ENGLISH WORKSHEETS

CLASS-VII

MONTH-APRIL

Q1.Read the following passage and answer the questions that follow:

India Today

I. We have heard about the greatness and prosperity of India. She was once the Guru of the world. People from all over the world came here to study and acquire knowledge. India was then the golden sparrow which attracted traders from all parts of the world. But, India today is certainly not an India of anybody's dream. It is now chaotic and turbulent. Its inhabitants are torn with communal strife, casteism and regionalism. The political leaders are not patriots of a very high order. They are not wedded to higher political ideals. They desire for power, their personalities are disintegrated. There is mass discontent among the people.

II. Prices are rising at an alarming rate. The production has gone down. In fact, it needs a lot of improvement in all spheres of the national front. India today is self-sufficient in food. Hundreds of crores rupees are being spent to tap the petroleum resources of India. New wells, in the country and on the high seas, are being sunk in order to produce more petrol and gas and save valuable foreign exchange.

III. The people of India as they are today are self-centered, backward, corrupt and politically ignorant. There are dishonest on all fronts. They have lost confidence and look to the government for everything. They are a crisis of character. Everyone has the desire to become a millionaire by hook or by crook. They want easy money. They don't mind adopting the worst tactics for the purpose. More than 60% of the people are living below the poverty line. Wealth tends to go on to concentrate in the hands of a few people.

IV. The society is torn with internal conflicts and tensions. There is an absence of communal harmony. There are loot, arson and murder even on the slightest pretext. Murders and widespread violence and terrorism, this is the order of the day. There is a large scale of exploitation on all fronts. There is no equality of opportunity. Those who have money, power and influence, rule the people.

(350 words)

1.1 Complete the statement.
    a. Political leaders are not true patriot because they desire for _____.
    b. There is no equality of opportunity because_____.

1.2 Answer the following questions.

    a. Explain the attitude and character of people in today's world.
    b. Why the society is torn with internal conflicts and tensions?

1.3 Write the synonyms of the following:

    a. important (para II)   b. lack of (para IV)

Q2.Read the following passage and answer the questions that follow:

I. Basketball, game played between two teams of five players each on a rectangular court, usually indoors. Each team tries to score by tossing the ballthrough the opponent's goal, an elevated horizontal hoop and net called a basket.

II. The only major sport which originated in the USA, basketball was invented by James Naismith (1861–1939) on or about December 1, 1891, at the International Young Men's Christian Association (YMCA) Training School (now Springfield College), Springfield, Massachusetts, where Naismith was an instructor in physical education.

III. For that first game of basketball in 1891, Naismith used as goals two peach baskets, which gave the sport its name. The students were enthusiastic. After much running and shooting,William R. Chase made a midcourt shot—the only score in that historic contest. Word spread about the newly invented game, and numerous associations asked Naismith for a copy of the rules, which were published in the January 15, 1892, in the issue of the *Triangle*, the YMCA Training School's campus magazine.

IV. While basketball is competitively a winter sport, it is played on a 12-month basis—on summer playgrounds, in municipal, industrial, and church halls, in school yards and in summer camps—often on an informal basis between two or more contestants. Many grammar schools, youth groups, municipal recreation centres, churches, and other organizations conduct basketball programs for youngsters of less than high school age. Jay Archer, of Scranton, Pennsylvania, introduced "biddy" basketball in 1950 for boys and girls under 12 years of age, the court and equipment being adjusted for size.

1.1 Choose the correct option:
   a) Basketball originated in ……..
       i) USA   iii) India
       ii) Greenland   iv) Australia
   b) Basketball was invented by………
       i)Jay Archer   iii) James Naismith
       ii) William R. Chase   iv) John F Kennedy

1.2 Answer the following questions in about 20-25 words:
   a) What gave the sport of basketball its name?
   b) Who introduced "biddy" basketball and for whom?

1.3 Find the words from the passage which mean:
   a) sport (para I)   b) teacher (para II)

Q3 Read the poem and answer the questions that follow.

<p align="center">LEARNING FROM NATURE</p>

<p align="center"><i>Look at the birds, O children dear!</i></p>
<p align="center"><i>And learn to be carefree.</i></p>
<p align="center"><i>Look at the flowers, O little ones!</i></p>
<p align="center"><i>And laugh and live in joy.</i></p>

<p align="center"><i>From the deer you can learn to skip</i></p>
<p align="center"><i>And learn to sing from the birds.</i></p>

Watch the sky, and learn to draw
A hundred scenes from the clouds

Look at the trees, O children dear!
And learn to serve always.
Look at the mountains and the streams
And learn to face the storms

God has made this lovely world
For you to see and learn
Like the sun you have to shine
And brighten other's lives

