



Class 9 Science | Exploration: Entering The World Of Secondary Science

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. To test how light affects seedling growth, which factor should be changed?

- A. Light exposure
- B. Seed species
- C. Water quantity
- D. Soil type

2. In a fair fertiliser test, the untreated plants serve as the:

- A. Conclusion
- B. Dependent variable
- C. Control group
- D. Measuring unit

3. A student records water temperature every minute. The measured variable is:

- A. Thermometer brand
- B. Beaker label
- C. Temperature
- D. Time interval selected

4. Which claim is a testable hypothesis?

- A. Green is the best colour
- B. Science is always easy
- C. More light increases this plant's growth
- D. This flower is the prettiest

5. Three length readings are 12.1, 12.3 and 12.2 cm. Their mean is:

- A. 12.2 cm
- B. 12.0 cm
- C. 12.3 cm
- D. 36.6 cm

6. Why repeat a measurement several times?

- A. Change the hypothesis
- B. Guarantee a preferred result
- C. Remove all possible errors
- D. Reduce effects of random variation

7. Which is an observation rather than an explanation?

- A. A reaction probably occurred
- B. Copper ions must be present
- C. The cause was heating
- D. The solution turned blue

8. A thermometer has marks 1°C apart. Its smallest marked interval is:

- A. 100°C
- B. 0.1°C
- C. 10°C
- D. 1°C

9. A 25 mL liquid volume is read best using a:

- A. Spring balance
- B. Measuring cylinder
- C. Stopwatch
- D. Metre scale

10. Which action best reduces parallax while reading a scale?

- A. View the mark at eye level
- B. Tilt the instrument
- C. Close both eyes
- D. View from well above

11. An experiment disagrees with a prediction. The best response is to:

- A. Stop reporting results
- B. Change data to fit
- C. Delete all unexpected readings
- D. Check the method and reconsider the explanation

12. A graph of temperature against time should place time on the:

- A. Vertical axis only
- B. Legend only
- C. Title only
- D. Horizontal axis

13. Which record allows another student to repeat an experiment?

- A. A decorative drawing only
- B. Student's name alone
- C. Conclusion alone
- D. Method, quantities and conditions

14. Which is the safest way to investigate an unknown laboratory liquid?

- A. Follow the teacher's approved procedure
- B. Taste a drop
- C. Smell it directly
- D. Mix it with every chemical

15. A model of an atom is useful because it:

- A. Has no limitations
- B. Represents selected features of a tiny system
- C. Proves every theory forever
- D. Is an actual enlarged atom

ANSWER KEY — check after completing all 15 questions

1.A 2.C 3.C 4.C 5.A 6.D 7.D 8.D 9.B 10.A 11.D 12.D 13.D 14.A 15.B



Class 9 Science | Cell: The Building Block Of Life

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A fresh leaf cell placed in concentrated salt solution loses water mainly by:

- A. Cell division
- B. Osmosis
- C. Active transport of salt only
- D. Photosynthesis

2. Which structure is present in a bacterium but not as a membrane-bound organelle?

- A. Mitochondrion
- B. Nucleoid
- C. Golgi body
- D. Chloroplast

3. A cell makes many digestive enzymes. Which structure directly synthesises these proteins?

- A. Cell wall
- B. Smooth ER
- C. Ribosomes
- D. Vacuole

4. A plant cell remains firm in dilute solution chiefly because its wall:

- A. Pumps salt outward
- B. Resists excessive expansion
- C. Stops all water entry
- D. Produces ATP

5. Which cell component contains chlorophyll for photosynthesis?

- A. Chloroplast
- B. Lysosome
- C. Golgi body
- D. Nucleolus

6. Damage to mitochondria most directly reduces:

- A. Aerobic ATP production
- B. Chromosome number
- C. Cellulose formation in the wall only
- D. Light absorption

7. Which pair occurs in both typical plant and animal cells?

- A. Chloroplasts and centrioles
- B. Cell wall and chloroplasts
- C. Large central vacuole and cell wall
- D. Plasma membrane and mitochondria

