Easy Science 8 Worksheets Answer Key

Unit 1: Variations, Heredity and Cell Division
Worksheet 1

1. Fill in the blanks.

a. People look **different** from each other.

b **Homo sapiens** is the scientific name of humans.

c. Some people are tall and some are **short**.

d. In a group of people, there can be different colour of **eyes**.

e. Parents pass on their characteristics to their **offspring**; some are from **father** and some are from **mother**.

2. Match the following.

Variations	Continuous and discontinuous
Types of variations	Small differences between members of the same species
Normal distribution curve	For example, eye colour
Acquired variation	Bell-shaped graph
Discontinuous variation	For example, time spent in sunlight

3. Look at the following images and briefly write about the feature that shows adaptation.

Polar bears have thick fur to protect themselves from extreme cold

A camel's hump stores fat so that it can survive for a long time without water

Cactus have thick fleshy stem as it stores huge amounts of water

Worksheet 2

1. **Mark as True or False.**

   a. Cells are produced continuously by living things. **True**

   b. There is only one type of cell division. **False**

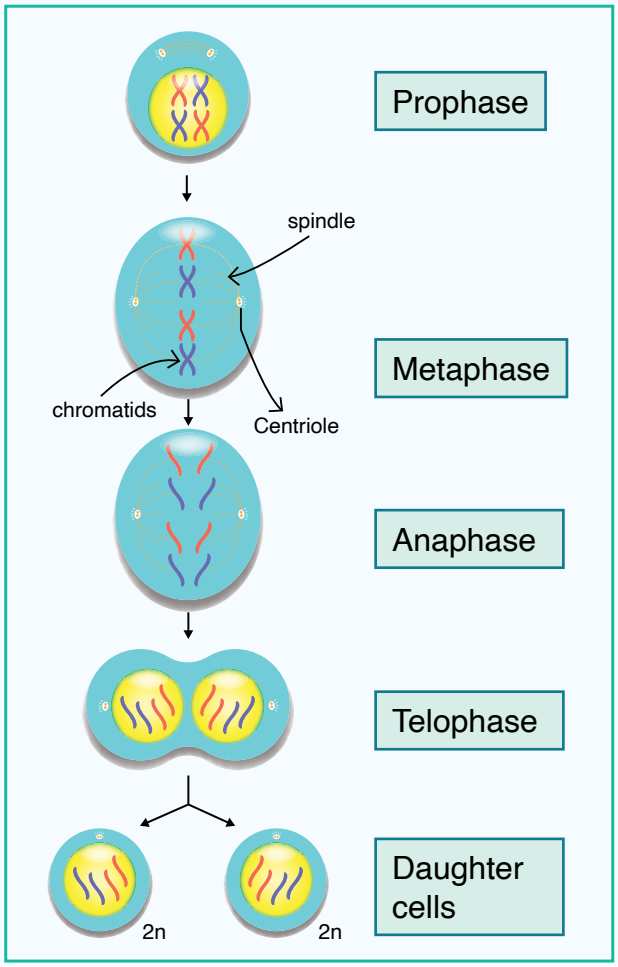
   c. Meiosis results in two similar cells. **False**

   d. The cells produced through meiosis are different. **False**

   e. There are five stages in mitosis. **True**

2. **Identify the type of cell division and label the phases.**

   The type of cell division is mitosis.



3. **Complete the following:**

   Sometimes mistakes occur in the **copying** of **DNA** when **chromosomes** separate. This results in changes in the carried by genes. This results in **mutations**. Some mutations affect a single gene and are referred to as mutations. Other mutations may affect the structure of **one** or more **chromosomes**. They are known as **chromosomal mutations**.

Unit 2: Human Nervous System
Worksheet 1

1. Fill in the blanks.

a. The **central nervous system** is made up of the brain and the spinal cord.

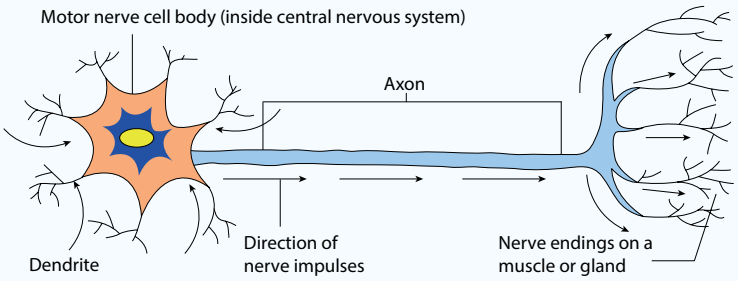
b. Nerve cells make up the nervous system.

c. Electrical signals or **impulses** travel in one direction.

d. A bundle of nerve fibers is called a **nerve**.

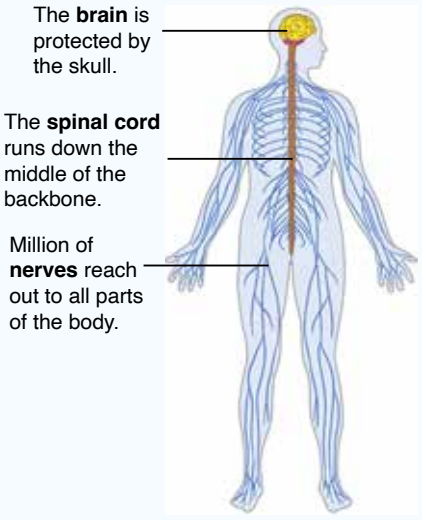
e. The brain is three main parts, namely forebrain, midbrain, and hind brain.

2. Draw and label a diagram to show motor neurons.



Motor neuron

3. Identify and label the following diagram.



The human nervous system

Worksheet 2

1. **Complete the following:**
   a. PNS stands for **Peripheral Nervous System**.
   b. A **reflex action** can save body from harm.
   c. A **chemical** is released when impulse moves.
   d. CNS stands for **Central Nervous System**.
   e. When a nerve connection the **transmission** of **signals** to and from brain stops.

2. **Write down four ways by which we can keep our brains healthy.**
   - Learning a language
   - Learn to play a musical instrument
   - Memorizing a poem
   - Using mental arithmetic rather than a calculator

3. **Match the following:**

You are hungry and smell food	Reflex action
Body gets cold	Sweating
Body gets warm	Mouth waters
You shut your eyes due to a sudden flash of light	Shivering
When suddenly you smell something strong	Sneezing starts

4. **Look at the following and label it.**

Games that require strategy are better for the brain than games of chance

Unit 3: Ecology
Worksheet 1

1. Fill in the blanks.

a. **Ecosystem** is an environment that includes all living and non-living things.

b. All living things in an ecosystem are known as **biotic factors**.

c. Abiotic factors are **non-living things** in the ecosystem.

d. **Balanced Ecosystems** are created as a result of working together of living and non-living things.

e. **Oxygen cycle** plays a vital role in maintaining the ecosystem.

2. Define ecosystem.

Ecosystem is the study of living things and how they interact with non-living things.

3. Name the three processes involved in the carbon and oxygen cycles.

- Respiration
- Photosynthesis
- Combustion

4. Look at the following images and label.

Huge amounts of carbon dioxide come from burning fossil fuels

As population rises so does the demand for space to live.

Deforestation means fewer trees to absorb carbon dioxide and to produce oxygen.

5. Draw the missing animal in the food chain and label.

Types of carnivores in a food chain

Worksheet 2

1. **Look at the following images and write the type of ecological relationship.**

Competition. Animals

Competition. Trees

Predator and prey

2. **Write down the three main types of symbiosis.**
   - Mutualism
   - Commensalism
   - Parasitism

3. **What are the three Rs important as preservation measures.**
   - Reduce
   - Reuse
   - Recycle

Unit 4: Biotechnology
Worksheet 1

1. Fill in the blanks.

a. Biotechnology is the use if living cells and organisms in products and processes that improve the quality of human lives.

b. The process of fermentation is used to make bread since olden days.

c. Yeast are organisms that can carry out fermentation.

d. Making of yoghurt, cheese involves yeast, fungi and bacteria

e. Only enzymes can help in fermentation.

2. Complete:

A process called **pasteurization** involves heating of milk at **71.7° C** for **20** seconds, and then quickly down to **3°C** cooling.

3. Name the three processes involved in the carbon and oxygen cycles.

Pasteurization	Works best at 45°C
Fermentation	Kills germs in milk
Yeast	Similar to yoghurt making process
Rennet	Changes milk into yoghurt
Cheese making process	Contains enzymes chymosis

Worksheet 2

1. **State whether True or False.**

   a. Techniques in genetic engineering involves a lot of precision and skill. **True**

   b. Animal and plant products used in industry are all natural. **False**

   c. Genetically modified bacterial cells are grown in vats. **True**

   d. A vaccine is a liquid containing weakened or dead organisms. **True**

   e. