New Amazing Science
7
Worksheet Answer key

Contents

Answer key Worksheet # 1

Name: _____

Date: _____

Q1. Label the given diagram:

Shoot system

Root system

Q2. Draw two types of leaves showing leaf venation in the spaces provided below.

Answer key Worksheet # 2

Name: _____

Date: _____

Q1. Fill in the blanks.

i. ***Transpiration*** is a process by which a plant loses water vapor through its leaves.

ii. ***Stomata*** are found on the ***underside*** of the leaves through which the water escapes into the atmosphere.

Q2. Name the factors that affect transpiration.

Wind, Temperature, Humidity and Time of the day

Q3. What is the function of the nitrates, magnesium and phosphates in plants?

Nitrates are used to make proteins; magnesium is needed to make chlorophyll and phosphates are used to make DNA and they are also required for photosynthesis and respiration.

Answer key Worksheet # 1

Name: _____

Date: _____

Q1. Define the following:

- Respiration

It is the breakdown of food molecule (glucose) in the presence of oxygen to release energy.

- Breathing

It is the inhale and exhale of air to get oxygen and release carbon dioxide during respiration.

Q2. What is the difference between breathing and respiration?

Breathing is the process by which gaseous exchange takes place whereas, in respiration, food is broken down and energy is released. Oxygen needed for respiration comes from breathing in and the removal of carbon dioxide produced during respiration is done during exhalation.

Q3. Draw and label the human respiratory system.

Answer key Worksheet # 2

Name: _____

Date: _____

Q1. Fill in the blanks.

Aerobic respiration happens in most of the living organisms. The **cellular respiration** requires oxygen and involves the complete breakdown of food with the release of **energy** stored in it. The **breakdown** of glucose can be written as

glucose + oxygen ⟶ carbon dioxide + water+ energy.

Q2. Name three aerobic exercises.

i. **swimming**

ii. **jogging**

iii. **cycling.**

Q3. Give the equation for anaerobic respiration both chemical and word.

Glucose ⟶ Lactic acid + energy

$\mathbf{C_6H_{12}O_6 \longrightarrow 2C_3H_6O_3 + energy}$

Q4. Name any two respiratory diseases.

i. **cancer**

ii. **bronchitis.**

Q5. What can save us from getting a disease?

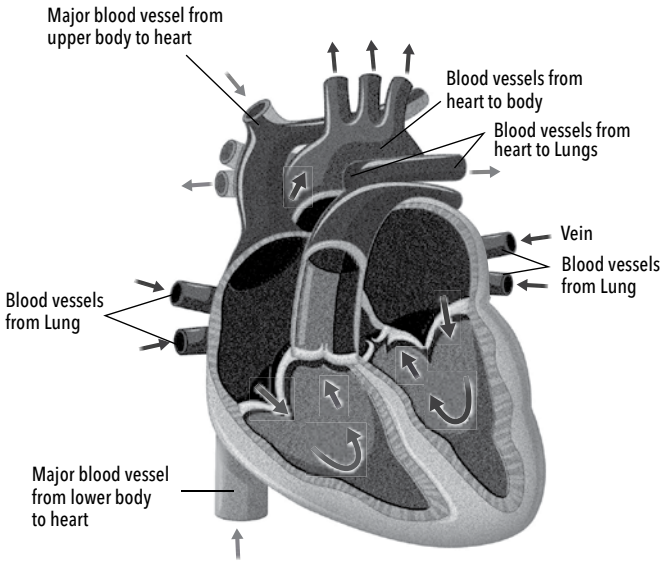
We can save ourselves by washing our hands and wearing a mask.

Answer key Worksheet # 1

Name: _____

Date: _____

Q1. Label the human heart.



Q2. Choose the correct answer by crossing the incorrect one

a. The formal name of transport system in human body is **circulatory system/ ~~nervous system~~.**

b. Blood vessels are special network of **~~neurons~~/capillaries, arteries and vessels.**

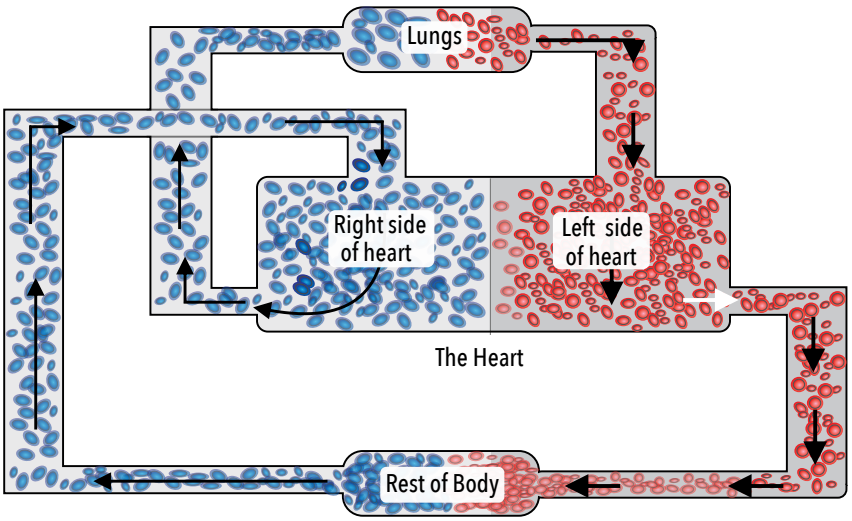
c. Deoxygenated blood is **blue/ ~~deep red~~** in colour.

Answer key Worksheet # 2

Name: _____

Date: _____

Q1. Draw and label the double circulation system of mammals.



Q2. Answer the following questions.

- Name the type of circulation that takes place in fish.

Single circulation

- Name the transport system in humans.

Circulatory System

- What kind of walking is good for your heart and why?

Speed walking, helps strength the heart. Therefore, it is good for us.

- What does bpm stand for?

Beat per minute

- What factor determines our heart rate?

  Age

Unit 4 | IMMUNITY AND DISEASES

Answer key Worksheet # 1

Name:_____

Date:_____

Q1. Write the definition of the following terms:

a. Disease:
It is a disorder or incorrectly functioning organ, part, structures or function.

b. Germ:
A microorganism that causes disease.

c. Infectious:
Tending to spread from one to another.

d. Transmission:
The act or process of spreading.

Q2. State whether the following statements are True or False:

1. We must share our personal items with friends. **(False)**
2. It is fine if a person infected with COVID 19 goes out to a market place. **(False)**
3. We must dispose of used needles. **(True)**
4. A typhoid victim's faeces are full of bacteria. **(True)**
5. Dengue is spread by human contact. **(False)**

Answer key Worksheet # 2

Name: _____

Date: _____

Q1. Answer the following questions :

- Define immunity.

Immunity is the ability of an organism to resist infection from invading disease causing microorganisms or pathogens.

- Name types of Immunity:

a. Innate Immunity or natural immunity

b. Acquired immunity or adaptive immunity

- What is the first line of defense?

It comprises of skin, respiratory and circulatory tract.

- What is the second line of defense?

The second line of defense is white blood cells.

- Define what are white blood cells?

The white blood cells are irregular cells with nuclei and can change shape. They are found in blood and they protect the body against diseases and infection.

- Name the types of WBCs.

a. Lymphocytes

b. Phagocytes

- What is the third line of defense?

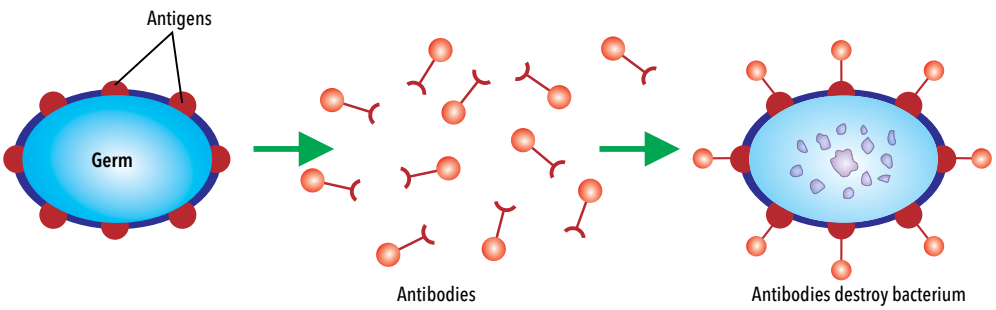
The adaptive immunity is the third line of defense.

