of the first 3 prime numbers

6. Calculate the difference of the third and fifth composite numbers.

7. Circle the prime numbers in the list below

   1, 4, 5, 6, 7, 9, 11

**Square and cube numbers**

(i) **Square Numbers**: This is a set of numbers got by multiplying a natural number by itself.

How to get square numbers

| Natural Numbers | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | → |
|---|---|---|---|---|---|---|---|---|---|
| | 1 x 1 | 2 x 2 | 3 x 3 | 4 x 4 | 5 x 5 | 6 x 6 | 7 x 7 | 8 x 8 | → |
| Square Numbers | 1 | ___ | ___ | 16 | 25 | ___ | ___ | 64 | → |

Therefore, square numbers are 1, ____, ____, 16 , 25, ____ , ____, 64

(ii) **Cube Number**: This is a set of numbers got by multiplying a natural number by itself two times.

How to get cube numbers

| Natural Numbers | 1 | 2 | 3 | 4 | 5 | 6 | → |
|---|---|---|---|---|---|---|---|
| | 1x1 x1 | 2 x 2 x 2 | 3 x 3 x 3 | 4 x 4 x 4 | 5 x 5 x 5 | 6 x 6 x 6 | → |
| Square Numbers | 1 | 8 | 27 | 64 | 125 | ___ | → |

Therefore, cube numbers are 1, 8, 27, 64 , 125, ____

(iii) **Triangular numbers**: This is a set of numbers obtained by adding consecutive natural numbers cumulatively starting from 1

How to get triangular numbers =

1 = 1

1 + 2 = 3

1 + 2 + 3 = 6

1 + 2 + 4 + 4 = 10

1 + 2 + 3 + 4 + 5 = 15

1 + 2 + 3 + 4 + 5 + 6 = 21

1 + 2 + 3 + 4 + 5 + 6 + 7 = 28

1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 = 36

Triangular numbers are $\{1, 3, 6, 10, 15, 21, 28, 36\}$

**Cardinal and Ordinal numbers**

**Cardinal numbers** refer to the number of things/objects such as pens books, bags, birds, etc. Therefore, cardinal is more of quantity e.g how many hens

**Ordinal numbers** refer to the order of things/objects (positions, ranking or placement of objects)

**Simple illustration**

| Cardinal | Ordinal |
|---|---|
| 1 | 1st (first) |
| 2 | 2nd (second) |
| 3 | 3rd (third) |
| 4 | 4th (fourth) |
| 5 | 5th (fifth) |
| 13 | 13th (thirteenth) |

**Exercise 4**

1. Calculate the sum of the first 5 triangular numbers

2. Find the third triangular number

3. List down the first 5 square numbers

4. Work out the sum of the first and third cube numbers.

5. Find the product of the third and sixth square numbers.

6. Complete the sequence below

   25, 16, 9, ____ , ____

7. Find the square of ;

   a) 6

   c) 11

   b) 10

## Multiples

Multiplication tables of different numbers

Multiples of 2, 3, 4, 5, 6, 7, 8, -----

The first 9 multiples are vital

Multiples are got by repeated addition.

Therefore, a **multiple** is a product of a given number and another whole number greater than zero. e.g 2 x 5 = 10. Therefore, **10** is a multiple of **2** .

M2

| X | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 |

M2 = {2, 4, 6, 8, 10, 12 ---}

M3

| X | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | --- |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | ___ | ___ | ___ | --- |

$M3 = \{3, 6, 9, 12, 15 \text{ ---} \}$

M4

| X | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | --- |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | --- |

$M4 = \{ 4, 8, 12, 16, 20, 24, 28, 32 \text{ ---} \}$

## Exercise 5

1. Find and list down the first 10 multiples of;

   (a) 5

   (b) 6

   (c) 7

   (d) 8

(e) 9

(f) 10

(g) 11

(h) 12

2. List down the multiples of 3 between 5 and 30

3. List down the multiples of 10 less than 60.

4. Work out the sum of multiples of 6 between 9 and 25 .

## Common Multiples

Finding different common multiples

Common multiples are the numbers which appear in different set of multiples of numbers.