8. A secreted protein is modified and packaged mainly by the:

- A. Chloroplast
- B. Cell wall
- C. Central vacuole
- D. Golgi apparatus

9. A membrane allows some substances through more readily than others. It is:

- A. Freely permeable to everything
- B. Completely impermeable
- C. A rigid cell wall
- D. Selectively permeable

10. Which organelle helps digest worn-out cell components?

- A. Nucleolus
- B. Lysosome
- C. Ribosome
- D. Chloroplast

11. Which process usually produces two cells with the parental chromosome number?

- A. Mitosis
- B. Fertilisation
- C. Meiosis
- D. Pollination

12. A diploid cell has 24 chromosomes. A normal gamete formed by meiosis has:

- A. 48
- B. 6
- C. 12
- D. 24

13. Uncontrolled cell division is a key feature of:

- A. Diffusion
- B. Transpiration
- C. Cancer
- D. Osmosis

14. Which material carries hereditary instructions in chromosomes?

- A. Water
- B. DNA
- C. Starch
- D. Cellulose

15. Carbon dioxide moves out of a cell down its concentration gradient by:

- A. Plasmolysis
- B. Mitosis
- C. Fertilisation
- D. Diffusion

ANSWER KEY — check after completing all 15 questions

1.B 2.B 3.C 4.B 5.A 6.A 7.D 8.D 9.D 10.B 11.A 12.C 13.C 14.B 15.D



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Class 9 Science | Tissues In Action

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A root grows longer mainly because cells divide in the:

- A. Apical meristem
- B. Cork
- C. Epidermal hair
- D. Mature xylem

2. Increase in stem girth is mainly associated with:

- A. Leaf epidermis
- B. Root cap
- C. Lateral meristem
- D. Apical meristem alone

3. A young stem bends without breaking. The supporting tissue is usually:

- A. Cork
- B. Sclerenchyma
- C. Collenchyma
- D. Xylem vessel

4. Thick lignified walls and dead mature cells identify:

- A. Sclerenchyma
- B. Meristem
- C. Collenchyma
- D. Parenchyma

5. Water rising from roots mainly travels through:

- A. Xylem
- B. Epidermis
- C. Cork
- D. Phloem

6. Sugars made in leaves reach growing roots chiefly through:

- A. Xylem vessels only
- B. Phloem
- C. Cork
- D. Root hairs

7. Large air spaces in aquatic plant tissue mainly aid:

- A. Seed production
- B. Lignification
- C. Blood transport
- D. Buoyancy

8. Which tissue forms the thin lining of lung alveoli?

- A. Bone
- B. Cartilage
- C. Squamous epithelium
- D. Striated muscle

9. Cilia on respiratory epithelial cells help:

- A. Transmit nerve impulses
- B. Store calcium
- C. Move mucus and trapped particles
- D. Pump blood

10. Which connective tissue links muscle to bone?

- A. Adipose tissue
- B. Ligament
- C. Tendon
- D. Cartilage

11. Which tissue joins one bone to another at a joint?

- A. Epithelium
- B. Ligament
- C. Tendon
- D. Neuron

12. Branched, striated, involuntary muscle occurs in the:

- A. Heart
- B. Biceps
- C. Urinary bladder
- D. Intestinal wall

13. Movement of food through the intestine uses mainly:

- A. Skeletal muscle
- B. Cartilage
- C. Smooth muscle
- D. Bone

14. A neuron is specialised for:

- A. Storing fat
- B. Receiving and transmitting signals
- C. Forming a rigid skeleton
- D. Transporting oxygen

15. Which joint allows the shoulder to move in many directions?

- A. Ball-and-socket
- B. Pivot at the neck
- C. Fixed joint
- D. Hinge

ANSWER KEY — check after completing all 15 questions

1.A 2.C 3.C 4.A 5.A 6.B 7.D 8.C 9.C 10.C 11.B 12.A 13.C 14.B 15.A

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Class 9 Science | Describing Motion Around Us

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A learner walks 30 m east and then 10 m west. Displacement is:

- A. 40 m east B. 20 m west
C. 40 m west D. 20 m east

2. A runner completes one lap of a circular track. The displacement is:

- A. Track radius B. Twice the radius
C. Zero D. Track circumference

3. A cyclist covers 180 m in 30 s. Average speed is:

- A. 5 m/s B. 6 m/s C. 30 m/s D. 60 m/s

4. A car travels equal distances at 20 and 30 m/s. Its average speed is:

- A. 25 m/s B. 24 m/s C. 50 m/s D. 26 m/s

5. Velocity changes from 4 to 16 m/s in 6 s uniformly. Acceleration is:

- A. 2 m/s² B. 3 m/s² C. 20 m/s² D. 12 m/s²

6. An object starts from rest with acceleration 3 m/s². Speed after 4 s is:

- A. 48 m/s B. 7 m/s C. 24 m/s D. 12 m/s

7. Starting from rest, a trolley accelerates at 2 m/s² for 5 s. Distance is:

- A. 5 m B. 50 m C. 25 m D. 10 m

8. A car slows uniformly from 20 m/s to rest in 4 s. Distance covered is:

- A. 20 m B. 80 m C. 40 m D. 5 m

9. The slope of a position-time graph gives:

- A. Force B. Mass C. Acceleration D. Velocity

10. The area under a velocity-time graph gives:

- A. Power B. Mass
C. Acceleration D. Displacement

11. A horizontal line on a position-time graph represents:

- A. Rest B. Uniform acceleration
C. Increasing speed D. Circular motion

12. A straight rising line on a velocity-time graph represents:

- A. Constant position
B. Zero acceleration
C. Decreasing velocity
D. Constant positive acceleration

13. In uniform circular motion, which quantity changes continuously?

- A. Time period for equal laps
B. Mass
C. Speed
D. Velocity

14. A wheel-edge point travels a circle of radius 7 m in 4 s. Speed ($\pi=22/7$) is:

- A. 11 m/s B. 44 m/s C. 14 m/s D. 7 m/s

15. A speed of 54 km/h equals:

- A. 15 m/s B. 54 m/s C. 194.4 m/s D. 5.4 m/s

ANSWER KEY — check after completing all 15 questions

1.D 2.C 3.B 4.B 5.A 6.D 7.C 8.C 9.D 10.D 11.A 12.D 13.D 14.A 15.A

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Class 9 Science | Exploring Mixtures And Their Separation

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Which sample is a homogeneous mixture?

- A. Sand in water
- B. Salt dissolved in water
- C. Granite
- D. Oil and water

2. A beam is visible inside diluted milk because of:

- A. Complete absorption of light
- B. Scattering by colloidal particles
- C. Crystallisation
- D. Evaporation

3. Particles settle on standing and are retained by filter paper. This mixture is a:

- A. Pure compound
- B. True solution
- C. Gas solution
- D. Suspension

4. A student wants pure water from saltwater. The best method is:

- A. Magnetic separation
- B. Sieving
- C. Filtration alone
- D. Simple distillation

5. Different dyes in black ink are best separated by:

- A. Paper chromatography
- B. Handpicking
- C. Sieving
- D. Magnetism

6. Cream can be separated from milk using:

- A. Paper filtration alone
- B. Centrifugation
- C. Crystallisation
- D. Sublimation

7. Ammonium chloride mixed with sand can be separated using:

- A. Magnetism
- B. Sedimentation only
- C. Sieving only
- D. Sublimation

8. A separating funnel is suitable for:

- A. Salt and water
- B. Oil and water
- C. Alcohol and water
- D. Sugar and water

9. 10 g salt is dissolved in 90 g water. Mass percentage of salt is:

- A. 90%
- B. 9%
- C. 11.1%
- D. 10%

10. 5 g glucose is present in 50 mL solution. Mass by volume percentage is:

- A. 10%
- B. 2.5%
- C. 20%
- D. 5%

11. 20 mL ethanol is diluted to 100 mL solution. Volume percentage is:

- A. 80%
- B. 25%
- C. 5%
- D. 20%

12. A saturated solution at a fixed temperature:

- A. Contains no solvent
- B. Is always a suspension
- C. Must be colourless
- D. Cannot dissolve more of that solute