- Name the types of adaptive immunity.

a. Active Immunity

b. Passive Immunity

2. Label the following diagram.



Unit 5 | STRUCTURE OF AN ATOM

Answer Key
Worksheet # 1

Name: _____

Date:_____

Q1. *Give one word answer.*

1. *Though they differ in size, all atoms are considered this.*

   Spheres

2. *It is the central dense area of an atom.*

   Nucleus

3. *The number of electrons and protons is always the same, but number of this particle can differ.*

   Neutron

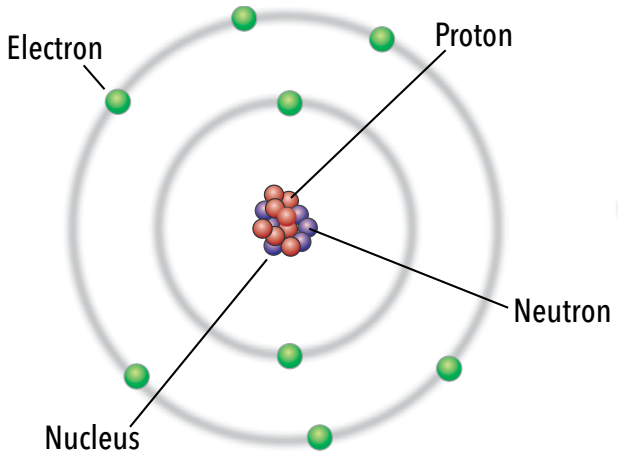
4. *The atoms are electrically neutral as they do not have it.*

   Charge

5. *Atomic number is number of this particle in nucleus.*

   Protons

Q2. *Draw a diagram to show structure of an atom and label it.*



Answer Key

Worksheet # 2

Name: _____

Date: _____

Q1. Fill in the blanks.

- The rows in the Periodic table are called **periods**. .
- The outer most electrons are known as **Valence electrons**. .
- The atoms of Group 1 elements have **1** electron.
- There are **18** columns(groups) in a Periodic table.

Q2. Look at the Periodic table and answer**.**

- An element in Group Zero with only 2 electrons is **Helium**..
- **Hydrogen** is placed in Group 1 with only one electron.
- **Metals** are on the left of the Periodic table.
- Non-metals are on the **right** of the Periodic table.
- **Periodic** means repeated at regular intervals.

Unit 6 PHYSICAL AND CHEMICAL CHANGES

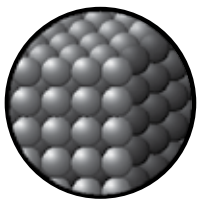
Answer Key

Worksheet # 1

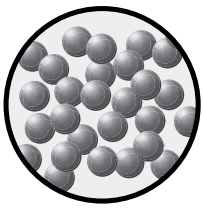
Name: _____

Date:_____

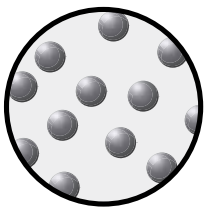
Q1. *Identify state of matter in the given images*



Solid



Liquid



Gas

Q2. *Write a brief note on physical change.*

Answer

When we heat, cool, place under pressure and even mix with other substances, no new substance is formed. The mixed substances do not change chemically. Most physical changes are reversible.

Following are some physical changes which are reversible.

- Change of state
- Change of texture
- Change of colour
- Change of temperature
- Change of shape

Answer Key

Worksheet # 2

Name: _____

Date:_____

Q1. *Mark as True or False*

Statement	True	False
Many chemical reactions give out energy	✓	
Many chemical reactions absorb energy	✓	
When a fizzing sound is produced it is a temporary change		✓
A colour change in a half-eaten apple is a physical change		✓
Unpleasant odours in food is a sign of food decay	✓	

Q2. *Define chemical change*

Answer

A chemical change occurs, when new substances are formed as a result of chemical reaction. This change is known as chemical change.

Q3. *Complete the following.*

- **Microorganisms** *are responsible for some chemical changes.*
- **Fungi** *consume the sugars in milk and cause the proteins to thicken, resulting in cheese.*
- **Combustion** *is a chemical change that happens in the presence of oxygen, when natural gas is burning at gas stove.*

Answer Key

Worksheet # 1

Name: _____

Date:_____

Q1. *Define:*

i. Noble Gases

Some elements have full outer shells of electrons. These are known as Noble Gases due to their properties.

ii. Valency

It can be defined as number of electrons in their outer most shells which can be added or shared in a reaction.

