

THE CIRCULATORY SYSTEM

Tick (✓) the correct answer

- The blood vessels with thick elastic walls that carry blood away from the heart**
 - Arteries
 - Veins
 - Capillaries
 - Venules
- The exchange of nutrients and oxygen takes place through**
 - Lungs
 - Capillaries
 - Veins
 - Arterioles
- The backward flow of blood is prevented by**
 - Valves present in lungs
 - Valves present in veins
 - Valves present in arteries
 - Valves present in capillaries
- The blood is oxygenated by**
 - Lungs
 - Heart
 - Kidneys
 - Brain
- All human beings exhale**
 - Oxygen
 - Water
 - Carbon di oxide
 - Energy
- The blood is pumped throughout our body by**
 - Lungs
 - Heart
 - Stomach
 - Brain
- Which of the following is made up of single cell layer?**
 - Kidneys
 - Stomach
 - Capillaries
 - Veins
- The flow of oxygenated blood can be traced as**
 - Heart → Lungs → Body
 - Body → Lungs → Heart
 - Lungs → Heart → body
 - Heart → Lungs → brain
- The arteries carry**
 - Pure blood
 - Impure blood
 - Oxygen
 - Water

- Which one of the following is not a part of circulatory system?**
 - Heart
 - Veins
 - Capillaries
 - Brain
- The following structure represents**
 - Arteries
 - Veins
 - Capillaries
 - Lungs



- The circulatory system transports**
 - Nutrients
 - Gases
 - Oxygen
 - All of the above

State whether the following statements are True or False

- One of the main functions of the human circulatory system is to send nutrients to all parts of the body.**
- The diameter of arteries is smaller than the diameter of veins.**
- The blood flow is unidirectional in veins**
- Oxygen is carried by red blood cells**
- Blood combines with oxygen in the heart**

Fill in the blanks by choosing the correct terms. Veins, arteries, expand, contract

- _____ are the blood vessels that carry blood back to the heart.
- The vessels with smooth and elastic walls are called _____
- The arteries _____ when the blood moves inside in them.

FOOD AND BALANCED DIET

Tick (✓) the correct answer

- Which component of food is called the body building component?
 - Fats
 - Carbohydrates
 - Vitamins and minerals
 - Proteins
- Potatoes, breads, cereals and pastas contain high amount of
 - Carbohydrates
 - Proteins
 - Fats
 - Minerals
- Which of the following is rich in Vitamin A?
 - Oranges
 - Red chillies
 - Tomatoes
 - Carrots
- Milk, meat, eggs, fish and peas are good sources of
 - Carbohydrates
 - Proteins
 - Roughage
 - Water
- Which of these food products is rich in calcium?
 - Milk
 - Chocolate
 - Oranges
 - Biscuit
- The nutrient that gives us energy is
 - Protein
 - Carbohydrate
 - Water
 - Roughage
- Fruits and vegetables give us lots of
 - Protein
 - Carbohydrates
 - Fats
 - Fibre
- To make your bones and teeth strong you must eat food rich in
 - Calcium
 - Sodium
 - Potassium
 - Iodine

- Dates, apples, bananas, guavas and spinach are rich in
 - Fats
 - Iron
 - Carbohydrates
 - Proteins
- Cheese, butter and oil are good sources of
 - Fats
 - Water
 - Roughage
 - Iron

Fill in the blanks by choosing the correct terms. roughage, proteins, anaemia, carbohydrates, fats, vitamins, balanced diet, water, milk.

- Deficiency of iron causes _____.
- The food containing all nutrients in the right amount is called a _____.
- You should drink 8 to 10 glasses of _____ everyday.
- _____ give us more energy than carbohydrates.
- _____ help us to grow and repair the worn out tissues of the body.
- _____ keep our body fit, improve our appetite and enable us to fight diseases.
- _____ give us energy to work and play.
- Mention the different vitamins which each of the following food items contain:
 - Bread _____
 - Eggs _____
 - Chicken _____
 - Butter _____
 - Orange _____
 - Broccoli & Carrot _____

ANSWER KEY - CLASS V: SCIENCE

The circulatory System	1. a	1. d	2. a	1. a	2. b
	2. b	3. d	4. b	2. d	3. b
	3. b	5. a	6. b	3. a	5. a
	4. a	7. d	8. a	4. c	7. d
	5. c	9. b	10. a	5. b	9. b
	6. b	11. Anaemia		6. d	10. c
	7. c	12. Balanced diet		7. b	11. Weathered rock
	8. c	13. Water		8. a	12. Organic matter
	9. c	14. Fats		9. c	13. Sedimentary matter
	10. d	15. Proteins		10. c	14. Erosion
	11. c	16. Vitamins		11. a	15. Lava
	12. d	17. Carbohydrates		12. c	16. Metamorphic
	13. True	18. a. Bread- vita. B		13. d	17. labels for the diagram
	14. False	b. Eggs- vita. A, B, D, E,		14. c	O: Organic matter
	15. True	c. Chicken vita. B		15. Moon, Solar	A: Topsoil
	16. True	d. Butter- vita. A, B, E		16. Tides	B: Subsoil
	17. False	e. Orange - vita C		17. Phase	C: Weathering
	18. Veins	f. Broccoli and Carrot - vita A and C		18. Lava	parent rock/ bed rock
	19. Arteries			19. Axis	
	20. Expand				

