

INTERNATIONAL INDIAN SCHOOL DAMMAM
SUB:PHYSICS **WORKSHEET** **CLASS:IX**
WORK AND ENERGY

- Q.1 Define the term work. State the conditions that need to be satisfied for work to be done. Give some situations in which work is done.
- Q.2 Is it possible that a force is acting on a body but still the work done is zero? Explain giving one example.
- Q.3 When is the work done by a force said to be (a) positive and (b) negative?
- Q.4 Is any work done on a body in uniform circular motion? Justify your answer.
- Q.5 A car weighing 1000kg and travelling at 30m/s stops at a distance of 50 m decelerating uniformly. What is the force exerted on it by the brakes? What is the work done by the brakes?
- Q.6 A body of mass 10kg is displaced through a distance of 2 m under acceleration of 5m/s^2 . Calculate the work done.
- Q.7 An engine does 54,000 J work by exerting a force of 6,000 n on it. What is the displacement in the direction of the force?
- Q.8 An object of mass 5kg is lifted vertically to a height of 2.0m above the ground. If the acceleration due to gravity at the place is 10m/s^2 , what is the amount of work done?
- Q.9 Define the term energy. Give some examples possessing some energy.
- Q.10 Define 1 J of energy.
- Q.11 How does the energy of an object change when it performs work or work is done on it?
- Q.12 What is mechanical energy? What are its two forms?
- Q.13 What do you understand by kinetic energy of a body? Give some examples.
- Q.14 Deduce the formula for kinetic energy of a body.
- Q.15 State the factors on which the kinetic energy of a body depends.
- Q.16 A car is moving with a uniform velocity of 54 kilometers per hour. What is the kinetic energy of a boy of mass 40kg sitting in the car?
- Q.18 A body is moving 2 kg falls from rest .What will be its kinetic energy during the fall after 2 s? Assume $g = 10\text{m/s}^2$.
- Q.19 What is meant by potential energy of a body? Give some examples.
- Q.20 What is gravitational potential energy? Deduce an expression for the gravitational potential energy of a body of mass m placed at a height h above the ground.
- Q.21 A boy weighing 50kg climbs p a vertical height of 100m. Calculate the amount of work done by him. How much potential energy does he gain? Take $g = 9.8\text{m/s}^2$.
- Q.22 Does the gravitational potential energy of a body depend on the path along which the body is moved? Illustrate your answer with the help of a suitable example.
- Q.23 A man drops a 10kg rock from the top of a 5m ladder. What is its kinetic energy when it reaches the ground? What is its speed just before it hits the ground?
- Q.24 State the law of conservation of energy.
- Q.25 Name and define the SI unit of power.
- Q.26 An electric bulb of 100 W works for 4 hrs a day. Calculate the units of energy consumed in 15 days.
- Q.27 A boy lifts a suitcase of 20 kg from the ground to a height of 1.2 m. Calculate the

- work done by him on the suitcase.(given $g = 10\text{ms}^{-2}$)
- Q.28 An electric heater of 1000 W is used for 2 hours a day. What is the cost of using it for a month of 28 days, if 1 unit costs Rs.3.00?
- Q.29 A boy pushes the cart through a distance of 20 m by applying a force of 50 N. How much work is done by the boy?
- Q.30 A force applied on a body of a man 4kg for 5 seconds changes its velocity from 10 m/s to 20 m/s. Find the power required.
- Q.31 A household consumes 1 kWh of energy per day. How much energy is this in joules?
- Q.32 How much time will a pump of 1 kW power take to lift 500kg of water to height of 40m? ($g = 10 \text{ ms}^{-2}$)
- Q.33 Two women Shanti and Kamala each of mass 50kg and 60kg respectively climb up through a height of 10m. Shanti takes 20s while Kamala takes 40s to reach. Calculate the difference in the power expended by Shanti and Kamala. (assuming $g = 10 \text{ ms}^{-2}$)
- Q.34 A man of mass 60kg runs up a flight of 30 steps in 40 seconds. If each step is 20 cm high, calculate his power.
- Q.35 An archer stretches the string of his bow to shoot an arrow. Name:
(a) the type of energy he uses in the process
(b) the type energy into which it is converted
(c) the energy transformation taking place when the arrow is shot.