3.1 Choose the correct option:

a) What is the poet asking the children to look at?
   i. birds   ii. animals   iii. reptiles   iv. none of these
b) What is the poet asking the children to learn from the birds?
   i. to be naughty   ii. to be carefree   iii. to rob people   iv. none of these
c) To brighten other's lives one must _____.
   i. shine like the moon   ii. shine like the sun   iii. twinkle like the stars   iv. none of these
d) According to the poet, drawing can be learnt from _____.
  i. the sun   ii.the moon   iii. the stars   iv. the sky
e) Who has made this lovely world?
   i. God   ii. human beings   iii .ancestors   iv. evil spirits
f) Which poetic device is used in the given line "O children dear."
   i. simile   ii. metaphor   iii. alliteration   iv. Repetition

3.2 Answer the following questions:
   1) What all we learn from nature?
   2) To whom the poem is addressed and why?
3.3 Find out the antonyms of:
   1) unhappy (stanza 1)
   2) dull (stanza 4)

Q4 Read the poem carefully and answer the following questions:

THE ROOT OF ALL EVILS

Money is the root of all evil
and greed of money makes man a devil.
Man loves money
like a bee loves honey.

Today man wants to accumulate more wealth
without caring even a bit about health.
Money leads to many crimes
now for man, hoarding money is prime.

I feel in life the biggest thing is satisfaction,
money does not make the difference even by a fraction.

4.1 Choose the correct option:
a) The poet compares man's love of money to
     i. bee   ii. evil   iii. honey   iv. devil
b) What is the biggest thing in life?
     i. money   ii. health   iii. satisfaction   iv. crimes
c) The expression 'even by a fraction' in the poem means
i. not at all   ii. less than expected   iii. some   iv. only marginal
d) Which figure of speech is being used in the line "Like a bee loves honey".
i. metaphor   ii. simile   iii. personification   iv. alliteration
e) Identify the correct rhyme scheme of the poem.
i.aabb   ii.abab   iii. abba   iv.abbc
f) What does money lead to?
     i). satisfaction   ii. good health   iii. crimes   iv. greediness

4.2 Answer the following questions:
1. Explain why money is the root of all evils?
2. Can money buy happiness? Give reason for your answer.

4.3Write down the synonyms of the following words:
     1.collect (stanza2)
     2.angel (stanza1)

WRITING SKILLS

NOTICE WRITING

A notice is a formal means of communication. The purpose of a notice is to announce or display information to a specific group of people. Notices are generally meant to be pinned up on specific display boards whether in schools or in public places.

Format:

A notice should be written in the following format:

• the name of the organisation issuing the notice

• the title 'NOTICE'

• a heading to introduce the subject of the notice

• the date

• the body of the notice

• the writer's signature, name (in block letters) and designation

NAME OF THE SCHOOL

NOTICE

DATE

TITLE

 This is to inform you that our school is organising _____ on____ in____ for_____.(Any additional point)The students those who are interested give their names to their class teachers. For more information contact undersigned.

SIGNATURE

NAME

DESIGNATION

Q1 There is going to be an inter-section debate for all the students of Class VII on the topic. As the cultural secretary, draft a notice providing all relevant details in not more than 50 words.

Q2The school has decided to organise a Christmas Carnival in the Sports Complex. The Principal has asked you, as the school Prefect, to write a notice about this carnival, inviting the students and teachers to participate in it. The notice should be written in not more than 50 words including all the relevant details.

- https://youtu.be/cS3-bcW-dQU

WORKSHEET
CLASS VII HINDI

https://www.youtube.com/watch?v=myQjGe4sGqk

https://www.youtube.com/watch?v=kp3P2DgWJtM

● कक्षा 7 की पाठ्य पुस्तक 'वसंत भाग -3' में दी गई कविता '**हम** पंछी उन्मुक्त गगन के ' की भेजे गए लिंक के माध्यम से वीडीयो देखकर पूछे गए प्रश्नों के उत्तर लिखें----

1.हम पंछी उन्मुक्त गगन के कविता का भाव अपने शब्दों में लिखें ।
2.आजाद रहकर पंछी कौन - कौन सी इच्छा पूरी करना चाहता है ।
3.क्या पंछी पिंजरे में बंद रह सकता है ?
4.पिंजरे में बंद पंछी क्या - क्या नहीं कर सकते ?

ईस्ट पाइन्ट स्कूल

विषय - संस्कृत

कक्षा -VII

पाठ -2 (दुर्बुद्धिः विनश्यति)

Link - https://youtu.be/XInaRGHH0bs , https://youtu.be/iFipP91UWkk

प्रश्न 1 प्रश्नानां उत्तरत -

१) कूर्मस्य किं नाम आसीत् ?

२) कच्छपः कुत्र गन्तुम् इच्छति ?

३) सरस्तीरे के आगच्छन् ?

४) लम्बमानं कूर्मं दृष्ट्वा के अधावन् ?