ANSWER KEY - CLASS VI: SCIENCE

Separation of Substances	1. b	1. d	1. a	1. b, 2. a
	2. b	2. c	2. c	3. c
	3. b	3. c	3. d	4. c
	4. b	4. b	4. c	5. c
	5. c	5. b	5. c	6. d
	6. d	6. a	6. d	7. b
	7. c	7. d	7. b	8. c
	8. a	8. c	8. c	9. d
	9. c	9. a	9. d	10. a
	10. a	10. d	10. a	11. d
	11. c	11. d	11. d	12. Stamen
	12. False	12. Melting	12. Stamen	13. Seed
	13. True	13. Chemical change	13. Seed	14. Pollination
	14. True	14. Chemical change	14. Pollination	15. Chlorophyll
	15. False	14. Chemical change	15. Chlorophyll	16. An embryo
	16. a. Mixture	15. Contraction	16. An embryo	17. Labels for the diagram
	b. Mixture	16. False	17. Labels for the diagram	a. Stamen
	c. Mixture	17. True	17. True	b. Anther
	d. Pure	18. True	18. True	c. Ovary
	17. correct sequence; d, b, a, c,	19. False	19. False	d. Carpel
	20. False	20. False		

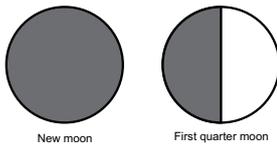
Body Movements

1. b, 2. a
3. c
4. c
5. c
6. a
7. d
8. b
9. c
10. c
11. c
12. Protection & mate
13. Ostrich; flightless birds
14. Joint
15. Connective tissue and minerals
16. Hollow bones
17. Identify the joints:
 - Ball & Socket
 - Hinge joint
 - Gliding joint
 - Fixed joint

THE MOON

Tick (✓) the correct answer

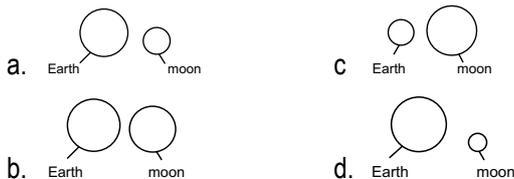
- The high tides are caused**
 - Due to gravity of moon on full moon night
 - Due to gravity of earth on a new moon night
 - Due to gravity of moon during lunar eclipse
 - Due to gravity of earth during solar eclipse
- Rahul saw the moon one night and then a week later it looked like the picture below.**



The moon appeared of a different size after a week because

- The moon became bigger
 - The moon became brighter
 - Earth and the moon moved closer
 - Greater part of moon was lit and therefore was more visible
- The surface of moon looks different from earth as it has**
 - No atmosphere, no liquid water, mountains, craters and rocks
 - Liquid water, air, ice, rocks and craters
 - Air, Liquid water, no rocks, no mountains and no craters
 - No air, no water, no rocks, no mountains but only craters
 - The moon revolves around the**
 - Sun
 - Earth
 - Both sun and earth
 - Sun, earth and stars
 - The large craters on the surface of the moon are formed**
 - By the ice present on the moon
 - The collision of meteorites and asteroids
 - Due to mountains present on the moon
 - By the lava present inside the surface of the moon

6. **The pictures below show the size of the moon compared to Earth. Which one is correct?**



- The moon has extreme temperatures because**
 - It has lava on its surface
 - It has no atmosphere
 - It gets more light from the sun
 - It has no water

- An object that weighs 60kg on earth will weigh**
 - 10kg
 - 60kg
 - 15kg
 - 12 kg
- The astronauts experience weightlessness on moon as A**
 - It has no atmosphere
 - It has no water
 - The gravity on moon is less than that on earth
 - The gravity on moon is more than that of earth
- What keeps the moon in its orbit around the earth**
 - Sun's gravity
 - Moon's own gravity
 - Earth's gravity
 - Stars' gravity
- The natural satellite for earth is**
 - Moon
 - Sun
 - Mars
 - Venus
- The correct order of phases of moon as seen over the course of month is**
 - Full moon new moon third quarter first quarter
 - New moon first quarter third quarter full moon
 - Full moon first quarter new moon third quarter
 - New moon full moon first quarter third quarter
- The moon appears shining**
 - As it makes its own light
 - It reflects light from earth
 - It reflects light from the stars
 - It reflects light from the sun
- There is a waning crescent phase and a waxing crescent phase of the moon. What makes the appearance of a waning crescent different from a waxing crescent?**
 - The crescent is not visible
 - The crescent is on both sides
 - The crescent is on left side
 - The crescent is on right side

Fill in the blanks by choosing the correct terms. Axis, equator, phases, lunar, tides, moon, solar, lava

- When _____ passes through sun and the earth _____ eclipse is caused.**
- The cyclic rising and falling of ocean water on earth due to the moon's pull _____.**
- The changing shape of the bright part of the moon is called its _____.**
- The craters of the moon are filled with _____.**
- The moon spins on its own _____ to complete revolution of the earth.**

