**IX Science Chapter wise**

**Worksheets BY INVENTION GROUP**

**CLASS - IX Science (Matter in our surrounding)**

1. If the humidity in the air increase then the rate of evaporation:- [1]

(a) decrease (b) increase

(c) remain same (d) both (b) and (a) depending upon the temperature

2. Which of the following statement is correct? [1]

(a) boiling is a bulk phenomenon and evaporation is a surface phenomenon

(b) boiling is a surface phenomenon and evaporation is a bulk phenomenon

(c) boiling and evaporation both are surface phenomenon

(d) boiling and surface both are bulk phenomenon

3. If the temperature of a place is increase then evaporation:- [1]

(a) decrease (b) increase

(c) remain same (d) none of the above

4. Which of the following have least inter atomic spacing? [1]

(a) solid (b) liquid (c) gases (d) plasma

5. What is evaporation? What are the factors affecting it? [2]

6. What happen when we apply pressure to the particles of matter?[2]

7. Define latent heat of vaporization and latent heat of fusion.[2]

8. If the melting point of an object A is high then what state you expect it to be

at room temperature?[2]

9. Are the three state of matter inter-convertible? How can they interconnect?[3]

10. How does evaporation cause cooling?[3]

11. Why should we wear cotton clothes in summer?[3]

12. Differentiate between physical and chemical change? [3]

13. A solution of H2SO4 is labeled 40%. The density of the solution is 1.3gm/l.

what is the concentration of the solution in % (m/v)?1

**CLASS - IX Science (Is matter around us pure)**

1.Which of the following solution scatter light?

(a) colloidal solution (b) suspension

(c) both (d) none [1]

2. Which of the following methods would you use to separate cream from milk?

(a) fractional distillation (b) distillation

(c) centrifugation (d) filtration [1]

3. Cooking of food and digestion of food:-

(a) are both physical processes (b) are both chemical processes

(c) cooking is physical whereas digestion is chemical

(d) cooking is chemical whereas digestion physical [1]

4. Mercury and Bromine are both

(a) liquid at room temperature (b) solid at room temperature

(c) gases at room temperature (d) both (a) and (b) [1]

5. What is a mixture? What are its various types? [2]

6. Define solute, solvent and solution? [2]

7. What is a solution? What are the properties of solution? [2]

8. Differentiate between elements and compounds. [2]

9. Write a method to separate different gases from air. [3]

10. What is a colloid? What are its various properties? [3]

11. A solution contains 60g of NaCl in 400g of water. Calculate the concentration in

term of mass by mass percentage of the solution. [3]

12. Differentiate between metals and non metal based upon the various properties

that they show. [3]

13. What is distillation and fractional distillation? What is the basic property that

separates the two methods? [5]

**CLASS - IX Science (Cell: The basic unit of life)**

1 The energy currency of cell is -:

(a) ADP (b) AMP (c) ATP (d) GTP [1]

2 A cell in placed in hypotonic solution will -:

(a) Swell up (b) Not undergo any change (c) Shrink (d) Show plasmolysis [1]

3 Which organelle release oxygen?

(a) Ribosome (b) Golgi apparatus (c) Mitochondria (d) Chloroplast [1]

4 Which of the following human cells lack nuecleus?

(a) WBC (b) RBC (c) Muscle cell (d) Nerve cell [1]

5 Which organelle is called ‘digestive bag’ and why? [2]

6 Why is osmoregulation is necessary in aquatic organisms? [2]

7 How does cell to cell movement of water takes place in plants? [2]

8 What are the differences between cell wall and cell membrane? [2]

9 What is prokaryotic cell? Differentiate between prokaryotic cell & eukaryotic cell? [3]

10 What is a gene? What is its chemical composition and function? [3]

11 If cell of onion peel and RBC are separately placed in hypotonic solution, what

among the following will take place? Explain the reason.

(a) Both the cells will swell

(b) RBC will burst early while cells of onion peel will resist bursting to some extent

(c) Both a and b are correct

(d) RBC and onion peel cells will behave similarly [3]

12 Briefly describe three important parts of cell. [3]

**CLASS - IX Science (Tissues)**

1 Vertical growth in plants takes place by –

(a) Latral meristem (b) apical meristem

(c) Intercalary meristem (d) none of the above [1]

2 Which of these components of blood fight infection?

(a) RBC (b) WBC (c) Platelets (d) serum [1]

3 In desert plants, rate of water loss gets reduced due to presence of :

(a) cuticle (b) stomata (c) lignin (d) suberin [1]

4 Cartilage is not found in – (a) nose (b) ear (c) kidney (d) larynx [1]

5 What are meristmatic and permanent tissue? [2]

6 What are the function of Tendon and ligament? [2]

7 Draw a well labeled diagram of neuron [2]

8 Differentiate the following activities on the basis of voluntary or involuntary

(a) Jumping of frog (b) Pumping of the heart

(c) writing with hand (d) Moving of chocolate in stomach [2]