५) कूर्मः केन मार्गेण अन्यत्र गन्तुम् इच्छति ?

प्रश्न २ मन्जूषातः क्रियापदम् चित्वा वाक्यानि पूरयत -

भक्षयिष्यामि   प्रतिवसति स्म   उड्डीयते   इच्छामि

१) एकः कूर्मः अपि तत्रैव -------------- |

२) वयं गृहं नीत्वा कूर्मं -------------- |

३) अहं आकाशमार्गेण अन्यत्र गन्तुम् -------------- |

४) हन्साभ्यां सह कूर्मोऽपि ------------- |

प्रश्न 3 शब्दानां अर्थम् लिखत -

१) सरः   = -----------

२) कूर्मः   = ----------

३) धीवरा: = -----------

४) मत्स्यकूर्मादीन् = -------------

EAST POINT SCHOOL

SCIENCE, CHAPTER -1   CLASS VII

NUTRITION IN PLANTS

Other Modes of Nutrition

Symbiotic Relationship

Organisms that live together and share their shelter and nutrients are said to be in a **symbiotic relationship.**

- Certain fungi live in the roots of trees.
- The tree provides nutrients to the fungus and, in return, receives help from it to take up water and nutrients from the soil.
- This association works well for both the fungi and the tree.
- Another most common example is of **Rhizobium bacteria**.
- They reside in the root nodules of leguminous plants.
- The bacteria provide a plant with nitrogen that they fix and in turn, they get shelter and food from the plant.

Rhizobium

- Rhizobium is a type of bacteria that convert atmospheric nitrogen into a soluble form that can be utilised by plants (**nitrogen fixation**).
- It usually resides in the roots of *leguminous* plants like peas, gram, moong etc and is instrumental in providing these plants with a rich source of nitrogen.

SAPROPHYTES- RHIZOBIUM

Nitrogen Fixation

- Nitrogen is an important nutrient required for soil and for plants.
- However, nitrogen in the atmosphere is not easily accessible.

The process by which nitrogen is converted into a form that can be used by plants and other living organisms is called **nitrogen fixation**.

Parasites

A **parasite** is a *heterotroph* that completely depends on another organism for its food.

- The organism to which the parasite latches onto is called the **host**.
- The host, in the process, is deprived of all nutrients for its own growth as they are consumed by the parasite.
- For example, Cuscuta (Amarbel) is a nongreen plant that takes readymade food from the plant on which it is growing.
2. **Root parasites:**

Total root parasites: They live parasitically on the roots of other plants.

1. *Rafflesia*: It is a parasite on the roots of figs.
2. *Orobanche*: it is a leafless parasite growing on the roots of mustard, turnip, brinjal (eggplant) etc.
3. *Balanophora*: It is parasitic on the roots of trees.
4. *Striga*: It is parasitic in sugarcane.

Partial root parasites: They grow as partial parasites on the roots of other plants.

Santalum **(Sandal wood):**

- This plant develops haustoria that enter the roots of the neighboring trees of *Dalbergia sisoo* (sisau).
- It only absorbs water and minerals from the host.

*Thesium***:** It grows as a partial root parasite on grasses.

3. Stem parasites:

Total stem parasites:

- *Cuscuta* (Dodder plant) grows as total stem parasite on Citrus, *Duranta*, *Zizyphus*
- It has haustorial roots, which derive required materials from the stem of host.

Partial stem parasites:

- They are chlorophyll containing autotrophic plants.
- They depend on the host plant to take water and minerals.
- *Loranthus* (parasite on mango, Acacia and *Dalbergia* trees) and *Viscum* (parasitic on walnut and oak plant)

Saprotrophs

Organisms which rely on dead and decaying matter for their food are called **Saprotrophs**.

- This mode of nutrition is called **saprotrophic nutrition**.
- For example, Fungi.
- Fungi secrete digestive juices on the dead and decaying matter and convert it into a solution.
- Then they absorb the nutrients from it.

 SAPROPHYTE : FUNGI ON BREAD

Insectivorous Plants

Plants that feed on insects are called **Insectivorous plants.**

- These plants are green and carry out photosynthesis.
- But they grow in nitrogen-deficient soils.
- So, in order to get nitrogen, they feed on insects.
- These insectivorous plants have their parts modified for attracting and catching insects.
- For example, The pitcher plant, Venous flytrap

INSECTIVOROUS – PITCHER PLANT

- *Utricularia* (**Bladdderwort**):
    - It is an aquatic plant.
    - The leaflets are modified into small bladders which are provided with a trap door entrance.
    - The trap door acts as a sort of valve opening only inwards when pushed from outside.
    - Very small aquatic animals enter by pushing the trap door.
    - The inner surface of the bladder is dotted all over with numerous digestive glands which produce digestive enzymes to digest the dead animals.