## Examples

1. Find the common multiples of **3** and **4**.

   $M_3$ = {3, 6, 9, **12**, 15, 18, 21, **24**, 27, 30, 33, **36**, ……}

   $M_4$ = {4, 8, **12**, 16, 20, **24**, 28, 32, **36**, ……}

   Common Multiples = {12, 24, 36 ……}

2. Find the common multiples of **5** and **10**

   $M_5$ = {5, 20, 15, 20, 25, 30, 35, 40, 45, 50, 55, ……}

   $M_{10}$ = {10, 20, 30, 40, 50, 60, 70, 80, 90, ……}

   Common multiples = {10, 20, 30, 40, 50, ……}

## Exercise 6

Find the common multiples of;

(a) 3 and 2

(b) 5 and 7

(c) 6 and 7

(d) 3 and 8

(e) 5 and 3

(f) 4 and 5

(g) 8 and 9

(h) 4 and 6

## Finding Lowest Common Multiples of different numbers (LCM)

LCM = Lowest Common Multiples

LCM can also be called LCD (Lowest Common Divisor)

LCM is more useful when it comes to the addition, subtraction and division of fraction with different denominators.

## Examples

1. The LCM of 4 and 6 .

   $M_4 = \{4, 8, \mathbf{12}, 16, 20, \mathbf{24}, 28, 32, \mathbf{36}, \ldots\}$

   $M_6 = \{6, \mathbf{12}, 18, \mathbf{24}, 30, \mathbf{36}, 42, 48, \ldots\}$

   $CM = \{12, 24, 36 \ldots\}$

   LCM of 4 and 6 is **12**.

2. Find the LCD of 3 and 7

   $M_3 = \{3, 6, 9, 12, 15, 18, \mathbf{21}, 24, 27, 30, 33 \ldots\}$

   $M_7 = \{7, 14, \mathbf{21}, 28, 35, 42, 49 \ldots\}$

   $CM = \{21 \ldots\}$

   LCD of 3 and 7 is **21**

## Exercise 7

Find the LCM of the following numbers below

a) 3 and 8

b) 2 and 9

(e) 4 and 9

c) 4 and 7

(f) 2 and 3

d) 8 and 7

(g) 2 and 3

## FACTORS

### Finding Factors of numbers.

What is a factor?

A factor is a smaller number which can divide a bigger number completely (without a remainder).

Note: – One (1) is the smallest factor of any number and the first factor ever.

- A number itself is the largest and last factor in its factors.
- We find pairs of numbers which can give the product of that number of interest.
- While listing factors of a number, we do not repeat them.
- Finally it is always better to list factors in ascending order.
- In case of a factor tree, we use prime numbers to find facors.

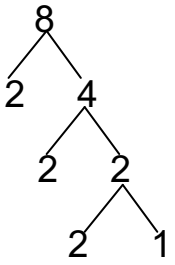
## Examples

List down the factors of the numbers below

1. F8

   1 x 8 = 8

   2 x 4 = 8 **or**

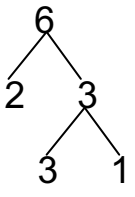



F8 = {1, 2, 4, 8}

2. F6

   1 x 6 = 6

   2 x 3 = 6 **or**




F6 = {1, 2, 3, 6}

3. F7

   1 x 7 = 7


F7 = {1, 7}

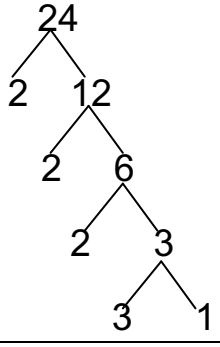
4. F24

   1 x 24 = 24

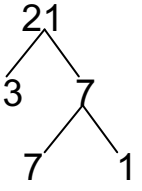
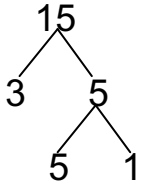
   2 x 12 = 24 or

   3 x 8 = 24

   4 x 6 = 24




F24 = {1, 2, 3, 4, 6, 8, 12, 24}

| | |
|---|---|
| 5. F21<br>1 x 21 = 21<br>3 x 7 = 21 or  | F21 = {1, 3, 7, 21} |
| 6. F15<br>1 x 15 = 15<br>3 x 5 = 15 or  | F15 = {1, 3, 5, 15} |

## Exercise 8

Find and list the factors of the following numbers

a) 4

b) 9

c) 10

d) 14

e) 17

f) 18

g) 16

h) 20

i) 30

j) 22

k) 38

l) 45

m) 27

## Finding GCF/HCF/GCD

N.B: GCF = Greatest Common Factor
HCF = Highest Common Factor
GCD = Greatest Common Divisor
} all mean the same

GCF is most used in reducing fractions/simplifying fractions to their simplest form.