WORKSHEET FOR CLASS IX NATURAL RESOURCES

1. Differentiate between inexhaustible and exhaustible natural resources with examples.
2. What is the role of atmosphere in climate control?
3. Mention three human activities that can lead to air pollution. Name an indicator for air pollution.
4. Which are the three ways by which water gets polluted? Give examples.
5. Why do land animals need fresh water to survive?
6. What is soil erosion? How can it be prevented?
7. Water is essential for sustenance of life. Justify the statement.
8. How is soil formed? How does it affect the biodiversity of a place?
9. What is greenhouse effect? Name the greenhouse gases
10. Define biogeochemical cycle.
11. Name the manmade compound which depletes ozone.
12. Why is ozone layer important to us? What are the effects of ozone depletion?
13. Why are root nodules important for plants?
14. Why is increase in carbon monoxide concentration detrimental to life?
15. Name the four types of bacteria involved in nitrogen cycle.
16. What is biosphere? Describe its physical divisions.
17. What causes winds?
18. What are the sources of CO_2 into the atmosphere?
19. What are the advantages of rainwater harvesting?
20. What is biomagnification?
21. Why does eutrophication lead to killing of aquatic animals?
22. What is acid rain? What are the ill effects of acid rain?
23. Carbon dioxide is necessary for plants. Why do we consider it a pollutant?
24. Name two biologically important compounds that contain oxygen and nitrogen.
25. What is smog? How does it affect the health of individuals?

Class IX CHEMISTRY
Structure of Atom

1. In Rutherford's experiment some X-particles came back why?
2. Why is atom neutral inspite of charged particles present in it?
3. Two atoms of an element have atomic number 17, but man number is 35 and 37 respectively, what is the relation between them?

4. Complete the following table

Element	At Number	Mass No.	Proton	Electron	Neutron	Elec. Configuration	Valency
Chlorine	17	-	-	-	18	-	-
Silicon	-	28	-	14	-	-	-
Fluorine	-	-	9	-	10	-	-

5. In the following table are given mass number and atomic number

Element	A	B	C	D	E	F	G	H
Mass No.	2	3	3	6	9	11	19	23
Atomic No.	1	1	2	3	4	5	9	11

1. How many neutrons are present in F?
2. Which atoms are isotopes of same element?
3. Which atoms will form singly positive charged ion?
4. Which is atom of inert gas?
5. Which will form singly negatively charged ion?
6. Which of them has 11 electrons?

7. An element has 3 valence electrons in its 3rd shell. Name the element and give its atomic number.

8. Give experimental evidence to show that

1) The entire mass of an atom is practically concentrated in its nucleus

2) The nucleus of an atom is positively charged

3) Most of the space in an atom is empty

9) The number of electrons, protons and neutrons of 5 elements are given below.

Elements	A	B	C	D	E
Electrons	4	18	17	11	17
Protons	6	18	17	9	17
Neutrons	6	22	20	10	18

a) Which of them is cation?

b) Which of them is anion?

c) Which is an atom of inert gas?

10) Find the Valency of Chlorine, Sulphur and Magnesium atom

11) What are the limitations of Rutherford's model of atom?

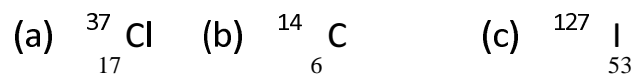
12) For the symbol H,D and T,

Tabulate the three sub-atomic particles found in each of this

13) Write the electronic configuration of any one pair of (a) isotopes and isobars.

14) Compare the properties of electrons, protons and neutrons.

15) Complete the Table on the basis of information available in the symbols



Element	Np	Nn	Ne
${}_{17}^{37}\text{Cl}$			
${}_{6}^{14}\text{C}$			
${}_{53}^{127}\text{I}$			

16) Show diagrammatically the electron distributions in sodium atom and sodium ion and also give their atomic number.



(Annamma John) B.S.S.

WHY DO WE FALL ILL

Very short answer type Questions (1 mark)

1. What is immunization?
2. Define community health.
3. What is the meaning of the term disease?
4. Give one example each of infectious and noninfectious disease.
5. Why a female Anopheles mosquito feeds on human blood?
6. Name the disease transmitted by animal bite.
7. Name a sexually transmitted disease caused by bacteria.
8. Name the target organ of Japanese encephalitis and AIDS virus respectively.
9. Write two basic conditions necessary for keeping good health.
10. Name the target organ of plasmodium.
11. Define antibiotics.
12. What are communicable diseases?
13. Name the two diseases spread by mosquitoes.
14. Against which disease BCG vaccine is employed?
15. Give the causative agents of TB and typhoid.
16. Name the acute diarrheal disease generally leads to dehydration.
17. Give another name for epidemic jaundice.
18. Name the vector of malaria.
19. Name the two mode of transmission of communicable disease.
20. Why rabies called hydrophobia?
21. Give the full form of BCG.
22. Why male Anopheles does not cause malaria?
23. Name the medicine to control malaria.