- *Drosera* (**Sundew**):
    - It is a small herb whose upper surface of leaf is covered with numerous tentacles which are sensitive to touch.
    - Each gland secretes a sticky fluid which glitters in the sun like dew-drops and hence named 'sundew'.
    - As soon as the insect is trapped, tentacles bend inward and entangle the insect.
    - The acidic secretion finally digests the protein and converts into soluble form.

- *Dionaea* (**Venus fly trap**):
    - This plant consists of leaves with broad teethed lamina having sensory spicules inside them.
    - The upper surface of the lamina is thickly covered with reddish digestive glands.

- When the insect is caught, the leaves close suddenly and the glands begin to secrete digestive enzymes.

Cactus Plants

- Most of the photosynthesis takes place in the leaves of green plants.
- However, in case of some desert plants, it takes place in their stem and even branches.
- Cacti are found in the desert and their leaves are modified to spines to avoid loss of water due to transpiration.
- Therefore, their green stems enable them to carry out the process of photosynthesis.

WATCH VIDEO

https://youtu.be/wcEW_m1wd9s

https://study.com/academy/lesson/nitrogen-fixation-significance-to-plants-and-humans.html

https://www.youtube.com/watch?v=1CdKo1269-c

https://www.youtube.com/watch?v=DQX5o3iAj0E

I Give one word answer

(i) Food factories of plants.

(ii) The green pigment present in plant.

(iii) Ultimate source of energy .

(iv) Component of food necessary for our body.

(v) Autotrophs make their own food and are therefore also called-

(vi) Heterotrophs use the food made by autotrophs and are also called

Q2. Fill in the blanks

(i) Algae are_____(autotrophs/heterotrophs).

(ii) Starch gives_____ colour, when treated with iodine solution.

(iii) Proteins contain carbon,_____,_____ &_____.

(iv) Sunlight, _____, _____, & _____ are the raw materials to carry out photosynthesis in plants.

(v) Plant with red, brown or violet coloured leaves _____ (can /cannot) perform photosynthesis.

(vi) Nitrogen is added to the soil with the help of _____ bacteria and by using _____ & _____ .

(vii) Three main components of cell are_____ , _____, & _____ .

(viii) The plant in which photosynthesis is done by stem instead of leaves is_____

3. Complete the following equation:

Carbondioxide + $\rightleftharpoons$ sunlight $\Longrightarrow$ Carbohydrate + ? . ?
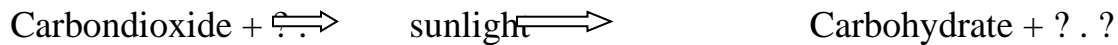
Q4. Give example of: (i) Saprotroph (ii) Leguminous plant (iii) Partial heterotroph (iv) An insectivorous plant (v) A parasitic plant

Q 5Arrange the sequence,

i) How does Pitcher plant trap & digest the insect

a) Lid closes   b) Insect is digested by digestive juices secreted in the pitcher

c) Insect gets entangled into hair in the pitcher   d) Insect lands in the pitcher

(ii) Name the part of the plant   a) Modified into pitcher
b) Modified to form the lid of the pitcher

(iii) Insectivorous plants do photosynthesis. (true or false)

(iv) The nutrient lacking in the soil where such plant grow (oxygen/nitrogen).

(v) The hair inside pitcher point (upward /downward).

(vi) The part which produces digestive juices (pitcher/lid)

(vii) The given plant closes its lid when insect enters it. What role does insect plays?

Q1. Fill in the blanks:-

a) An association between algae and fungi is called _____.
b) Insectivorous plants grow in soil deficient in _____.
c) Haustoria of parasites are modified _____.
d) In saprophytes, food is digested in _____.

Q2. Answer the following questions:-

a) Name the bacterium which lives inside the root nodules of a leguminous plant.
b) Which chemical compound absorbs carbon dioxide in the experiment showing carbon dioxide is needed for photosynthesis.
c) In a pitcher plant, in which parts of the plant is pitcher-like modifications found?
d) What is the primary source of energy for all living organisms?
e) Why do sunder plants have sticky hair on their leaves?
f) Why the green plants are called producers?
g) Name an insectivorous plant and describe how it obtains nutrition?
h) How is the symbiotic association between Rhizobium and leguminous plant beneficial?
i) Differentiate between saprotrophs and symbiotic organisms.
j) How do lichens help scientists in assessing the effects of air pollution?
k) How does pitcher plant eat insects when it is capable of carrying out photosynthesis?

Q3. Project Ideas
a) Collect specimens of plants which cannot prepare food like Cuscuta and Mushroom.
b) Study the above specimens carefully. Make a project. Also paste pictures.

