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INTERNATIONAL INDIAN SCHOOL – DAMMAM
GIRLS SECONDARY SECTION
CHEMISTRY WORKSHEET
CLASSES – 9

CHAPTER –2-IS MATTER AROUND US PURE

Q1. NaCl consists of two kinds of particles still it considered as pure substance.Justify.

Q2. Alloy is considered a mixture .Give three reason to support your answer.

Q3. Air is considered a mixture .Give three reason to support your answer.

Q4. Water is considered as compound. Give three reasons

Q5. Tabulate the difference between suspension, colloid, and solutions.

Q6. What is Tyndall effect?

Q7. Pick out suspension, colloid, solution. From the given substance
Soap solution, $CuSO_4$ solution, Animal blood, sugar solution, salt solution,
Muddy water, Chalk & water mixture, Tooth paste, Milk, Starch solution,
Mist, Fog, Smoke

Q8. [a] Give two reasons why sugar solution is considered to be a mixture.
[b] Which of the following solution don't show the tyndall effect?
Starch, soap, copper Sulphates, common salt.

Q9. Mention the dispersion medium, dispersion phase and type of the following colloids.
Smoke, Jelly, Fog, Colored gemstone, Cloud, Sponge, Jelly, Mud, Mist,
Butter, Face cream, Shaving cream, Milk of magnesia, Pumice stone

Q10. [a] Give **one** example of each of the following :
[i] Colloid in the form of aerosol [solid in liquid]
[ii] A heterogeneous mixture made up of two liquids
[b] Differentiate between 'Gel' and 'Sol', giving one example each.
[c] Differentiate between 'Emulsion' and Solid sol, giving one example each

Q11. Taking mixture of iron filing & Sulphur as example, State four characteristics of a mixture.

Q12. What do you mean by the following:-
Solution, solute, solvent, Concentration of solution

Q13. Differentiate between:-
(i) Aqueous & Non-aqueous Solution
(ii) Saturated and unsaturated solution
(iii) Fractional distillation & distillation
(iv) Mixture & Compound
(v) Homogenous & Heterogeneous Mixtures

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Q14. What are the principle & application involved in the given methods:-
(i) Centrifugation (ii) Sublimation (iii) Evaporation
(iv) Filtration (v) Chromatography (vi) Fractional distillation
(vii) Crystallization

Q15. Tabulate the difference between physical & chemical changes.

Q16. Identify the Physical & Chemical changes in the following:-
(i) Formation of Dew pc (ii) Breaking of glass pane p c
(iii) Rusting of iron cc (iv) Burning of LPG c c
(v) Dissolution of sugar in water pc (vi) Heating of Sugar c c
(vii) Melting of Wax cc (viii) Formation of cloud p c

Q17. Name the method of separation used in the separation of following mixtures:-
(i) Copper Sulphates & water ~~J~~ ev (ii) Common salt & water ~~cos~~ cry
(iii) Common salt & iodine sub (iv) Benzene & water dist
(v) Iron filing &Naphthalene mag (vi) Amino acid mixture "
(vii) Nitrogen in Air F.d (viii) Acetone &alcohol ~~fb~~ d
(ix) Pure $CuSO_4$ from solution cry (x) Cream from milk

Q18. Name two elements each which exist in
(a) Solid state (b) Liquid state (c) Gas state
Br, Mg O, N

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CLASS IX CHEMISTRY WORKSHEET - IS MATTER AROUND US PURE

1. What is meant by pure substance? Give example
2. How do we test purity of substance ?
3. With the help of labelled diagram describe an activity to separate a mixture containing ammonium chloride, sodium chloride and sand.
4. What is the heterogeneous mixture of a dispersing phase and a dispersing medium known as?
5. Differentiate between a homogeneous and a heterogeneous mixtures with examples.
6. How will you separate a mixture of alcohol and water (difference in their boiling point is less than 20^0 C) which are miscible with each other. Explain with the help of a diagram.
7. Give an example each for the mixture having the following characteristics. Suggest a suitable method to separate the components of these mixture (i) A volatile and a non- volatile component (ii) Two volatile components with appreciable difference in boiling points (iii) Two immiscible liquids (iv) One of the components which changes directly from solid to gaseous state (v) Two or more coloured constituents soluble in the same solvent.
8. Which process is used to obtain crystals of alum from an impure sample?
9. Give two reasons, why an alloy is regarded as a mixture.
10. Give the difference between compounds and mixtures.
11. How are Emulsion different from Gels ? Give examples for each.
12. What is meant by Tyndall effect? What is its cause? Illustrate with example.
13. Explain the following : Saturated solution, Colloid and suspension.
14. A solution contains 5g of glucose in 45g of H_2O . Calculate concentration of solution in mass percentage.
15. Melting of wax is physical change where as burning of candle is chemical change , why?
16. Describe how will you separate a mixture of kerosene oil and water. Draw neat and labelled diagram .
17. How is saturated solution different from unsaturated solution?
18. Give two differences between homogeneous mixtures and heterogeneous mixtures. Give one example for each.
19. What is meant by fractional distillation? How is different from simple distillation? Give one application of fractional distillation in industry.
20. What are the processes involved in the purification of water?
21. Write the method of separation of different gases from air.
22. How can we separate oxygen from air?
23. What is crystallisation? What are the advantages of crystallisation over evaporation .
24. What is the difference between a physical change and a chemical change? Give examples for each.
25. A solution contains 40g of common salt in 220g of H_2O . Calculate the concentration in terms of mass by mass percentage of the solution/
26. Calculate the amount glucose required to prepare 250g of 5% solution of Glucose by mass.

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INTERNATIONAL INDIAN SCHOOL - DAMMAM
GIRLS SECONDARY SECTION
CHEMISTRY WORKSHEET
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CHAPTER -1-MATTER IN OUR SURROUNDING

Q1. (a) Define matter. Is sunlight a matter? Justify your answer.
(b) What are the characteristics of particles of matter?

Q2. **Discuss an activity** for each, **to prove** the following:-
(i) Particles of matter are continuously moving.
(ii) Particles of matter attract each other.
(iii) Gases are more compressible as compared to solids and liquids.
(iv) The particles of matter are very small beyond our imagination.
Give explanations for the observations made.

Q3. Define:-
(a) Melting point (b) Boiling point (c) Latent heat of fusion
(d) Latent heat of vapourisation (e) Sublimation
(f) Boiling or Vapourisation (g) Melting or Fusion
(h) Diffusion

Q4. (a) Convert the following to Celsius scale (i) 450K (ii) 300K
(b) Convert the following to Kelvin scale (i) 27° C (ii) 86°C

Q5. Tabulate the differences between solids, liquids & gas in following terms:-
(i) Shape (ii) Kinetic Energy of particles
(iii) Fluidity (iv) Intermolecular forces
(v) Intermolecular spaces (vi) density
(vii) Rigidity (viii) compressibility
(ix) Filling of the container

Q6. Give reasons for the following:-
(i) Chalk is a solid.
(ii)Gas fills the entire shape of a containing vessel.
(iii)Gas exerts pressure on the walls of the container.
(iv) Solids do not diffuse into one another.
(v) Liquids have a fixed volume but not a fixed shape.
(vi)Gases do not have a fixed volume or fixed shape.

Q7. Why is boiling point and melting point of a substance important?

Q8. Why the temperature does remain constant
(i) When a solid starts melting.
(ii) When a liquid starts changing to vapors.

Q9. Define evaporation. What are the factors affecting evaporation? How does evaporation cause cooling?

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CLASS IX – PHYSICS WORKDHEET – FORCES AND LAWS OF MOTION

1. What is the momentum of a man of mass 70kg, when he walks with a uniform velocity of 2m/s?
2. Calculate the force required to produce an acceleration of $2m/s^2$ in a body of mass 10kg.
3. Calculate the change in momentum of a car of mass 1000kg when its speed increases from 36 km/h to 108km/h uniformly.
4. Calculate the force required to impart to a car a velocity of 30m/s in 10s . The mass of the car is 1000kg.
5. A body of mass 2kg is acted upon by a force of 1N,what would be its acceleration?
6. Is a force a scalar or vector quantity?
7. Which law of motion is called Law of Inertia, state the law.
8. A bullet of mass 10kg moving with a velocity of 400m/s gets embedded in a freely suspended wooden block of mass 900g. What is the velocity acquired by the block?
9. If a body is not at rest, the net external force acting on it cannot be zero. Is it true or false.
10. While swimming a person pushes the water backward. Why?
11. Which physical quantity corresponds to the rate of change of momentum?
12. What is momentum? What is its S.I unit?
13. A gun recoils on firing . Why?
14. Name the principle on which a rocket works.
15. Two objects of masses 100g and 200g are moving in along the same line and direction with velocities of 2m/s and 1m/s respectively. They collide and after the collision, the first object moves at a velocity of 1.67m/s. Determine the velocity of the second object.
16. "A boatman pushes the river bank with a bamboo pole to take his boat into the river." Explain his action with reason.
17. State the law of conservation of linear momentum. A ball of mass 100g moving with a velocity 10m/s is stopped by a boy in 0.2s. Calculate the force applied by the boy to stop the ball.
18. Give reason : (i) It difficult to balance our body, when we accidently step on a peel of a banana.(ii)Pieces of bursting cracker fall in all possible directions. (iii) A glass pane of a window is shattered, when a flying pebble hits it .(iv) It is easier to stop a tennis ball than a cricket ball moving at the same speed. (v) Ajavelin thrower is marked foul, if he crosses over the line marked for throw. Athletes often fail to stop themselves before the line.
19. The fielder lowers his hands while catching a fast moving cricket ball. Explain.
20. In a high jump athletic event, the athletes are made to fall on a cushion bed. Give reason.