9 How many types of tissues are found in animals? Name the different types. [3]

10 Differentiate between voluntary and involuntary muscles. Give one example of each [3]

11 What are the major functions of blood? [3]

12 Write about the functions of – (a) Epidermis (b) cork (c) stomata. [3]

**CLASS - IX Science (Motion)**

1. Which of the following statements is correct?

(a) both speed and velocity are same

(b) speed is a scalar and velocity is a vector

(c) speed is a vector and velocity is scalar

(d) none of these [1]

2. What is the slope of the body when it moves with uniform velocity?

(a) positive (c) negative

(b) zero (d) may be positive or negative [1]

3. When a body moves uniformly along the circle, then:-

(a) its velocity changes but speed remains the same

(b) its speed changes but velocity remains the same

(c) both speed and velocity changes

(d) both speed and velocity remains same [1]

4. What does area velocity time graph give?

(a) distance (b) acceleration

(c) displacement (d) none of the above [1]

5. Differentiate between distance and displacement? [2]

6. Derive mathematically the first equation of motion V=u + at? [2]

7. Calculate the acceleration of a body which starts from rest and travels 87.5m 5

sec? [2]

8. Define uniform velocity and uniform acceleration? [2]

9. Derive the second equation of motion S= ut +1/2at2 graphically? [3]

10. A car moving with a certain velocity comes to a halt if the retardation was 5m/s2,

find the initial velocity of the car? [3]

11. Two cars A and B are moving along in a straight line. Car A is moving at a speed

of 80KMph while car B is moving at a speed 50KMph in the same direction, find

the magnitude and direction of

(a) the relative velocity of car A with respect to B

(b) The relative velocity of car B with respect to A. [3]

12. A ball starts from rest and rolls down 16m down an inclined plane in 4 s.

(a) What is the acceleration of the ball?

(b) What is the velocity of the ball at the bottom of the incline? [3]

13. Two boys A and B, travel along the same path. The displacement – time graph for

their journey is given in the following figure.



(a) How far down the road has B travelled when A starts the journey?

(b)Without calculation, the speed, state who is traveling faster A or B?

(c) What is the speed of A?

(d)What is the speed of B?

(e) Are the speed of A and B uniform?

(f) What dose point X on the graph represent?

(g) What is the speed of approach of A towards B?

(h)What is the speed of separation of A from B?

**CLASS - IX Science (Forces and Laws of Motion)**

1. What is the S.I. unit of momentum?

(a) Kg ms. (b) ms / Kg (c) Kg ms-1 (d) Kg / ms [1]

2. What is the numerical formula for force?

(a) F = ma (b) F =*ma*

(c) F = ma2 (d) F = a2m [1]

3. If the initial velocity is zero then the force acting is :-

(a) Retarding (b) Acceleration (c) Both (d) None. [1]

4. What is the S.I. unit of force.

(a) Kg m/s2 (b) Kg m/s (c) Kg m2/s2 (d) Kg m2s2 [1]

5. State Newton’s second law of motion? [2]

6. What is the momentum of a body of mass 200g moving with a velocity of 15 m/s.

[2]

7. Define force and what are the various types of forces? [2]

8. A force of 25 N acts on a mass of 500g resting on a frictionless surface. What is the

acceleration produced? [2]

9. A force of 15 N acts for 5s on a body of mass 5Kg which is initially at rest.

Calculate.

a) final velocity of the body

b) the displacement of the body [3]

10. Differentiate between mass and weight? [3]

11. A scooter is moving with a velocity of 20m/s when brakes are applied. The mass of

the scooter and the rider is 180Kg. the constant force applied by the brakes is

500N.

a) How long should the brakes be applied to make the scooter comes to a halt?

b) How far does the scooter travel before it comes to rest? [3]

12. State Newton’s third law of motion and how does it explain the walking of man on

the ground? [3]

13. A stone is dropped from a 100m high tower. How long does it take to fall?

a) the first 50m and

b) the second 50m. [5]

**CLASS - IX Science (Gravitation)**

1. Even though stone also attracts earth towards itself, earth does not move

(a) Because of greater mass of earth (b) Because of lesser mass of stone

(c) Force exerted by stone is less (d) Force exerted earth is large [1]

2. The weight of an object is :-

(a) Greater on earth and lesser on Moon (b) Lesser on earth and Greater on earth

(c) Equal on both earth and Moon (d) None of these [1]

3. Weight of an object has S.I, unit of :- (a) Newton (b) kg (c) N/Kg (d) Kg/N [1]

4. Which of the statements is correct?

(a) Mass is constant and weight is variable (c) Both Mass and weight are variable

(b) Mass is variable and weight is constant. (d) Both Mass and weight are constant.

[1]

5. State the Universal law of Gravitation? [2]

6. If heavier bodies are attracted more strongly by the earth, why do they not fall

faster to the ground? [2]

7. State Archimedes Principle? [2]

8. A stone is dropped from the edge of the roof. It passes a window 2m high is 0.1 s.

How far is the roof above the window? [2]

9. The radius of earth is 6370Km and of mars is 3400 Km. If an object weighs 200N

or earth, what will be its weight on mars. The mass of mars is 0.11 that of earth. [3]

10. Determine the value and units of universal Gravitational constant, G? [3]

11. What is the up thrust experienced by a cube of edge – length 5cm made of iron

when completely immersed in ethanol of density 0.8 g/cm3 [3]

12. A stone is dropped from a height of 50m on earth. At the same time, another stone

is thrown vertically upwards from the ground with a velocity up wards from the

ground with a velocity of 50m/s. At what height from the ground will the two

stones meet (g = -10 m/s2) [3]

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 **WORK SHEET—1**

**FUNDAMENTAL UNIT OF LIFE**

Draw a well labelled diagram of NEURON.

Activity is of 10 marks.

Distribution of marks

A--Correct diagram→ 2 B--Correct labelling→3

C--Spelling → 1 D--Neat ness → 2 E--Correct proportion→ 2

**SOLUTION CORRECT DIAGRAM WITH ALL CORRECT STEPS**

 

 RUBRICS

Correct drawing,labelling with correct spelling correct propotion 10

Correct A,B,C.D but some mistake in proportion 7to 9

Correct diagram,correct labelling with mistake in Spelling and proportion 5to 7

Correct diagram with mistake in al other parts 3to 4

Mistake in all steps 1to 2

 **WORKSHEET NO-- 2**

 CROSS WORD PUZZLES

 IMPROVEMENT OF FOOD RESOURCE

 SOLVE THE FOLLOWING CROSS WORD PUZZLES

**Across**

1. a weed

3. by decompostion of farm waste material in a pit

5. bees keeping

6. paddy

7. revolution increased production of fish

10. revolution increased production of wheat

12. bio pesticide

**Down**

2. bacterial disease of cow

4. cropping growing more than two crops in same field

8. groomed for egg laying

9. swiss exotic breed of cattle

For each correct word one marks will be given.



**Solution**

Across

1.Xanthium

3.Compost

5.Apiculture

6.Kharif

7.Blue revolution

10.Green revolution

12.Neem

Down

2.Anthrax

4.Multiple cropping

8.Layers

9.Brown swiss

**WORKSHEET No-- 3**

**IS MATTER AROUND US PURE**

**A WRITE TRUE OR FALSE FOR THE FOLLOWING STATEMENTS. 1\*5=5** 1The properties that can be observed and specified are called physical properties. ( )

2 During burning of acandle only chemical change takes place. ( )

3 Nonmetals are lustrous and good conductors of heat and electricity. ( )

4 Metals are malleable , ductile ,sonorous and lustrous. ( )

5 A compound is asubstance composed of two or more elements chemically

combined with one another in a fixed proportion. ( )

B **State the separation technique you will apply for the separation of the following-**

1 Sodium chloride from its solution in water.

2 Tea leaves from tea.

3 Iron pins from sand.

4 Different pigments from an extract of leaves.

5 Butter from curd. 1\*5=5

 **Answers**

A 1) True. 2) False 3) False 4) True 5) True.

B 1) Evaporation.

 2) Filtration.

 3) magnetic separation.

 4) chromatography.

 5) centrifugation.

 **WORKSHEET No---4**

1.The gravitational force between two bodies varies with distance r as

a) 1/r b) 1/r2 c) r d) r2

2. The value of G is

a) 9.8m/s2 b) 9.8 x 10 -11 Nm2 /kg2 c) 6.773 x 10-11 Nm2/kg2 d) none of the above

3. The SI unit of pressure is

a) Nm b)N c) Pa d) none of the above

4. The weight of the body at the centre of the earth is

a) zero b) infinite c) same at other places d) slightly greater than that at pole

5. Gravity is the force of attraction between

a) the sun and the moon

b) the moon and the satellite

c) the earth and the object

d) the sun and the Jupiter

6.What is the weight of 1kg mass on earth

a) 9.8 newton

b) 19.6 newton

c) 25 newton

d) 4.9 newton

7. A person weight W at Delhi . Weight of the person on the peak of the mount Everest will be

a) =W b) < W c) >W d) zero

8. The gravitational force between two iron balls is 4NM. If the distance between the balls is reduced to half, the Gravitational force between the balls will be

a) ½ N b) 2N c) 4N d) 16 N

9. Expression for the acceleration due to gravity is

a) G/MR2 b) MR2/G c) GM/R d) GM/R2

10. The atmosphere is held to the earth by

a) gravity

b) wind

c) clouds

d) earth’s magnetic field

 **ANSWERS**

Ans 1 b

Ans2. c

Ans 3. c

Ans 4. a

Ans 5. c

Ans. 6 a

Ans 7. b

Ans 8. d

Ans .9 d

Ans 10. a