Environment
Geography- Class VII (Chapter- 1)

Video Link for Reference: -

https://www.youtube.com/watch?v=6U-PiLVSHq4

Chapter Summary / Notes

- The nature, place, people, things, etc. that surrounding the living organisms makes the environment.
- It has three components: **Natural, human and human-made**.
- It is a combination of both **natural** as well as **man-made** phenomena.
- Natural Environment comprises **biotic** and **abiotic-**conditions, whereas the man-made phenomena comprises the activities and interactions among human beings.

Natural Environment:
i) Land, water, air, plants and animals comprises the natural environment.
ii) **Lithosphere, atmosphere, hydrosphere and biosphere are the four domains of the natural environment.**
iii) **Lithosphere** is the solid crust or the hard-top layer of the earth. It contains land forms like mountains, plateaus, plains and valleys.
iv) **Hydrosphere** is the domain of water. It comprises water bodies like rivers, lakes, seas, oceans, etc.
v) **Atmosphere** is the thin layer of earth that surrounds the earth. It protects us from the harmful rays and scorching heat of the sun.
vi) **Biosphere** is a narrow zone of the earth where land, water and air interact with each other to support life.

What is Ecosystem?
(i) It is a system formed by the interaction of all living organisms with each other and with the physical and chemical factors of the environment in which they live, all linked by the transfer of energy and material.
(ii) There could be an ecosystem of large rainforest, grassland, desert, mountains, lake, river, ocean and even a small pond.

Human Environment:
(i) Human beings interact with the environment and modify it according to their needs.
(ii) Early humans adapted themselves to their natural surroundings.
(iii) With time, humans learnt to grow new things, domesticate animals and lead a settled life.
(iv) Industrial revolution, transportation and information revolution and information made communication easier and speedy across the world.

Worksheet

1. Answer the following questions: -
    MARKS

1. Define Ecosystem.   (1)

2. What do you mean by natural environment?
      (1)
3. Describe the major components of the environment.
      (3)
4. Give four examples of human-made environment.
      (2)
5. Define lithosphere. What does lithosphere provide us?
      (1+2)
6. Which are the two major components of biotic environment?
      (1)
7. Define Biosphere.   (1)
8. Why is our environment changing?
      (3)
9. How is atmosphere important for us?
      (3)
10. How have human beings adapted to the environment to fulfil their needs?
      (3)

2. FILL UPS: -

1. The solid crust or the hard-top layer of the earth is _____.
2. _____ is a trade in which goods are exchanged without the use of money.
3. _____ is a narrow zone of the earth where land, water and air interact with each other to support life.
4. The world of non-living elements are called _____.
5. The place, people, things and nature that surround any living organisms is called _____.
6. _____, _____, _____ and _____ comprise the natural environment.
7. On _____ every year World Environment Day is celebrated.

3. OBJECTIVE TYPE QUESTIONS: -

1) What is an abiotic component of environment?
a. Table
b. Water
c. Human
d. None of these

2) When is world Environment Day is celebrated?
a. 5th January
b. 5th June
c. 5th August
d. None of these

3) Which is a human made environment?
a. Mountain
b. Road

c. Sea
d. None of these

4) What is the solid crust of the earth is called?
a. Atmosphere
b. Lithosphere
c. Crust
d. All of these

5) Which is not a natural ecosystem?
a. Desert
b. Aquarium
c. Forest
d. None of these

6) Which is a threat to environment?
a. Growing plants
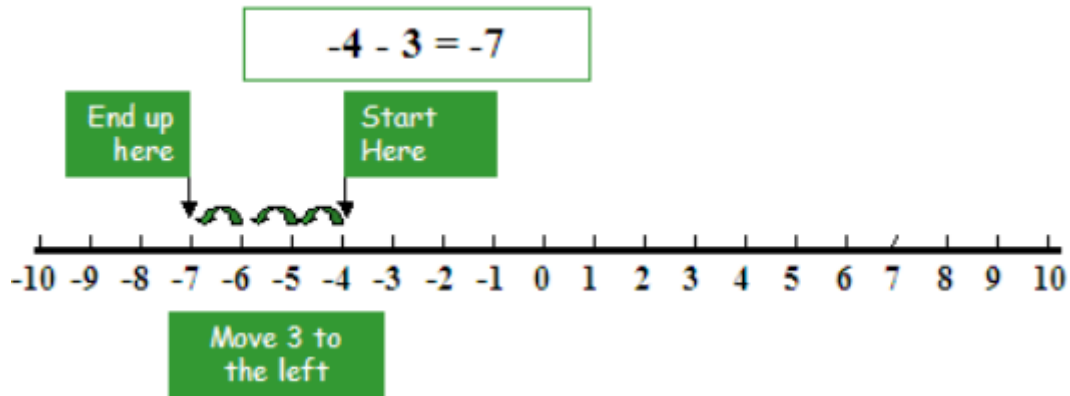b. Growing population
c. Growing crops
d. None of these