INTERNATIONATIONAL INDIAN SCHOOL, DAMMAM

CLASS IX PHYSICS WORKSHEET

CHAPTER - GRAVITATION

1. State Newton's law of gravitation. Give its mathematical expression.
2. Define acceleration due to gravity. Derive an expression for the same.
3. What is the value of Gravitational constant.
4. What do you mean by free fall.
5. Show that the weight of an object on the moon is ⅙th of that on earth.
6. Differentiate between mass and weight.
7. If the distance between two masses is increased by a factor of 5, by what factor would the mass of one of them have to be altered to maintain the same gravitational force. Would this be an increase or decrease in the mass.
8. If the distance between two bodies is reduced to half and mass of each body is doubled, how does the gravitational force between two bodies change.
9. A stone and the earth attract each other with an equal and opposite force. Why then we see only the stone falling towards the earth but not the earth rising towards the stone.
10. A coin and a piece of paper are dropped simultaneously from the same height.Which of the two will touch the ground first? What will happen if the coin and the piece of paper are dropped in vacuum. Give reasons for your answer.
11. Why does the weight of a body vary from poles to equator.
12. Two 2 kg masses exert a gravitational force of 6.67×10^{-11} N. What will be the separation between them.
13. Calculate the force of gravitation between two objects of masses 50 kg and 120 kg respectively kept at a distance of 10m from one another.
14. A planet existed whose mass and radius both were half those of the earth. What will be the acceleration due to gravity at its surface.
15. A cricket ball is dropped from a height of 20 metres
    - Calculate the speed of the ball when it hits the ground.
    - Calculate the time it takes to fall through this height ($g = 10 m/s^2$).
16. A stone dropped from the roof of a building takes 4s to reach the ground. What is the height of the building.
17. Mass of a body is 5 kg. What is its weight.
18. A mass weighs 600N on the earth. What is his mass (take $g = 10 m/s^2$).If he were taken to the moon, his weight would be 100N. What is his mass on the moon? What is the acceleration due to gravity on the moon.
19. A body is dropped from a tower 180m high. How long does it take to reach the ground? What is its velocity when it touches the ground (Take $g = 10 m/s^2$).

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INTERNATIONAL INDIAN SCHOOL, DAMMAM

CLASS IX MATTER IN OUR SURROUNDINGS –CHEMISTRY WORKSHEET

1. Convert the following temperatures to the Kelvin scale (a) 45^0 C (b) 380^0 C (c) 275^0C (d) 173^0C
2. Convert (a) 400K (b) 373K (c) 285K (d)515K into Celsius scale.
3. How is matter classified on the basis of physical state.
4. What is the effect of temperature on rate of diffusion of gases. Why?
5. What about a rubber band, can it change its shape? Is it solid? Why?
6. How many cm^3 are there in 1L ? What is meant by density? What is its S.I. unit?
7. Why is density of solids mostly higher than that of liquids? A sponge can be compressed. Is it solid or not? Why?
8. How are aquatic plants and animals able to survive? Why are gases more easily compressible than liquids?
9. Why do gases exert pressure? What is the relation between C^0 and K?
10. What is the difference between a gas and a vapour? What is meant by volatile liquids? Give example?
11. What is the relation between atm and pascal? What is evaporation called surface phenomenon where as boiling is bulk phenomenon?
12. Describe by experiment the relationship between rate of diffusion and density of liquid.
13. Describe the process of sublimation and draw a neat and labeled diagram.
14. How is melting point related to intermolecular forces of attraction? Why is latent heat of vaporistaion higher than latent heat of fusion?
15. How will you show by experiment that air contains water vapour? What are the difference between evaporation and boiling?
16. Draw a cyclic figure to show interconversion of states and explain fusion, vaporisation, condensation, solidification and sublimation.
17. Write the name of any two substances that sublime. CO_2 is a gas. Write its any two gaseous properties to justify it. How can we liquefy gases? Solid CO_2 is also known as dry ice. Why?
18. Define the following properties of matter.(i) Rigidity (ii) Diffusion (iii) Compressibility
19. Arrange solids , liquids and gases in the ascending order as regards the extent to which each of the above properties is exhibited them.
20. Write any one example from your daily life experience which is based on diffusion of gases.
21. Why is rate of diffusion of gases is faster in gases? Gases can liquify easily. Why?
22. Give reason for the following (a) Gases fill the entire space available to them. (b) Solids do not need a container to contain them. (c) A liquid is considered as a fluid.
23. Why do we feel cold after taking a hot bath? State two uses of the interconversion of matter.
24. Name the process associated with the following .(a) Dry ice is kept at room temperature and at 1 atm pressure. (b) A drop of ink placed on the surface of water contained in a glass spread throughout the water (c) An acetone bottle is left open and the bottle becomes empty.
25. Why is cooling caused by evaporation? What are the factors affecting evaporation?
26. Explain why the heat becomes unbearable after the rains during summer.

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Q10. Explain the phenomenon of evaporation on the basis of molecular structure.

Q11. Give reasons:-
(i) A rubber band can change its shape on stretching. Is it solid?
(ii) Sugar and salt are kept in different jars; these take the shape of the jar. Are they solid?
(iii) We are able to compress a sponge easily though it a solid.
(iv) A smell of hot cooked food reaches us in seconds.

Q12. Account for the following
(i) Wet clothes dry quickly when spread on a line.
(ii) We feel colder after a hot bath than a cold water bath.
(iii) Water keeps cool in earthen pitchers during summer but does not cool well in rainy season.
(iv) Heat is unbearable after rains during hot seasons.

Q13. Differentiate between boiling and evaporation.

Q14. Name the change of state in the following:-
(i) Formation of clouds.
(ii) Drying of wet clothes.
(iii) Naphthalene ball becoming small, when kept in air.

Q15. Ice at 273 K is more effective in cooling soft drink bottles than water at 273K.Why?

Q16. Which contains more heat energy: - water at 373K or steam at 373K.

Q17. Which of the following will produce more severe burns and why?
(i) Water at 373K (ii) Steam at 373K

Q18. State your observations when:-
(i) Ammonium chloride is heated in a hard glass test tube.
(ii) Carbon dioxide gas is compressed to 70 atmospheric pressure.

Q19. Account for the following:-
(i) Molecules of water at 0° C have more energy as compared to particles in ice at the same temperature
(ii) Molecules in steam at 100° C have more energy as compared to molecules of water at the same temperature.

Q20. (a) Discuss the effect of temperature on the change of state.
(b) Discuss the effect of pressure on the change of state.
On the basis of molecular structure.

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WORK SHEET FOR CLASS IX 2014-15

BIOLOGY

Fundamental unit of life

1. Give 2 egs to prove that the shape and size of cells are related to the function they perform.
2. Give 3 differences each between a prokaryotic and a eukaryotic cell.
3. Why is mitochondria called the power house of the cell?
4. Differentiate between the two types of endoplasmic reticulum with its function.
5. What are golgicomplex ? How does it function?
6. What are plastids? Give three types of plastids with its function.
7. Why do we call lysosomes as digestive bags /suicidal bags/garbage disposal system?
8. How does a vacuole function?
9. Differentiate between osmosis and diffusion.
10. What is plasmolysis? State the difference between endosmosis and exosmosis with egs.

WORK SHEET FOR CLASS IX 2014-2015

BIOLOGY

TISSUES

1. Name the following:

a) tissue that makes the husk of coconut
b) the waterproof waxy layer of epidermis
c) the tissue responsible for movement in our body
d) the tissue that stores fats in our body
e) tissue present in the brain
f) connective tissue with a fluid matrix
g) tissue that transports food in plants

2. Define a tissue

3. Differentiate between meristematic and permanent tissues.

4. How are simple tissues different from complex tissues in plants?

5. Differentiate between Parenchyma, Collenchyma and Sclerenchyma on the basis of their cell wall and function.

6. Name the complex tissues in plants. How many types of elements together make up these tissues?

7. How does cork as a protective tissue?

8. What are the functions of epidermis in plants?

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

10. Mention the characteristic features of connective tissue.

11. Give the difference between:

a) Blood and Lymph b) Bone and Cartilage c) Tendons and Ligaments.

12. Mention the characteristic features and functions of epithelial tissue.

13. Draw a diagrammatic labeled sketch of stem tip to show the location of Meristematic tissue and mention the functions of each.

14. Differentiate between striated, unstriated and cardiac muscles on the basis of their locaton in the body, structure and function. Draw diagrams of each.

15. Describe the structure of a neuron giving a well labeled diagram.