13. A salt becomes more soluble on heating. Cooling its hot saturated solution may produce:

- A. A new element
- B. Only gas
- C. Crystals
- D. A magnetic liquid

14. Adding alum to muddy water helps remove suspended particles by:

- A. Sublimation
- B. Coagulation
- C. Electrolysis
- D. Combustion

15. Which mixture can pass ordinary filter paper yet scatter a beam?

- A. Starch colloid
- B. Salt solution
- C. Pure water
- D. Copper sulfate solution

ANSWER KEY — check after completing all 15 questions

1.B 2.B 3.D 4.D 5.A 6.B 7.D 8.B 9.D 10.A 11.D 12.D 13.C 14.B 15.A



Class 9 Science | How Forces Affect Motion

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A 3 kg object accelerates at 4 m/s^2 . The resultant force is:

- A. 0.75 N B. 7 N C. 12 N D. 1.33 N

2. Two horizontal forces, 9 N east and 5 N west, act on a body. Net force is:

- A. 14 N east B. 4 N west
C. 4 N east D. 14 N west

3. A body moving with constant velocity has:

- A. Increasing resultant force
B. Zero resultant force
C. No forces of any kind
D. Increasing acceleration

4. When a bus stops suddenly, passengers tend to move forward due to:

- A. Action of gravity alone
B. Loss of weight
C. Increased mass
D. Inertia

5. Which object has the greatest inertia?

- A. A 50 g ball B. A 500 g ball
C. A 10 kg stone D. A 2 kg stone

6. A 6 N force acts on a 2 kg trolley. Acceleration is:

- A. 12 m/s^2 B. 3 m/s^2 C. 0.33 m/s^2 D. 8 m/s^2

7. The same net force acts on masses m and $2m$. Their accelerations are in ratio:

- A. 1:1 B. 4:1 C. 2:1 D. 1:2

8. If force and mass are both doubled, acceleration:

- A. Halves B. Quadruples
C. Remains unchanged D. Doubles

9. A swimmer pushes water backward. The forward force on the swimmer is exerted by:

- A. The swimmer on themselves
B. Gravity only
C. Air only
D. Water

10. Action and reaction forces act on:

- A. Only objects of equal mass
B. Only stationary bodies
C. The same body only
D. Different interacting bodies

11. A book rests on a table. The reaction to the book's force on the table is:

- A. Air's force on the table
B. Book's force on Earth
C. Table's force on the book
D. Earth's force on the book

12. A box slides right on a rough floor. Sliding friction on it acts:

- A. Upward only B. Left
C. Downward only D. Right

13. Lubricating a machine usually reduces friction by:

- A. Removing gravity
B. Separating rubbing surfaces with a film
C. Increasing their roughness
D. Increasing their mass

14. A 4 kg trolley changes speed from 2 to 8 m/s in 3 s. Net force is:

- A. 8 N B. 12 N C. 24 N D. 32 N

15. Balanced forces can change an object's:

- A. Acceleration necessarily
B. Mass necessarily
C. Velocity necessarily
D. Shape without changing its centre-of-mass velocity

ANSWER KEY — check after completing all 15 questions

1.C 2.C 3.B 4.D 5.C 6.B 7.C 8.C 9.D 10.D 11.C 12.B 13.B 14.A 15.D



Class 9 Science | Work, Energy, And Simple Machines

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A 15 N force moves an object 4 m along the force. Work is:

- A. 19 J B. 60 J C. 30 J D. 3.75 J

2. A person pushes a rigid wall that does not move. Mechanical work on the wall is:

- A. Negative B. Positive
C. Zero D. Equal to the force

3. Friction on a sliding box does:

- A. Negative work B. Always zero work
C. No energy transfer D. Positive work

4. A 2 kg body moves at 5 m/s. Kinetic energy is:

- A. 10 J B. 5 J C. 25 J D. 50 J

5. Doubling speed at constant mass multiplies kinetic energy by:

- A. 2 B. 1/2 C. 8 D. 4

6. A 3 kg object is lifted 2 m. Potential-energy gain ($g=10 \text{ m/s}^2$) is:

- A. 60 J B. 6 J C. 15 J D. 30 J

7. A freely falling body loses 40 J of potential energy with no drag. Its kinetic energy:

- A. Decreases by 40 J B. Becomes zero
C. Remains constant D. Increases by 40 J

8. A machine performs 600 J of work in 3 s. Power is:

- A. 603 W B. 0.005 W C. 200 W D. 1800 W

9. One kilowatt-hour equals:

- A. 1000 J B. $3.6 \times 10^3 \text{ W}$ C. $3.6 \times 10^6 \text{ J}$ D. 3600 J