Q2. *Write valances of the following by looking at the Periodic Table.*

- *H = 1*
- *Li = 1*
- *He =0*
- *C =4*
- *Mg =2*

Answer Key

Worksheet # 2

Name: _____

Date:_____

Q1.*Answer the given questions;*

a. *What are cations?*

The positive ions are called cations.

b. *What are negative ions called?*

Negative ions are called anions.

c. *What keeps the ions sticking together?*

The electrostatic force of attraction.

d. *What are the two ways chemical bonds form?*

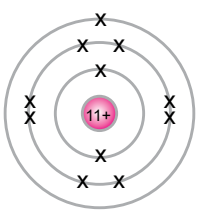
They are:

- Ionic Bonds
- Covalent Bonds

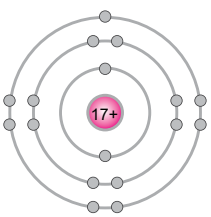
e. *What force exists in ionic bonds ?*

Ionic bonds are formed by the electrostatic force of attraction between two oppositely charged (opposite-nature) atoms.

Q2*. The following elements have 11 and 17 electrons as shown in the diagram. Look at the diagram and give distribution of electrons.*



Na atom.
It has 1 electron
in its outer shell



Cl atom.
It has 7 electrons
in its outer shell.

Unit 8 | SOLUTIONS

Answer Key

Worksheet # 1

Name: _____

Date:_____

Q1. *Define:*

a. Solution:

A solution is a homogenous mixture that has uniform composition, and its individual components cannot be distinguished. All parts of the mixture are the same.

b. Solvent

The solvent is part of a solution usually present in the largest amount.

c. Solute

Solute is the substance that is dissolved by the solvent.

Q2. *Give examples of the following types of solutions.*

Answer

- *Gas-liquid solution* ⟶ *Fizzy drinks*
- *Solid-Solid* ⟶ *Bronze (i.e., tin dissolved in copper)*
- *Liquid-liquid solution* ⟶ *Iodine dissolved in water.*
- *Gas-gas solution* ⟶ *Air= Oxygen+CO_2+ Noble gases dissolved in Oxygen*

Answer Key

Worksheet # 2

Name: _____

Date:_____

Q1. *What is solubility?*

The mass of solute that dissolves in 100 g of water to make a saturated solution is called the solubility of the solute.

Q2. *What is insoluble?*

Some substances cannot dissolve in water. They are known as insoluble.

Q3. *Name the three factors that affect solubility.*

The three factors that affect the solubility are:

- Stirring
- Temperature
- Particle size

Q4. *Explain the role of solubility in home and industry.*

Solubility plays an important role in everyday, both at our homes as well as industries. The drinks that we intake through out the day are prepared based on the solubility of solute and solvent. e.g., coffee

In modern paints, and other hazardous chemicals, water is used as solvent.

CO_2 is added to some drinks under pressure, so when opened they fizz.

-

Unit 9 | FORCE AND MOTION

Answer Key

Worksheet # 1

Name: _____

Date:_____

Q1. *Define:*

a. Speed

It is defined as distance travelled per second.

b. Instantaneous Speed

It is the speed of an object at a particular moment in time.

c. Speed =Distance travelled/Time taken

d. Time taken= Distance/speed

e. Distance traveled= Speed x Time

Q2*. Match the statements to facts:*

Statements	Facts
Athletic races	16 m/s
Snail's travel speed	Photographs are taken at the finishing line
Roads have marker posts	Every 10 km only
Greyhounds	0.003 m/s

Answer Key

Worksheet # 2

Name: _____

Date:_____

Q1. *Mark whether True or False.*

Statement	True	False
Force is a push or pull	✓	
Newton (N) is the SI unit of speed		✓
When forces being applied are balanced, the objects move faster		✓
Forces can change direction of motion	✓	
When two materials rub against each other, friction is produced	✓	

Q2. *Define*

- **Contact Force**

  A force that requires matter to touch is known as contact force.
- **Non-contact Force**

  A force that does not require matter to touch is called as non-contact force.
- **Gravity**

  Every object in the universe exerts pull on any other object. So, we can say that it is the force of attraction between any two objects. On Earth it is the force by which Earth pulls objects.

Unit 10 | WAVES AND ENERGY

Answer Key

Worksheet # 1

Name: _____

Date:_____

Q1.

a. What are waves?

Waves are series of oscillations (or vibrations) which travel from one place to another. However,
in water, waves water molecules only move up and down.

Q2. Define with examples.

a. Mechanical waves

These are vibrations that travel through medium.

Examples:- sound waves, seismic waves

b. Electromagnetic waves

The waves that travel through a vacuum and do not require a medium at the speed of 300000 km/sec.

Examples:- Microwave, light waves, radio waves,

Q3. Write three characteristics of waves.

The three characteristics of waves are:

- They can be reflected(bounce back).
- They can be refracted.
- They diffract(spread out)

Answer Key

Worksheet # 2

Name: _____

Date:_____

Q1. *What are Transverse waves?*

If we send the wave along the rope, the spot will move up and down, without moving along the rope. This kind of wave is known as transverse wave.

2. What are Longitudinal waves?

Longitudinal waves can be demonstrated with the help of a slinky spring. When one end of the spring is pushed in and out repeatedly, vibrations travel along the spring. These oscillations are in the direction in which waves transfer energy. Waves that travel in this way are known as Longitudinal waves.

3. Give example of the following sounds.

a. High pitched sounds

Whistle, thunder

b. Low pitched sounds

Wind turbine

Bass drums

Unit 11 | HEAT AND TEMPERATURE

Answer Key

Worksheet # 1

Name: _____

Date:_____

Q1*. Write whether the following objects are good conductors of heat or insulators.*

- Iron

  Good conductor
- Plastic cup

  Insulator
- Wooden spoon

  Insulator
- Steel fork

  Good conductor
- Copper wire

  Good conductor

Q2. *Explain how clinical thermometer work?*

Answer

Clinical thermometers are filled with Mercury. Exterior of the thermometer is made of glass which has scales marked on it, both Centigrade and Fahrenheit. Mercury expands and contracts with changes in temperature. These can be read on the scales.

Answer Key

Worksheet # 2

Name: _____

Date:_____

Q1. *What are three modes of heat transfer?*

The three modes of heat transfer are:

- Conduction
- Convection
- Radiation

Q2 *Mark whether true or false. If false write the correct statements.*

a. Heat is transferred from the sun through conduction.

Answer. False. Heat is transferred from the sun through radiation.

b. Convection currents travel through a vacuum as electromagnetic waves

Answer. False. Radiation travels through a vacuum as electromagnetic waves.

c. Hot air rises.

Answer. True.

d. Convection is the transfer of heat from one part of a fluid to another by the circulatory movement of the heated fluid.

Answer. True.

e. Concrete surfaces such as roads and paths contract when heated.

Answer. False. Concrete surfaces such as roads and paths expand when heated.

Unit 12 | EARTH AND SPACE

Answer Key

Worksheet # 1

Name: _____

Date:_____

Q Answer the given questions:

I. What is gravity?

Gravity is the force of Earth which pulls the Earth towards its centre.(Same is valid for other celestial planets like and stars).

2. What does gravitational field attract?

It attracts everything that has mass.

3.What is the strength/value of gravitational fields on objects near Earth?

10 N/kg

4. What object in our solar system attracts all planets towards it?

The Sun

5. a. Name the eight planets in our solar system in order.

The eight planets of our solar system are:

- Mercury
- Venus
- Earth
- Mars
- Jupiter
- Saturn
- Uranus
- Neptune

b. What keeps them in their orbits?

Gravitational field of the Sun and other planets.

6. What planet is no more a part of our solar system? What group is it a part of?

Pluto is not considered a part of the solar system. It is now considered a dwarf planet.

Answer Key

Worksheet # 2

Name: _____

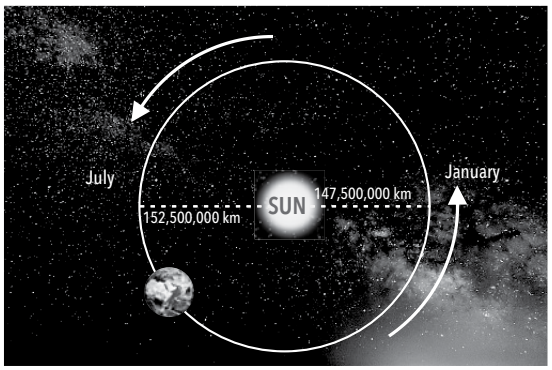
Date:_____

Q1. *Look at the pictures and answer.*

a. Night

b. Day

2. What does the given diagram indicate?



The diagram shows that the Earth's distance varies from the Sun during the year.

3.*Define:*

- Tides
  The regular rise and fall of the water level along a shore.
- Constellations
  A constellation is a group of stars that form a certain pattern in the sky.

4. *Name any four constellations.*

- Orion
- The Big Dipper
- Scorpion
- Southern Cross