24. What does the word health mean?
25. What is the cause of encephalitis?
26. Which disease can be prevented by using BCG?
27. Name the vaccine used to prevent typhoid.
28. Why are social equality and harmony necessary for individual health?
29. What are infectious diseases?
30. To which group of microbes do Malaria and kala-Azar belong?
31. Which group of organisms caused elephantiasis?
32. Which disease-causing microbes live and remain active inside the host cells?
33. If we get a bacterial infection along with the viral cold, then how do antibiotics help us?
34. What is casual physical contact?
35. How does a female mosquito spread malaria?
36. What is inflammation?
37. How can the functioning of the immune system be improved?
38. What are specific ways of preventing infectious diseases?
39. How does a person become immune against a disease?
40. Name the organism which causes typhoid.
41. Define vaccination.
42. Which of the following diseases can be prevented by vaccination in children? Tuberculosis, Diarrhoea, Diphtheria, Pneumonia, Tetanus
43. How does a vaccination protect a person suffering from a disease?
44. Write the full form of AIDS.
45. Write the full form of HIV?

Two marks questions

46. State any two conditions essential for good health.
47. In which of the following case do you think the long term effects on your health are likely to be most unpleasant? (a) If you get jaundice (b) If you get lice. (c) If you get Acne. Why?
48. "Public cleanliness is important for individual health' Why?
49. How does personal health relate to community health?
50. What are the differences between communicable and noncommunicable health?
51. Name the groups of organisms which commonly cause infectious disease.
52. The signs and symptoms of a disease depend on the tissue or organ which the microbe targets? Explain with example.
53. Why making antiviral medicine is harder than making antibacterial medicines?
54. Why does a person suffered once small pox can not suffer with it again?
55. What are the major sites of infection for tuberculosis?
56. What is jaundice and Hepatitis?
57. What is immunity? Name the disease against which DPT vaccine acts as a preventive measure.
58. What disease is AIDS? How does it spread from one person to another?
59. State differences between Acute and Chronic diseases.
60. How prevention is better than cure?
61. Write the symptoms of (a) T.B (b) Typhoid
62. How are diseases causing microbes spread through air?
63. How are diseases spread through water?
64. What are the two ways to treat an infectious disease?
65. What is the basic principle of immunization?
66. What are the public health programme of childhood immunization for preventing infectious diseases?

67. What is the importance of vaccination?
68. Distinguish between healthy and disease free.
69. How are antibiotics beneficial to us? Name any two groups of the organisms from which they are obtained.
70. Write the four main symptoms of jaundice.

Short Answer type Questions (3 marks)

71. What are the different means by which infectious disease spread?
72. Define infectious agents. Classify diseases on the basis of infectious agents.
73. What are antibiotics? How do they work? How penicillin is effective to control bacterial disease?
74. State the conditions responsible for the spread of malaria and measures to prevent and control it.
75. Give the scientific name of the causative agent of Tuberculosis. Give two symptoms of the disease.
76. Name the disease caused by (a) Bacteria (b) protozoa (c) Virus
77. The body of the patient has lost its power to fight against infections. Which disease may be the patient be suffering from? Name the pathogen and describe any two modes of its transmission from one patient to other person.
78. Write the cause, symptoms methods of prevention and control of typhoid.
79. Define immunity. How is the disease AIDS caused? State any two modes of transmission of this disease from a patient to other persons what symptoms is found in the body of a person suffering AIDS?

80. How do microbes select different parts of the body? Give examples.
81. Long Answer type Questions(5 marks)
82. Explain the general and specific ways for the preventing of infectious diseases.
83. What are the different means of disease spread? Explain the any four means.
84. What are the infectious diseases? Explain the Causative agents and symptoms of four diseases.

INTERNATIONAL INDIAN SCHOOL,DAMMAM

BOYS SECONDARY SECTION

CLASS IX BIOLOGY WORK SHEET -1

CHAPTER- DIVERSITY IN LIVING ORGANISMS

- Q.1. Who proposed the binomial nomenclature of classification and is considered as Father of Taxonomy ? What was his nationality?
- Q.2. Name the group in which related genera are placed.
- Q.3. Name the group in which:
- (i) Seeds are naked
 - (ii) Reproductive organs are flowers.
- Q.4. How many chambers are present in the heart of (i) fishes (ii) frog?
- Q.5. Name the basic unit of classification.
- Q.6. Name two sub kingdoms of kingdom Plantae
- Q.7. Give one point difference between gymnosperms and angiosperms.
- Q.8. Name a group where naked seeds are present.
- Q.9. To which division of cryptogams do algae belong?
- Q.10. Name two aquatic mammals and two egg laying mammals.
- Q.11. Write one specific feature of thallophyta plant.
- Q.12. From where do the term echinodermata originate?
- Q.13. Why are mammals so called?
- Q.14. Give the technical term of naming animals and plants with two words, one generic and other specific.
- Q.15. Name as group where naked seeds are present.
- Q.16. To which division of Cryptogams do algae belong?
- Q.17. Which is the largest phylum of Kingdom Animalia?
- Q.18. The animals belonging to a phylum have segmented body. Name the phylum.
- Q.19. Write one specific feature of Arthropods?
- Q.20. From where do the term echinoderms originate?
- Q.21. Why are mammals so called?
- Q.22. Name one aquatic mammal and one egg –laying mammal.
- Q.23. Give the technical term of naming animals and plants with two words, i e., one generic and other specific.
- Q.24. Name the seven basic hierarchial categories.
- Q.25. Name the limbless vertebrate.
- Q.26. How are oviparous and viviparous animals different from each other?
- Q.27. What is haemocoel? Which groups of animals have haemocoel?
- Q.28. Why are bats not placed in birds? Differentiate them.
- Q.29. List two differences between lizards and snakes.

- Q.30. Name three flightless birds.
- Q.31. Give one example of each:
 (i) asymmetry, radial and bilateral symmetry.
 (ii) acoelomates, pseudocoelomate and haemocoelomate.
 (iii) diploblastic and triploblastic animals.
- Q.32. Name a freshwater sponge and a coelenterate.
- Q.33. Name the phylum to which the following belong:
 (i) Silver fish (ii) sea fish
 (iii) Sea cucumber (iv) Jelly fish
 (v) Devil fish (vi) Star fish
 (vii) Cray fish
- Q.34. Name the phylum in which animals have tissue level organization.
- Q.35. Identify the animal group having:
 (i) Body spiny and radial symmetry.
 (ii) Bone light and hollow.
 (iii) Soft-bodied animals supported by calcareous shells.
 (iv) Four pairs of joined legs, head and thorax fused.
- Q.36. Give the scientific names of the following:
 (i) Liver fluke (ii) Tape worm
 (iii) Cattle leech (iv) Cockroach
 (v) Housefly (vi) Starfish
 (vii) Indian shark (viii) Climbing Perch
 (ix) Frog (x) Flying Lizard
- Q.37. Why are Whales not grouped in the fishes?
- Q.38. Give two structural adaptations in the birds for flight.
- Q.39. Differentiate between radial and bilateral symmetry.
- Q.40. What are the advantages in the scientific names?
- Q.41. Give one point of difference between notochord and nerve cord.
- Q.42. Which types of organisms are included in Platyhelminthes and why are they named so?
- Q.43. What is Binomial Nomenclature? Explain it with the help of an example.
- Q.44. Give three examples of the range of variations that you see in life – forms around you.
- Q.45. List some adaptation of reptiles towards terrestrial mode of life.
- Q.46. List a few flight adaptations in birds.
- Q.47. Draw labelled diagram of few Protozoans.
- Q.48. Why are local names not sufficient to recognize the organisms? What is binomial nomenclature? Explain it in brief giving an example.
- Q.49. Write the characteristics features of:
 (i) Phylum Porifera. (ii) Phylum Coelenterata
 (iii) Phylum Platyhelminthes. (iv) Phylum Annelida
 (v) Phylum Nematoda (vi) Phylum Arthropoda
 (vii) Phylum Mollusca (viii) Class Echinodermata
 (ix) Kingdom Monera (x) Kingdom Protista