10. An ideal machine lifts a 300 N load with 100 N effort. Mechanical advantage is:

- A. 1/3 B. 200 C. 3 D. 400

11. For a balanced ideal lever, effort $\times$ effort arm equals:

- A. Load + load arm B. Load / effort arm
C. Effort / load D. Load $\times$ load arm

12. A lever has effort arm 60 cm and load arm 20 cm. Ideal MA is:

- A. 3 B. 40 C. 1/3 D. 80

13. A single ideal fixed pulley mainly changes the:

- A. Direction of effort
B. Energy required to zero
C. Load's weight
D. Mechanical advantage to 4

14. An ideal ramp is 4 m long and 1 m high. Its mechanical advantage is:

- A. 4 B. 5 C. 3 D. 1/4

15. At the lowest point of an ideal swinging pendulum, its kinetic energy is:

- A. Zero
B. Minimum but nonzero
C. Maximum
D. Negative

ANSWER KEY — check after completing all 15 questions

1.B 2.C 3.A 4.C 5.D 6.A 7.D 8.C 9.C 10.C 11.D 12.A 13.A 14.A 15.C

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Class 9 Science | Journey Inside The Atom

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. An atom has 11 protons and 12 neutrons. Its mass number is:

A. 12 B. 23 C. 1 D. 11

2. A neutral atom has 17 protons. Its electron count is:

A. 18 B. 17 C. 16 D. 34

3. Which particle has no electric charge?

A. Cation B. Neutron C. Electron D. Proton

4. Rutherford's rare large-angle deflections indicated a:

A. Nucleus occupying nearly all space
B. Neutron-only atom
C. Uniform negative sphere
D. Small dense positively charged nucleus

5. Most alpha particles crossed gold foil nearly undeflected because atoms are mostly:

A. Empty space B. Solid nuclei
C. Neutrons D. Positive matter

6. The electronic distribution of neutral magnesium ($Z=12$) is:

A. 2,10 B. 2,8,2 C. 8,4 D. 2,6,4

7. An atom with electronic distribution 2,8,7 usually has valency:

A. 8 B. 7 C. 17 D. 1

8. An atom with distribution 2,8,8 has valency:

A. 1 B. 2 C. 0 D. 8

9. Two atoms with the same atomic number but different mass numbers are:

A. Isotopes
B. Identical in neutron count
C. Isobars
D. Different elements necessarily

10. Atoms with mass number 40 but atomic numbers 18 and 20 are:

A. Isobars B. Ions of one element
C. Identical atoms D. Isotopes

11. Which property fixes the identity of an element?

A. Total electron mass
B. Neutron number alone
C. Physical state
D. Proton number

12. The maximum electron capacity of the K shell is:

A. 32 B. 18 C. 8 D. 2

13. A sodium atom loses one electron. Its proton number:

A. Becomes 12 B. Becomes 10
C. Becomes zero D. Remains 11

14. Bohr's model assigns electrons to:

A. Only the nucleus
B. Positive spherical jelly
C. Any energy with no restrictions
D. Definite permitted energy levels

15. Chlorine-35 and chlorine-37 differ in their:

A. Proton counts B. Chemical symbols
C. Atomic numbers D. Neutron counts

ANSWER KEY — check after completing all 15 questions

1.B 2.B 3.B 4.D 5.A 6.B 7.D 8.C 9.A 10.A 11.D 12.D 13.D 14.D 15.D



Class 9 Science | Atomic Foundations Of Matter

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. In a closed vessel, 12 g carbon reacts fully with 32 g oxygen. Product mass is:

- A. 44 g B. 384 g C. 12 g D. 20 g

2. Water always contains hydrogen and oxygen in mass ratio 1:8. This illustrates:

- A. Constant proportions
B. Conservation of molecule number
C. Conservation of volume
D. Variable composition

3. Which is a molecule of an element?

- A. O_2 B. CO_2 C. H_2O D. NH_3

4. Which species is a positively charged ion?

- A. Mg^{2+} B. SO_4^{2-} C. O^{2-} D. Cl^-

5. The formula from Al^{3+} and O^{2-} is:

- A. AlO B. AlO_2 C. Al_2O_3 D. Al_3O_2

6. The formula of calcium hydroxide is:

- A. $CaOH$ B. Ca_2OH C. CaO_2H D. $Ca(OH)_2$

7. The formula of ammonium sulfate is:

- A. NH_4SO_4 B. $NH_4(SO_4)_2$
C. $(NH_4)SO_3$ D. $(NH_4)_2SO_4$

8. The molecular mass of CO_2 (C=12, O=16) is:

- A. 48 u B. 44 u C. 28 u D. 32 u

9. Formula-unit mass of $NaCl$ (Na=23, Cl=35.5) is:

- A. 81.5 u B. 58.5 u C. 12.5 u D. 35.5 u

10. How many atoms are present in one H_2SO_4 molecule?

- A. 7 B. 6 C. 3 D. 4

11. In an ionic solid, current does not flow readily because:

- A. It contains no charged particles
B. Electrons vanish
C. Ions cannot move freely
D. All atoms are gases

12. Molten sodium chloride conducts because it contains:

- A. Only protons
B. Mobile neutral molecules only
C. Mobile ions
D. No particles

13. A covalent bond is formed by:

- A. Transferring neutrons
B. Sharing electron pairs
C. Destroying electrons
D. Sharing protons

14. The formula of magnesium nitride, using Mg^{2+} and N^{3-} , is:

- A. Mg_2N_3 B. MgN_3 C. Mg_3N_2 D. MgN

15. A pure sample of CO_2 contains 6 g carbon. Oxygen mass is:

- A. 12 g B. 8 g C. 16 g D. 32 g

ANSWER KEY — check after completing all 15 questions

1.A 2.A 3.A 4.A 5.C 6.D 7.D 8.B 9.B 10.A 11.C 12.C 13.B 14.C 15.C

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Class 9 Science | Sound Waves: Characteristics And Applications

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Sound in air is mainly a:

- A. Transverse electromagnetic wave
- B. Longitudinal mechanical wave
- C. Wave needing no medium
- D. Stream of light particles

2. A ringing bell in an evacuated jar becomes faint because:

- A. Light cannot escape
- B. Vacuum amplifies sound
- C. The bell loses all mass
- D. Sound needs a material medium

3. The pitch of a tone depends primarily on its:

- A. Source distance
- B. Frequency
- C. Amplitude
- D. Loudness

4. A louder tone of unchanged pitch has greater:

- A. Amplitude
- B. Time period
- C. Frequency
- D. Wavelength necessarily

5. A wave has frequency 200 Hz and wavelength 1.7 m. Speed is:

- A. 201.7 m/s
- B. 117.6 m/s
- C. 340 m/s
- D. 0.0085 m/s

6. A 50 Hz vibration has time period:

- A. 0.02 s
- B. 2 s
- C. 0.5 s
- D. 50 s

7. An echo returns after 0.6 s. Reflector distance at 340 m/s is:

- A. 56.7 m
- B. 204 m
- C. 102 m
- D. 510 m

8. Ultrasonic sound has frequency:

- A. Exactly zero
- B. Between 20 and 200 Hz
- C. Below 20 Hz
- D. Above 20,000 Hz

9. Which frequency is infrasonic?

- A. 120 Hz
- B. 12 Hz
- C. 12000 Hz
- D. 1200 Hz

10. Sound normally travels fastest through:

- A. Carbon dioxide gas
- B. Steel
- C. Vacuum
- D. Air

11. In a compression, air pressure is:

- A. Higher than the mean
- B. Always zero
- C. Unrelated to density
- D. Lower than the mean

12. The separation of adjacent compressions equals one:

- A. Wavelength
- B. Frequency
- C. Time period
- D. Amplitude

13. Persistent sound caused by repeated indoor reflections is:

- A. Refraction alone
- B. Infrasound
- C. Reverberation
- D. Polarisation

14. Curtains in an auditorium mainly reduce:

- A. Sound frequency at its source
- B. Reverberation
- C. Speed of light
- D. Vocal-cord vibration

15. A bat estimates prey distance chiefly from the:

- A. Brightness of the echo
- B. Mass of air
- C. Delay of reflected ultrasound
- D. Colour of sound

ANSWER KEY — check after completing all 15 questions

1.B 2.D 3.B 4.A 5.C 6.A 7.C 8.D 9.B 10.B 11.A 12.A 13.C 14.B 15.C



Class 9 Science | Reproduction: How Life Continues

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Which process involves fusion of male and female gametes?

- A. Binary fission B. Sexual reproduction
C. Fragmentation D. Budding

2. Amoeba commonly produces offspring by:

- A. Pollination B. Budding from a stem
C. Binary fission D. Seed formation

3. A small outgrowth on Hydra grows and separates. This is:

- A. Budding B. Spore formation
C. Pollination D. Fertilisation

4. A bread mould spreads through tiny reproductive units called:

- A. Embryos B. Seeds C. Pollen tubes D. Spores

5. Potato can reproduce vegetatively through its:

- A. Petals B. Root hairs
C. Stem tuber buds D. Pollen grains

6. The pollen-producing part of a flower is the:

- A. Anther B. Ovary C. Sepal D. Stigma

7. Transfer of pollen from anther to stigma is:

- A. Germination B. Pollination
C. Implantation D. Fertilisation

8. After fertilisation, an ovule generally becomes a:

- A. Fruit wall B. Stigma C. Petal D. Seed

9. The flower's ovary generally develops into the:

- A. Cotyledon B. Fruit C. Root D. Pollen grain

10. In humans, sperm are produced in the:

- A. Testes B. Urinary bladder
C. Prostate gland D. Uterus

11. Human fertilisation normally occurs in the:

- A. Vagina B. Uterus cavity C. Oviduct D. Ovary

12. The embryo normally implants in the:

- A. Ovary surface B. Cervical canal
C. Urinary bladder D. Uterine lining

13. The placenta mainly enables:

- A. Direct mixing of all maternal and fetal blood
B. Production of sperm
C. Exchange between maternal and embryonic blood systems
D. Formation of pollen

14. Sexual reproduction often increases variation because offspring receive:

- A. Only identical copies of one parent's DNA
B. Genetic material from two gametes
C. Only environmental traits
D. No chromosomes

15. Which contraceptive also reduces transmission of many sexually transmitted infections?

- A. Tubectomy
B. Oral contraceptive pill
C. Condom
D. Copper-T alone

ANSWER KEY — check after completing all 15 questions

1.B 2.C 3.A 4.D 5.C 6.A 7.B 8.D 9.B 10.A 11.C 12.D 13.C 14.B 15.C



Class 9 Science | Patterns In Life: Diversity And Classification

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. In the five-kingdom system, bacteria belong to:

- A. Monera B. Fungi C. Animalia D. Protista

2. A unicellular eukaryote such as Amoeba is classified in:

- A. Monera B. Animalia C. Protista D. Plantae

3. A mushroom obtains nutrients by absorption and has a chitinous wall. Its kingdom is:

- A. Fungi B. Monera C. Plantae D. Animalia

4. Which feature most clearly separates prokaryotes from eukaryotes?

- A. Absence of cytoplasm
B. Absence of plasma membrane
C. Absence of a membrane-bound nucleus
D. Absence of DNA

5. In a scientific name such as Mangifera indica, Mangifera denotes the:

- A. Kingdom B. Family
C. Genus D. Species epithet

6. Which scientific-name convention is correct in print?

- A. Both words capitalised
B. Genus capitalised, species epithet lowercase, both italicised
C. Species epithet before genus
D. Both words lowercase and bold

7. A lichen is an association involving a fungus and a:

- A. Photosynthetic partner
B. Virus only
C. Mammal
D. Flowering plant root only

8. Viruses multiply only when they:

- A. Absorb food from soil independently
B. Form roots
C. Divide by ordinary mitosis outside cells
D. Use a suitable host cell

9. A moss lacks true vascular tissue and belongs among:

- A. Mammals B. Angiosperms
C. Gymnosperms D. Bryophytes

10. A fern differs from a moss by having:

- A. Vascular tissue B. Seeds inside fruits
C. No chlorophyll D. Flowers

11. Pine produces seeds not enclosed in fruits. It is a:

- A. Fungus B. Gymnosperm
C. Bryophyte D. Angiosperm

12. A plant with flowers and seeds inside fruits is an:

- A. Gymnosperm B. Alga
C. Angiosperm D. Pteridophyte

13. Jointed legs and an external skeleton identify:

- A. Flatworms B. Annelids
C. Molluscs D. Arthropods

14. Which animal is an annelid?

- A. Earthworm B. Butterfly C. Snail D. Starfish

15. Which set names the three domains of life?

- A. Viruses, Bacteria, Plants
B. Bacteria, Archaea, Eukarya
C. Monera, Protista, Fungi
D. Plants, Animals, Fungi

ANSWER KEY — check after completing all 15 questions

1.A 2.C 3.A 4.C 5.C 6.B 7.A 8.D 9.D 10.A 11.B 12.C 13.D 14.A 15.B



Class 9 Science | Earth As A System: Energy, Matter, And Life

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Glaciers and polar ice belong mainly to the:

- A. Atmosphere
- B. Biosphere
- C. Mantle
- D. Cryosphere

2. All Earth's living organisms collectively form the:

- A. Biosphere
- B. Core
- C. Atmosphere alone
- D. Lithosphere alone

3. Sunlight reaches Earth mainly by:

- A. Radiation
- B. Convection through vacuum
- C. Conduction through space
- D. Sound propagation

4. The approximate speed of sunlight in vacuum is:

- A. 3×10^8 m/s
- B. 30 m/s
- C. 3×10^5 m/s
- D. 340 m/s

5. Compared with dark soil, fresh snow generally reflects:

- A. More incoming solar radiation
- B. No radiation
- C. Less incoming solar radiation
- D. Only sound

6. Unequal solar heating of Earth's surface helps drive:

- A. Nuclear decay
- B. Atomic number changes
- C. Winds
- D. Earth's magnetic polarity alone

7. During a typical sunny afternoon at a coast, the sea breeze blows:

- A. From land toward sea
- B. From sea toward land
- C. From poles to equator everywhere
- D. Only vertically downward

8. Water vapour forming liquid cloud droplets is:

- A. Evaporation
- B. Sublimation
- C. Infiltration
- D. Condensation

9. Water soaking from the surface into soil is:

- A. Infiltration
- B. Condensation
- C. Transpiration
- D. Combustion

10. Green plants remove atmospheric carbon dioxide mainly through:

- A. Photosynthesis
- B. Respiration
- C. Combustion
- D. Decomposition

11. Which process returns carbon dioxide from organisms to air?

- A. Rock freezing
- B. Nitrogen fixation
- C. Condensation
- D. Respiration

12. Nitrogen-fixing bacteria make atmospheric nitrogen available by converting it to:

- A. Metallic nitrogen
- B. Usable nitrogen compounds
- C. Only oxygen gas
- D. Only carbon dioxide

13. Burning fossil fuels increases atmospheric:

- A. Helium
- B. Neon
- C. Argon only
- D. Carbon dioxide

14. Loss of forest cover can increase soil erosion because:

- A. Soil becomes pure rock instantly
- B. Roots and vegetation no longer protect the soil
- C. Rain stops completely
- D. Gravity becomes stronger

15. Which statement correctly compares matter and energy in ecosystems?

- A. Energy cycles but matter never cycles
- B. Neither is transferred
- C. Matter cycles; energy flows and dissipates as heat
- D. Both are recycled completely without loss

ANSWER KEY — check after completing all 15 questions

1.D 2.A 3.A 4.A 5.A 6.C 7.B 8.D 9.A 10.A 11.D 12.B 13.D 14.B 15.C