7) Which is not a component of human environment?
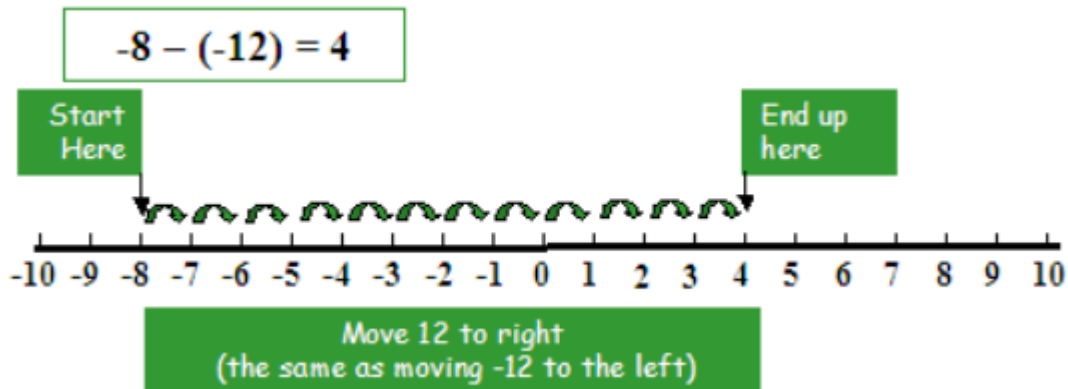a. Land
b. Religion
c. Community
d. All of these

EAST POINT SCHOOL
CLASS-VII (INTEGERS CONTINUED)
ASSIGNMENT
Notes on Integers (7.4.20 to 14.4.20)

Integers

l numbers and negative natural numbers. It is denoted by letter Z.

$Z = \{\ldots,-2,-1, 0, 1, 2\ldots\}$

Integers on Number Line

On the number line, for positive integers we move to the right from zero and for negative integers move to the left of zero.

Facts about how to Add and Subtract Integers on the Number Line
1. If we add a positive integer, we go to the right.

 If we add a negative integer, we go to the left.

$$-6+(-3)=-9$$

3. If we subtract a positive integer, we go to the left.

$$-4 - 3 = -7$$

End up here

Start Here

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

Move 3 to the left

4. If we subtract a negative integer, we go to the right.

$$-8 - (-12) = 4$$

Start Here

End up here

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

Move 12 to right
(the same as moving -12 to the left)

The Additive Inverse of an Integer

The negative of any number is the additive inverse of that number.

The additive inverse of 5 is (- 5) and additive inverse of (- 5) is 5.

$$-5 + 5 = 0$$

Number   Additive Inverse

$$14 + -14 = 0$$

Number   Additive Inverse

Properties of Addition and Subtraction of Integers
1. Closure under Addition

For the closure property the sum of two integers must be an integer then it will be closed under addition.

Example

2 + 3 = 5

2+ (-3) = -1

. Closure under Subtraction

If the difference between two integers is also an integer then it is said to be closed under subtraction.

Example

7 – 2 = 5

7 – (- 2) = 9

 Commutative Property

a. If we change the order of the integers while adding then also the result is the same then it is said that **addition is commutative for integers**.
For any two integers p and q

p + q = q + p
Example

23 + (-30) = – 7

Associative Property

If we change the grouping of the integers while adding in case of more than two integers and the result is same then we will call it that addition is associative for integers.

For any three integers, p, q and r
p + (q + r) = (p + q) + r
Example

If there are three integers 3, 4 and 1 and we change the grouping of numbers, then

$$3 + 4 + 1 = 3 + 4 + 1$$
$$(3 + 4) + 1 = 3 + (4 + 1)$$
$$(7) + 1 = 3 + (5)$$
$$8 = 8$$

Additive Identity

If we add zero to an integer, we get the same integer as the answer. So **zero is an additive identity for integers.**

For any integer p,
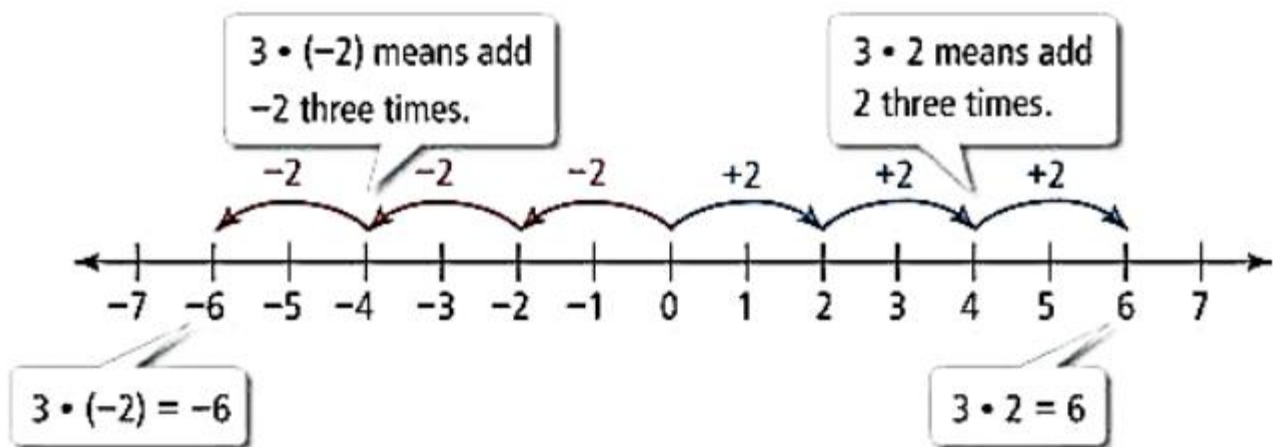
p + 0 = 0 + p =p

Example

$2 + 0 = 2$

$(-7) + 0 = (-7)$

Multiplication of Integers

Multiplication of two integers is the repeated addition.

Example

- $3 \times (-2) =$ three times $(-2) = (-2) + (-2) + (-2) = -6$
- $3 \times 2 =$ three times $2 = 2 + 2 + 2 = 6$

Properties of Multiplication of Integers
1. Closure under Multiplication

In case of multiplication, the product of two integers is always integer so integers are closed under multiplication.

For all the integers p and q

p×q = r, where r is an integer

Multiplicative Identity

If we multiply an integer with 1 then the result will always the same as the integer.

For any integer q

q × 1 = 1 × q = q

Example

$21 \times 1 = 1 \times 21 = 21$

$1 \times (-15) = (-15)$
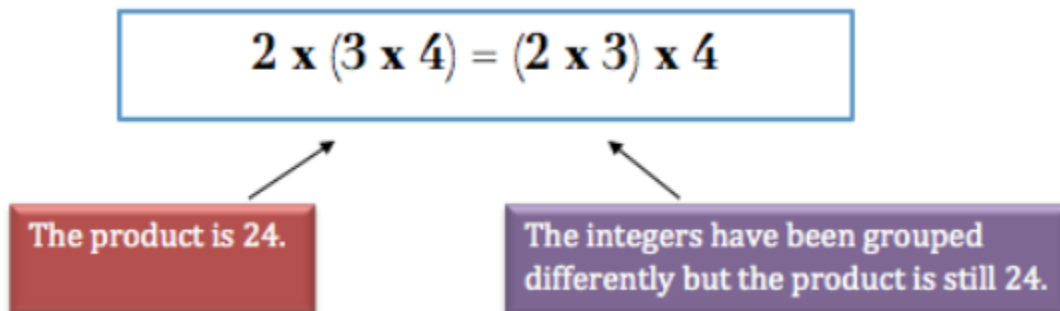
5. Associative Property

If we change the grouping of the integers while multiplying in case of more than two integers and the result remains the same then it is said the associative property for multiplication of integers.

For any three integers, p, q and r
$p \times (q \times r) = (p \times q) \times r$
Example

If there are three integers 2, 3 and 4 and we change the grouping of numbers, then

$$2 \text{ x } (3 \text{ x } 4) = (2 \text{ x } 3) \text{ x } 4$$

The product is 24.

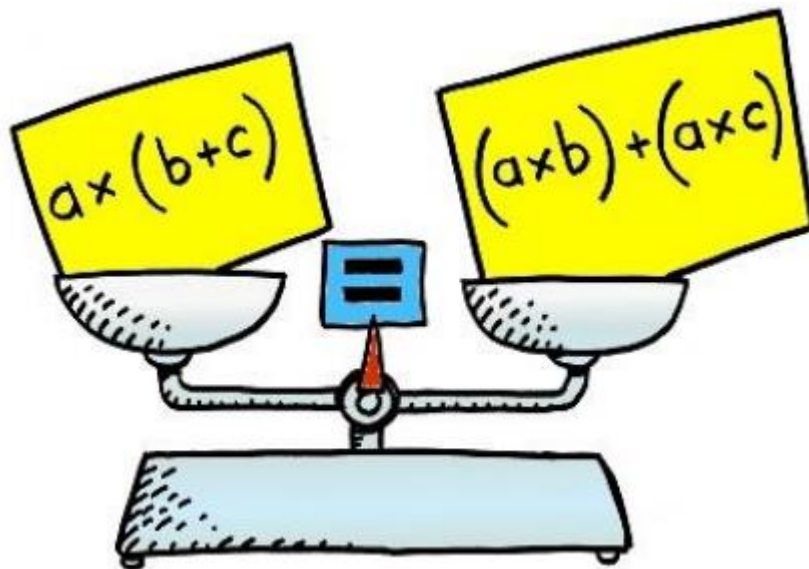The integers have been grouped differently but the product is still 24.

The result remains the same. Hence, multiplication **is associative for integers**.

6. Distributive Property

a. Distributivity of Multiplication over Addition.
For any integers a, b and c
$a \times (b + c) = (a \times b) + (a \times c)$

Properties of Division of Integers

For any integers p, q and r

Property	General form	Example	Conclusion
Closure Property	$p \div q$ is not always an integer	$10 \div 5 = 2$ $5 \div 10 = 1/2$ (not an integer)	The division is not closed under division.
Commutative Property	$p \div q \neq q \div p$	$10 \div 5 = 2$ $5 \div 10 = \frac{1}{2}$	The division is not commutative for integer.
Division by Zero	$p \div 0 = $ not defined $0 \div p = 0$	$0 \div 10 = 0$	No
Division Identity	$p \div 1 = p$	$10 \div 1 = 10$	Yes
Associative Property	$(p \div q) \div r \neq p \div (q \div r)$	$[(-16) \div 4] \div (-2)$ $\neq$ $(-16) \div [4 \div (-2)]$ $(-8) \div (-2) \neq (-16) \div (-2)$ $4 \neq 8$	Division is not Associative for integers.

WORKSHEET

1. Write all the integers between -8 and -15. (Write them in the increasing order.)

2. Find the solution of the following :(–9) + (+13)

3. Subtract :(–20) – (–13)

4. Find the value of :(–7) + (–9) + 4 + 16

5. Using number line, add the following integers: 9 + (-6).

6. What is the value of $(-22)-[(-23)-(-17)-(-61)]$ Answers

7. What should be subtracted from -9876 to obtain -9512? Answers

8. The temperature of a city is 4^0C. Next day the temperature falls by 5^0C. What is the temperature of the city next day? Answers

9.Fill in the blanks
(i) Sum of integer and its additive inverse is _____
(ii)Sum of -22 and -44 is _____
(iii)   -36 ÷ (_____)=-9
(iv)   _____ is absolute value of -998

10.Mark the correct option

i.   Sum of two negative numbers is always
        a.   Positive
        b.   Negative
        c.   0
        d.   1
ii.   Which property is reflected in this equation 7×5=5×7
        a.   Closure
        b.   Commutative
        c.   Associative
        d.   Distributive

11.A divers descends 20 feet in the water from the boat at the surface of a lake. He then rose 12 feet and descends another 18 feet. At this point what is his depth in water?

12.Verify a-(-b) =a + b for the following values of 'a' and 'b'

    a. a=34   b=73
    b. a=45   b=30
13.Write down the pair of integers whose
        Sum is -4
    a. Sum is 0
    b. Difference is 2
    c. Difference is -6
14.Verify the following
    (a)(-22) × [(-4) + (-5)]=[(-22) × (-4)] + [(-22) × (-5)]
    (b)(-12) × [(3) + (-9)]=[(-12) × (4)] + [(-12) × (-9)]
15.Evaluate
    (i)   (0)÷(-12)
    (ii)   [(-30)÷5]÷2
    (iii) (-40)÷40
          (-100)÷5

16. The price of the stock decreases Rs. 45 per day for four consecutive days. What was the total change in value of the stock over 4 day period?

17. A group of hikers is descending the mountain at a rate of 600 feet per hour. What is the change in elevation of hiker after 6 hours?

18. The temperature on a certain morning is -11°C at 5 a. m. If the temperature drops 3 degree at 6 a.m. and rises 5 degree at 8 a.m. and again drops 3 degree at 9 a.m. What is the temperature at 9 a.m.?

19. **Match the following:**

Column A	Column B
(a) 10 steps to the right	(p) -1000
(b) 10 km below sea level	(q) 1000
(c) Deposit Rs. 1000 in a bank	(r) 10
(d) Spending Rs. 1000	(s) -10

20. **Fill in the blanks:**

   a. When we subtract -10 from 18 we get _____.

   b. _____ is an integer which is neither positive nor negative.

   c. $272 - 198 -$ _____ $= 0$.

   d. $15 +$ _____ $= 0$

21. **State whether the following statements are true or false:**

   a. If a and b are any two integers such that a > b, then -a > – b.

   b. If the sum of an integer and its opposite is zero, then they are called additive inverses of each other.

   c. The negative of 0 is -0.

   d. The sum of positive and negative integers is always negative.

22. Find a pair of integers whose product is – 21 and whose difference is 10.

23. Write two integers which are smaller than – 5 but their difference is greater than – 5 .

24. Find the sum of integers – 72 , 237 , 84 , 72 , -184 , -37

25. Verify the following

(-21) x (-6)+(- 4) = (-21) x (- 6) + (- 21) x (- 4)