ROCKS, MINERALS AND SOIL

Tick (✓) the correct answer

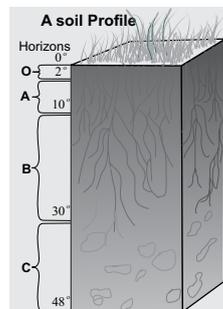
- The topmost layer of soil made up of organic matter that supports growth of plants is called
 - Top soil
 - Sub soil
 - Humus
 - Bed rock
- Which one of the following type of soil has the largest particle size?
 - Clay
 - Sand
 - Loam
 - Humus
- The layer of soil made up of small pieces of rocks is called
 - Topsoil
 - Subsoil
 - Sand
 - Clay
- The disintegration of bed rock to form soil is called
 - Decomposition
 - Disintegration
 - Weathering
 - Erosion
- Coal is formed when a layer of decayed plant matter becomes rock. What type of rock is coal?
 - Sedimentary
 - Igneous
 - Metamorphic
 - Magma
- Which one of the following is not a component of soil?
 - Humus
 - Magma
 - Water
 - Small rocks
- Which one of the following is not an agent of weathering?
 - Wind
 - Water
 - Temperature changes
 - Electricity
- The parent material for all types of soil is
 - Sand
 - Silt
 - Rocks
 - Minerals
- Fossils can be found in
 - Igneous rocks
 - Sedimentary rocks
 - Metamorphic rocks
 - Bed rock

- Radha put a shovelful of loose soil from the bottom of a stream into a glass jar of water and stirred it. Later, she studied the way the silt, sand and pebbles settled to the bottom. In which order did she find these three parts of the soil starting from the topmost layer
 - Silt pebbles sand
 - Sand pebbles silt
 - Silt sand pebbles
 - Pebbles sand silt

Fill in the blanks by choosing the correct terms.

Metamorphic rocks, Weathered rock, organic matter, Lava, sedimentary rocks, lava, soil erosion

- The main component of soil is _____.
- Humus is made up of _____.
- _____ rocks are formed due to the deposition of matter on earth's surface
- Carrying away of the topmost layer of the soil, by wind or water is called _____.
- Igneous rocks are formed by _____.
- Rocks change into _____ rocks due to high temperature and pressure.
- Label the horizon of soil in the following picture:



ANSWER KEY - CLASS VII: SCIENCE

Fibre to Fibre 2	1. d	2. d	Physical and Chemical Changes	1. a	2. b	Weather, Climate and Adaptation of Animals to Climate	1. a	Winds, Storms and Cyclones	1. d
	3. d	4. b		3. c	4. a		2. c		
	5. a	6. a		5. d	6. b		3. a		
	7. a	8. b		7. d	8. d		4. c		
	9. d	10. d		9. Breaking of glass	10. Sublimation of dry ice		4. d		
	11. Protein			11. Iron nails mixed with sulphur powder	12. beating of aluminum into foil		5. b		
	12. Sheep			13. Rusting of iron	14. Burning a piece of paper		6. a		
	13. Reeling			14. Burning a piece of paper	15. Burning of coal		6. b		
	14. Seven			15. Burning of coal	16. Zinc reacting with hydrochloric acid		7. d		
	15. Shearing			16. Zinc reacting with hydrochloric acid	17. False		7. d		
	16. Lohi-sheep, Angora-rabbit			17. False	18. False		8. a		
	17. Scouring, sorting, carding & spinning			18. False	19. True		9. a		
	18. Scouring			19. True	20. True		10. b		
	19. a. False			20. True			11. d		
	b. False						11. a		
	20. Mule						12. d		
							13. a		
							14. d		
							15. b		
							16. True		
							17. False		
							18. False		
				19. True					
				20. False					

ANSWER KEY - CLASS VIII: SCIENCE

Microorganisms: Friend and Foe	1. b	2. a	Synthetic Fibres and Plastics	1. b	Materials: Metals and Non-Metals	1. a	2. d	Coal and Petroleum	1. d	
	3. b	4. c		2. c		3. c	4. b		2. b	
	5. a	6. b		3. c		4. d	5. b		6. c	3. a
	7. d			4. c		5. c	7. a		8. d	4. c
	8. a			5. c		6. b	9. b			5. a
	9. d			6. b		7. a	10. b			6. b
	10. b			7. a		8. c	11. b			7. d
	11. Bacteria: Lactobacillus, Streptococcus, Spirogyra, Diatoms, Fungi: yeast, Mushrooms			8. c		9. d	12. a			8. a
	12. c			9. d		10. d	13. c			9. d
	13. a			10. d		11. Monomers	15. Metal carbonate + Acid → Salt + water + carbon di oxide			10. b
	14. b			11. Monomers		12. Petroleum	16. $4Na + O_2 \rightarrow 2Na_2O$			11. c
	15. e			12. Petroleum		13. Thermosetting	17. $2Ca + 2HCl \xrightarrow{\Delta} CaCl_2 + H_2$			12. e
	16.1. Bacillus, 2. Cocci, 3. Spirillum.			13. Thermosetting		14. non-biodegradable	18. $C + HCl_2 \rightarrow$ No reaction			13. f
				14. non-biodegradable		15. Reuse, Reduce	19. $S + O_2 \rightarrow SO_2$			14. b
				15. Reuse, Reduce		16. False	20. $Cu + FeSO_4 \rightarrow$ No reaction			15. a
				16. False		17. False				16. True
				17. False		18. False				17. False
				18. False		19. True				18. False
				19. True						19. False
		20. False				20. True				

SEPARATION OF SUBSTANCES

Tick (✓) the correct answer

1. The diagram shows the apparatus for separating soil and water. What are the labelled parts?



- a. A - filtrate, B - residue
 b. A - residue, B - filtrate
 c. A - residue, B - distillate
 d. A - distillate, B - filtrate
2. Which of the following is a process to separate a solvent from a solution?
 a. Evaporation c. Coagulation
 b. Distillation d. Decantation
3. When a solid is soluble in liquid, both the solid and liquid can be obtained by
 a. Crystallisation c. Centrifugation
 b. Distillation d. Evaporation
4. Which of the following statements is incorrect?
 a. Pulp from the orange juice can be separated by filtration
 b. A mixture of salt and water can be separated by decantation
 c. Wheat grains are separated from husk by winnowing
 d. Oil and water are immiscible
5. Iron can be separated from a mixture of sand and iron by
 a. Hand picking c. Using a magnet
 b. Winnowing d. Filtration
6. Sahil's mother is preparing paneer at home; she wants to separate the coagulated paneer from whey. Which method should she use?
 a. Filtration c. Distillation
 b. Sieving d. Both a and b
7. Which of the following mixtures can be separated by filtration?
 a. A mixture of sand and salt
 b. A mixture of chilli flakes and pepper
 c. A mixture of chilli flakes and water
 d. A solution of sugar and water

8. Winnowing separates chaff and grains easily, as the chaff is
 a. Lighter than the grain c. Attracted to air
 b. Heavier than the grain d. Repelled by the grains
9. Bran can be separated from flour by
 a. Winnowing c. Sieving
 b. Handpicking d. Filtration
10. Lata has prepared a solution of salt and water. She is trying to add some more salt; she cannot dissolve any more salt in the water because
 a. Solution is saturated
 b. She is not stirring it properly
 c. Salt and water do not dissolve
 d. A pure solution is formed
11. Which one of the following techniques used would be best to separate chalk powder and water?
 a. Distillation c. Decantation
 b. Crystallisation d. Chromatography

State whether the following statements are true or false:

12. Jeera is separated by its stalk by filtration
13. A mixture can contain more than one type of substance
14. Impurities present in water are separated by filtration
15. Sand is completely soluble in water

Classifying information:

16. Classify the following as pure substances or mixtures. Write M if it is a mixture and write P if it is a pure substance in the space provided.
 a. _____ The air you breathe
 b. _____ An aerated drink
 c. _____ Seawater
 d. _____ The distilled water used in your car battery

Sequencing the steps:

17. Write the correct sequence of the steps, for separation of a mixture of chalk powder and salt.
 a. Filtration separates insoluble chalk powder
 b. Stir well the salt will dissolve in water
 c. Evaporation in the salt solution removes water
 d. Add the salt and chalk powder mixture to water

CHANGES AROUND US

Tick (✓) the correct answer

1. **The change in temperature brings change in**
 - a. Solids
 - b. Liquids
 - c. Gases
 - d. All the above

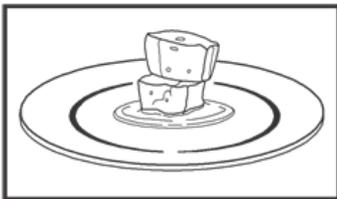
2. **If an inflated balloon is left exposed in sunlight the balloon will**
 - a. Remain in the same size
 - b. Shrink
 - c. Expand
 - d. Burst

3. **Which of the following is not a reversible change?**
 - a. Melting of ice
 - b. Melting of butter
 - c. Kneading of dough
 - d. Wool being knitted into a sweater

4. **What is the similarity between the following changes: Curdling of milk, Burning of a matchstick, Baking a cake**
 - a. They are all reversible changes
 - b. They are all irreversible changes
 - c. They are physical changes
 - d. They are fast reversible changes

5. **The thermometer can read temperature changes as**
 - a. The mercury present in it contracts on heating
 - b. The mercury present in it expands on heating
 - c. The glass of the thermometer increases pressure, causing mercury to rise
 - d. The change in temperature causes chemical composition of mercury

6. **Diya is observing ice cubes as they change. She drew this picture.**



Which type of change does the picture represent?

- a. Reversible and physical
- b. Reversible and chemical
- c. Irreversible and physical
- d. Irreversible and chemical

7. **Which of the following expands the least on heating?**
 - a. Hydrogen
 - b. Water
 - c. Helium
 - d. Iron

8. **Which of the following is physical but irreversible change?**
 - a. Burning of candle
 - b. Melting of ice cream
 - c. Breaking of a light bulb
 - d. Freezing of juice

9. **A candle maker can reuse any left over wax to make candles to a desired shape and size, because wax can be melted and**
 - a. Solidified again
 - b. Liquified
 - c. Condensed
 - d. Evaporated

10. **Car windows get foggy in winters due to**
 - a. Melting
 - b. Evaporation
 - c. Sublimation
 - d. Condensation

11. **Which of the following is an example of both reversible and irreversible changes?**
 - a. Curdling of milk
 - b. Burning of paper
 - c. Blooming of flowers
 - d. Burning of a candle

Give one word for the following:

12. **A solid turning into a liquid**_____.
13. **A change in which a new substance is formed**_____.
14. **A change in which the original substance can be got back easily**_____.
15. **To shrink due to cooling.**_____.

State whether the following statements are true or false:

16. **A burnt paper can be turned back into its original form**
17. **Curdling of milk is an irreversible change**
18. **Metals expand on heating**
19. **A baby growing up is an example of reversible change**
20. **Air contracts on heating**

GETTING TO KNOW PLANTS

Tick (✓) the correct answer

1. **Name the process in which sperm cells from pollen grains enter ovules and join with egg cells**
 - a. Fertilization
 - b. Sori formation
 - c. Nectar production
 - d. Asexual reproduction

2. **Which part of the plant does seed formation take place, in the plants that do not have flowers?**
 - a. Stem
 - b. Root
 - c. Cone
 - d. Leaf

3. **How are all seeds alike?**
 - a. They are all the same colour
 - b. They are all flat and pointed
 - c. They all come from spores or cones
 - d. They all look different from the plants they become

4. **The small leaf like green part of a flower is called**
 - a. Petals
 - b. Bud
 - c. Sepals
 - d. Node

5. **What is the name of the process by which plants lose water through stomata?**
 - a. Photosynthesis
 - b. Respiration
 - c. Transpiration
 - d. Tropism

6. **Which is the word that is a combination of the Greek words meaning "light" and "to put together"?**
 - a. Transpiration
 - b. Pollination
 - c. Fertilization
 - d. Photosynthesis

7. **What must happen to pollen grains for pollination to occur?**
 - a. They must stick to an insect's body
 - b. They must reach the stigma of a flower
 - c. They must be carried by the wind

- d. They must become nectar
8. **The ripened ovary is called**
 - a. Flower
 - b. Seed
 - c. Fruit
 - d. Petal

9. **Which one of the following is not a part of a flower?**
 - a. Pistil
 - b. Stamen
 - c. Calyx
 - d. Midrib

10. **Anthers contain**
 - a. Pollen grain
 - b. Ovules
 - c. Ovary
 - d. Petals

11. **The plants can reproduce by**
 - a. Spores
 - b. Seeds
 - c. Stem
 - d. All of the above

Fill in the blanks using the words given below:
Stamen, An embryo, Seed, Pollination, Chlorophyll, Chloroplast, Stigma

12. **Male reproductive part of a flower is called _____.**
13. **After fertilisation _____ is formed.**
14. **The transfer of pollen grain from one flower to another is called _____.**
15. **The green pigment present in plants that helps in photosynthesis is called _____.**
16. **The seed contains _____ which gives rise to a new plant.**
17. **Label the following diagram:**



BODY MOVEMENTS

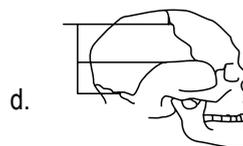
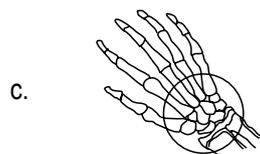
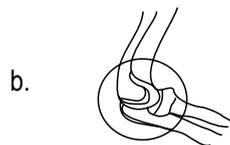
Tick (✓) the correct answer

1. **The outer or exoskeleton is found in a**
 - a. Camel
 - b. Cockroach
 - c. Crow
 - d. Cat
2. **The skeletal system is made up of**
 - a. Bones, joints and connective tissue
 - b. Bones and cartilage
 - c. Joints and muscles
 - d. Bones, muscles and cartilage
3. **How many bones do new born babies have?**
 - a. 206
 - b. 232
 - c. 300
 - d. 290
4. **A ball and socket joint is found in the**
 - a. Skull
 - b. Knees
 - c. Shoulder
 - d. Neck
5. **The two types of muscles present in the arm are**
 - a. Hamstring and tricep
 - b. Quadricep and tricep
 - c. Bicep and tricep
 - d. Quadricep and tricep
6. **The heart and the lungs are protected by**
 - a. Ribcage
 - b. Connective tissue
 - c. Spinal cord
 - d. Diaphragm
7. **Which of the following does not have a moveable joint?**
 - a. Shoulder
 - b. Knees
 - c. Neck
 - d. Skull
8. **Seals use their flippers for**
 - a. Feeding their young ones
 - b. Swimming
 - c. Eating food
 - d. All of the above activities
9. **Which of the following animal slides?**
 - a. Cow
 - b. Snake
 - c. Snail
 - d. Frog
10. **Snakes are able to move with help of**
 - a. Legs
 - b. Flippers
 - c. Scales and muscles
 - d. Hollow bones

11. **Muscles work to move bones back and forth. How many muscles at least, need to work together to move one bone?**
 - a. 1
 - b. 3
 - c. 2
 - d. 4

Fill in the blanks:

12. **Movement helps animals to find food _____ and _____.**
13. **Penguins and _____ are also known as _____ birds.**
14. **A place where two or more bones meet is called a _____.**
15. **Bones are made up of _____ and _____.**
16. **Birds are light weight because they have _____ which help them to fly.**
17. **Identify and write the joint present in the following**



PHYSICAL AND CHEMICAL CHANGES

Tick (✓) the correct answer

- Which type of change occurs when the shape, size, appearance and volume of a substance changes without changing its chemical composition?
 - Physical change
 - Chemical change
 - Biological change
 - Environmental change
- Which of the following is not a physical change?
 - Burning a candle
 - Burning a paper
 - Tearing a paper
 - Breaking a candle
- When a change occurs
 - Only the physical property of a substance changes.
 - Only the chemical property of a substance changes.
 - Both physical and chemical properties change.
 - Neither physical or chemical properties change.
- When a piece of wood is waxed and polished it represents a
 - Physical change
 - Chemical change
 - Change in its matter
 - Change in its composition
- A safety pin can be magnetised, this change occurs due to a change in its
 - Mass
 - Weight
 - Chemical property
 - Physical property
- Chemical change
 - Is reversible
 - Is irreversible
 - Does not cause any change
 - Does not cause any change in colour
- Which of the following does not indicate a chemical change?
 - Release of energy during a change
 - Release of gas
 - Change in colour
 - Change in appearance

- When a chemical substance is formed due to chemical change, then this can be indicated by
 - Melting of a substance
 - Cooling of a substance
 - Breaking of a substance
 - Change in the colour of a substance

Classify the following as Physical and Chemical changes

Breaking of glass, Rusting of a nail, Burning a piece of paper, Sublimation of dry ice, Zinc reacts with hydrochloric acid, Iron nails mixed with sulphur powder, Burning of coal, Beating aluminum to aluminum foil

Physical Changes	Chemical Changes
9.	13.
10.	14.
11.	15.
12.	16.

State whether the following statements are true or false:

- A chemical change can be easily reversed.
- In a physical change the chemical composition of a substance changes.
- Energy is released or absorbed during a chemical change.
- Powdering sugar crystals is an example of physical change.

WEATHER, CLIMATE AND ADAPTATION OF ANIMALS TO CLIMATE

Tick (✓) the correct answer

1. **Sahil wishes to measure the speed of wind. Which instrument should he use?**
 - a. An anemometer
 - b. A barometer
 - c. A rain gauge
 - d. A thermometer

2. **If a meteorologist says that the amount of water vapour present in air is 91%, then the day would be**
 - a. Cloudy
 - b. Humid
 - c. Sunny
 - d. Stormy

3. **The hump of the camel stores**
 - a. Fat
 - b. Milk
 - c. Water
 - d. Proteins

4. **The climate of a place depends upon**
 - a. Latitude
 - b. Altitude
 - c. Longitude
 - d. All of the above

5. **The regions covered with snow all around the year are**
 - a. Rainforests
 - b. Polar regions
 - c. Deserts
 - d. Savannah grasslands

6. **Which features help polar bears survive in icy conditions?**
 - a. Wide paws, sense of smell, fat under the skin
 - b. White fur, flippers, gills
 - c. Strong claws, wide paws, long eyelashes
 - d. Long tail, fat under the skin, gills for respiration

7. **Which of the following is not an element of weather?**
 - a. Temperature
 - b. Humidity
 - c. Rainfall
 - d. Sunlight

8. **The saturation of air with water vapour leads to**
 - a. Rain
 - b. Dust storm
 - c. Lightning
 - d. Thunder storm

9. **Wind blows when**
 - a. Air travels from a region of low pressure to high pressure
 - b. Air travels from a region of high pressure to low pressure
 - c. Air travels from a region of high humidity to low humidity
 - d. Air travels from a region of low humidity to high humidity

10. **Which of the following is not adapted to live in the polar region?**
 - a. Penguins
 - b. Siberian cranes
 - c. White foxes
 - d. Seal

11. **Which of the following is not a migratory bird?**
 - a. Humming bird
 - b. Siberian crane
 - c. Arctic tern
 - d. Parakeet

12. **Camouflage is a characteristic feature of**
 - a. Monkeys
 - b. Chamelons
 - c. Crows
 - d. Penguins

Match the following:

Column A	Column B
13. Sticky pads on feet	a. Migration
14. Inactivity in animals during winter	b. Polar bear
15. Bright Colours	c. Red eyed-frog
16. Movement of animals from one place to another	d. Camouflage
	e. Hibernation
	f. Rainforest birds.

State whether the following statements are true or false:

17. **All animals undergo hibernation in summer.**

18. **In cold climates animals adapt to conserve body heat.**

19. **Temperature on the earth's surface increases with increasing latitude.**

20. **It is warmer in plains as compared to hills, as the air is thicker in the plains.**

WINDS, STORMS AND CYCLONES

Tick (✓) the correct answer

- What is the name of the wind that blows constantly from the same direction?**
 - Fog
 - Local wind
 - Ozone
 - Prevailing wind
- Which instrument would you use to measure the pressure of the surrounding air?**
 - Anemometer
 - Hygrometer
 - Barometer
 - Thermometer
- The centre of a cyclone is called**
 - The eye
 - Debris
 - Water spout
 - Thunder
- As we go higher up in the atmosphere, the air pressure**
 - Increases
 - Remains the same
 - Decreases
 - Cannot be measured
- A hot air balloon rises up in the air because**
 - Air expands on heating and exerts pressure.
 - Air contracts on heating and hence, exerts more pressure.
 - It moves from a region of high pressure from a region of low pressure .
 - Due to the uneven heating of the balloon by the sunlight.
- The heating of the earth is**
 - Equal on all the surfaces
 - Maximum near the equator
 - More on higher altitudes
 - Maximum on the poles
- During a storm, we should**
 - Go to the park
 - Take shelter inside a car
 - Take shelter under a tree
 - Take shelter inside a house
- Which of the following is true about cold and warm air masses?**
 - Warm air is denser than cold air; cold air exerts more pressure.
 - Cold air is denser than warm air; cold air exerts more pressure.
 - Warm air is denser than cold air; warm air exerts more pressure.
 - Cold air is denser than warm air; warm air exerts more pressure.
- Why do the equatorial regions of Earth tend to be warmer than the poles?**
 - The sun's rays only indirectly strike the equator
 - The sun's energy is concentrated on a smaller area at the equator
 - The sun's energy is concentrated on a smaller area at the poles.
 - The strong polar winds push warmer air toward the region.
- Wind is caused by**
 - Differences in air temperature and pressure
 - Differences in air temperature and humidity
 - Differences in air composition and pressure
 - Differences in air composition and humidity
- Which one the following is not a stage in thunderstorms?**
 - Developing stage
 - Maturing stage
 - Dissipating stage
 - Lightning
- Which of the following is not true about air?**
 - Air exerts pressure
 - Air has weight
 - Air occupies space
 - Air is a pure substance
- The movement of air during winter is**
 - Land to sea
 - Sea to land
 - High altitude to low altitude
 - High temperature to low temperature
- Which of the following is not due to differences in air pressure?**
 - An aeroplane taking off
 - A house's roof flying off during a storm
 - Breeze
 - The water cycle
- Upward and downward current of air which results from uneven heating of air is called**
 - Conduction currents
 - Convection currents
 - Wind
 - Radiation

State whether the following statements are true or false:

- The monsoon wind carries moisture**
- The centre of a cyclone is called water spout**
- Cold air goes up but hot air moves down**
- A cyclone is generated, when a low pressure area is surrounded with higher pressure all around**
- During summers there is movement of air from land to sea**

MICROORGANISMS: FRIEND AND FOE

Tick (✓) the correct answer

1. **The bacteria used for production of cheese are**
 - a. Lactobacillus and yeast
 - b. Lactobacillus and Streptococci
 - c. Lactobacillus and Spirogyra
 - d. Streptococci and Yeast

2. **Which one of the following is produced by fermentation of barley?**
 - a. Beer
 - b. Cheese
 - c. Wine
 - d. Yoghurt

3. **Which one of the following is not a product of fermentation?**
 - a. Cheese
 - b. Mushrooms
 - c. Beer
 - d. Wine

4. **The casein present in milk, is a type of**
 - a. Carbohydrate
 - b. Fat
 - c. Protein
 - d. Vitamin

5. **The substrate for yeast, for production of bread is**
 - a. Sugars present in the dough
 - b. Proteins present in the dough
 - c. Fats present in the dough
 - d. Alcohol present in the dough

6. **The weakened strains of bacteria and viruses are used in production of**
 - a. Nitrogen
 - b. Vaccines
 - c. Antibiotics
 - d. Vitamins

7. **Contaminated food and water can cause diseases like**
 - a. Malaria
 - b. Polio
 - c. Dengue
 - d. Cholera

8. **Which one of the following is a fungal disease?**
 - a. Ringworm infection
 - b. Typhoid
 - c. Hepatitis
 - d. Tuberculosis

9. **Which one of the following diseases is not caused by droplet infection?**
 - a. Tuberculosis
 - b. Common cold
 - c. Whooping cough
 - d. Hepatitis

10. **The bread dough rises due to**
 - a. Production of alcohol
 - b. Production of carbon di oxide
 - c. Breakdown of sugars
 - d. Breakdown of proteins

11. **Classify the following organisms to their respective groups in the table given below: Spirogyra, Yeast, Lactobacillus, Diatoms, Mushrooms, Streptococcus**

Bacteria	Algae	Fungi

Match the following disease to their causative organism:

Column A	Column B
12. Polio	Bacteria
13. Typhoid	Protozoa
14. Malaria	Viruses
15. Ringworm	Algae
	Fungi

16. **Identify and name the pictures given below:**



1. _____
2. _____
3. _____

SYNTHETIC FIBRES AND PLASTICS

Tick (✓) the correct answer

- Which type of plastics can be heated and reshaped?
 - Natural plastics
 - Thermoplastics
 - Thermosetting plastics
 - All plastics
- Which type of material should be used to make handles of cooking pots and pans?
 - Thermoplastics
 - Steel
 - Thermosetting plastics
 - Iron
- Plastic is a
 - Monomer
 - Natural substance
 - Polymer
 - Obtained from rubber tree
- Which one of the following is not a property of plastics?
 - Plastics are insulators
 - Plastics are brittle
 - Plastics are non- reactive
 - Plastics react with acids
- In thermosetting plastic monomers are joined by
 - Circular chains that are loosely attached
 - Linear chains that are loosely attached
 - Linear chains that are cross linked
 - Circular chains that are cross linked
- Which of the following is not made up of thermoplastics?
 - Toys
 - Computer cases
 - Water bottles
 - Plastic bags
- If monomers of ethene are polymerised, the plastic made would be
 - Polyethene
 - Polymer
 - Polyester
 - Polyvinyl
- Plastic is not disposed off by burning because
 - It does not burn
 - Petrol is required to burn it
 - It produces toxic gases on burning
 - It is biodegradable

- The plastics are recycled by
 - Reusing them
 - By burying in a landfill
 - By burying in soil
 - By remoulding them into a new object
- Plastics are used to coat electrical appliances because
 - They are light
 - They are stable
 - They can be remoulded
 - They are insulators

Fill in the blanks by choosing the correct word given below:

Reuse, Monomers, Recycles, Biodegradable, Non-biodegradable, Thermosetting, Thermoplastics, Petroleum

- Small units called _____ join to form polymers.
- The main source of plastics is _____.
- The _____ plastics cannot be remoulded.
- Metal, glass and plastic are _____.
- Plastic overuse can be controlled by _____, recycle, _____ and recover.

State whether the following statements are true or false:

- Plastic is a naturally occurring polymer.
- All plastics can be recycled.
- Polyethene is a polmer of ethylene chloride.
- Vegetable peels and grass are used for producing plastics.

MATERIALS: METALS AND NON-METALS

Tick (✓) the correct answer

- An element that can lose an electron to form positive ions is classified as**
 - Metals
 - Non metals
 - Sub atoms
 - Neutrons
- Which one of the following elements does not occur as a mineral?**
 - Iron
 - Calcium
 - Calcium
 - Platinum
- Metals are extracted from their ores by**
 - Distillation
 - Filtration
 - Metallurgy
 - Oxidation
- Magnetic ore from gangue is separated by using**
 - Hydraulic washing
 - Magnetic rollers
 - Froth Floatation
 - Fractional distillation
- To convert zinc carbonate to zinc oxide**
 - The ore should be roasted
 - The ore should be calcified
 - Magnetic separation should be used
 - Should be separated by acid treatment
- Which method of reduction to obtain metal from its oxide is represented by the following equation?**
Lead oxide + carbon \longrightarrow Lead + Carbon di oxide
 - Froth floatation
 - Oxidation
 - Smelting
 - Roasting
- Electrolytic refining is used to separate**
 - Copper and lead
 - Magnesium and copper
 - Iron and copper
 - Calcium and copper
- All of the following elements show the property of malleability except**
 - Iron
 - Silver
 - Aluminum
 - Graphite

- A solution of ash of magnesium ribbon is**
 - Acidic
 - Basic
 - Neutral
 - Reduced
- Oxides of non metals are _____ in nature**
 - Basic
 - Acidic
 - Neutral
 - All of these
- The dull green colour of copper vessels is due to**
 - Exposure to air
 - Rusting of copper
 - Reduction of copper
 - Galvanisation of copper
- Which one of the following metal reacts vigorously with oxygen and water?**
 - Sodium
 - Potassium
 - Calcium
 - Phosphorus
- A solid X reacts with an acid to produce a gas which produces a pop sound and lights a splint. The gas produced is**
 - Oxygen
 - Carbon dioxide
 - Hydrogen
 - Nitrogen
- The metal used for galvanization of iron and steel from rusting is**
 - Copper
 - Aluminum
 - Lead
 - Zinc

Complete the following equations:

- Metal carbonate + Acid \longrightarrow _____ +Water + _____**
- Na+O2 \longrightarrow _____**
- 2Ca + 2HCl \longrightarrow _____**
- C +HCl \longrightarrow _____**
- S + O2 \longrightarrow _____**
- Cu +FeSO4 \longrightarrow _____**

COAL AND PETROLEUM

Tick (✓) the correct answer

1. Which one of the following is not a non-renewable resource?
 - a. Coal
 - b. Natural gas
 - c. Petroleum
 - d. Water
2. Which one of the following is not a fossil fuel?
 - a. Coal
 - b. Biogas
 - c. Compressed natural gas
 - d. Petroleum
3. Petroleum is found
 - a. Between impervious rocks and water
 - b. Between impervious and permeable rocks
 - c. Between porous rocks
 - d. Mixed with ocean water
4. The useable component of natural gas is
 - a. Diesel
 - b. LPG
 - c. Methane
 - d. Butane
5. Which one of the following is not an advantage of using compressed natural gas?
 - a. It needs large storage space and is difficult to detect in case of leakage
 - b. It does not leave residue on burning
 - c. Can be easily transported through pipes
 - d. It is cheaper than other fossil fuels
6. Petroleum
 - a. Is heavier than water
 - b. Is lighter than water
 - c. Has the same density as water
 - d. Has the same fuel efficiency as coal
7. Petroleum is separated into components by using
 - a. Filtration
 - b. Purification
 - c. Distillation
 - d. Fractional distillation
8. Which fraction of petroleum is used for making candles?
 - a. Paraffin
 - b. Natural gas
 - c. Bitumen
 - d. Asphalt

9. The burning of fossil fuels cause
 - a. Green house effects
 - b. Emission of gases like carbon di oxide
 - c. Global warming
 - d. All of these
10. Which one of the following is not obtained as a by-product of crude oil?
 - a. LPG
 - b. Biogas
 - c. Diesel
 - d. Kerosene

Match the following:

Column A	Column B
11. Fuel used for light jet planes	a. Paraffin wax
12. Substance used in paints	b. Liquefied petroleum gas
13. Substance used for smooth functioning of machine parts	c. Kerosene
14. Fuel used for cooking	d. Diesel
15. Compound used in the preparation of Vaseline jelly	e. Bitumen
	f. Lubricating oil

State whether the following statements are true or false:

16. Petroleum is formed when the remains of dead and decaying organisms are subjected to extreme temperature and pressure conditions
17. Petroleum is a renewable source of energy
18. Compressed natural gas is prepared by using sewage and cow dung
19. The main component of liquefied petroleum gas is methane
20. Petrochemicals are used to manufacture plastic

TROTTER

Asterix and Obelix is a French comic. **Asterix** drinks a magic potion which gives him superhuman strength.

Chhota Bheem is an Indian cartoon. It narrates the adventures of a nine year old boy living in the village of *Dholakpur*.

Doraemon is a robotic cat from Japan. He travels back in time from the 22nd century to help a boy called *Nobita Nobi*.