## Examples

1. Find the GCF of 4 and 8

F4 = 1 x 4 = 4 | F8 = 1 x 8 = 8

2 x 2 = 4 | 2 x 4 = 8

F4 = {1, 2, 4} | F8 = {1, 2, 4, 8}

C.F = {1, 2, 4}

G.C.F of 4 and 8 is **4**

---

2. Find the HCF of 9 and 6

F6 = 1 x 6 = 6 | F9 = 1 x 9 = 9

2 x 3 = 6 | 3 x 3 = 9

F4 = {1, 2, 3, 6} | F9 = {1, 3, 9}

C.F = {1, 3}

G.C.F of 9 and 6 is **3**

---

3. Find the GCD of 12 and 21

F12 = 1 x 12 = 12 | F21 = 1 x 21 = 21

2 x 6 = 12 | 3 x 7 = 21

3 x 4 = 12 | F21 = {1, 3, 7, 21}

F12 = {1, 2, 3, 4, 6, 12}

C.F = {1, 3}

G.C.F of 12 and 21 is **3**

---

## Exercise 9

Find the G.C.F of the following numbers below

a) 6 and 10

b) 12 and 15

c) 8 and 24

d) 21 and 14

e) 6 and 12

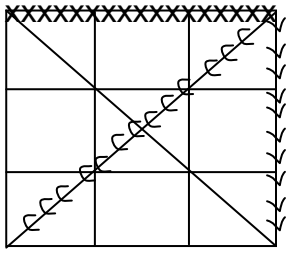
f) 12 and 16

## To find the missing numbers on a magic square

**Magic Square**: This is a table made up of a set of numbers arranged and organinsed in rows, columns and in diagonals.

**N.B**: We follow either rows, columns or diagonal to find the sum/total called magic sum.

**Simple illustration**



Row

Column

Diagonal

**Steps taken**

- First find the diagonal, row or column with only knowns
- Add them for magic sum
- Using the magic sum, start with a row, column or diagonal with one unknown and form the equation.
- Find the other unknowns in the same way using the same magic square.
- Conclude with testing you rows, columns and diagonals in a table of only knowns.

**Example**s

1. Find the unknown in the magic square below.

| | | |
|---|---|---|
| **e** | **d** | 6 |
| **b** | 5 | 7 |
| 4 | **c** | **a** |

There are **two ways of getting magic sum/total**

1) by addition i.e 4 + 5 + 6 = 15
2) by multiplication i.e middle number X the number of

boxes on one side. 5 X 3 = 15

**a**

**a** + 7 + 6 = 15

**a** + 13 = 15

**a** + 13 – 13 = 15

**a** = 2

**b**

**b** + 5 + 7 = 15

**b** + 12 = 15

**b** + 12 – 12 = 15 – 12

**b** = 3

**c**

**c** + 4 + 2 = 15

**c** + 6 = 15

**c** + 6 – 6 = 15 – 6

**c** = 9

**d**

**d** + 5 + 7 = 15

**d** + 5 + 9 = 15

**d** + 14 = 15

**d** + 14 – 14 = 15 -14

**d = 1**

**e**

**e** + **d** + 6 =15

**e** + 1 + 6 = 15

**e** + 7 = 15

**e** + 7 – 7 = 15 – 7

**e = 8**

2. (a) Complete the table below.

| | | |
|---|---|---|
| 11 | **k** | 9 |
| **p** | 8 | **r** |
| 7 | 12 | 5 |

Magic sum

8 X 3 = 24

| **k** | **p** |
|---|---|
| **k** + 11 + 9 = 24 | **p** + 11 + 7 = 24 |
| **k** + 20 = 24 | **p** + 18 = 24 |
| **k** + 20 – 20 = 24 – 20 | **p** + 18 – 18 = 24 - 18 |
| **k** = 4 | **p** = 6 |

| **r** |
|---|
| **r** + p + 8 = 24 |
| **r** + 6 + 8 = 24 |
| **r** + 14 – 14 = 24 – 14 |
| **r** = 10 |

(b) Using the table above prove that;

(i) Even + Even = Even

8 + 12 = 20

(ii) Odd + Odd = Even

___ + 7 = ___

(iii) Odd + Even = Odd

___ + ___ = ___

## Exercise 10

Find the unknown and missing numbers in the magic squares below;

1.

| | | |
|---|---|---|
| 12 | **w** | 10 |
| **k** | 9 | **t** |
| **p** | **r** | 6 |

Find the value of

(i) **w**

(ii) **t**

(iii) **k**

(iv) **r**

(v) **p**

2.

| | | |
|---|---|---|
| 7 | 12 | 5 |
| **a** | **b** | 10 |
| **c** | **d** | 9 |

Find the value of;

(i) **b**

(ii) **d**

(iii) **c**

(iv) **a**

3.

| | | |
|---|---|---|
| 6 | __ | 4 |
| __ | 7 | __ |
| __ | __ | 8 |

(a) Find the missing numbers

(b) List down all the odd numbers in the above table.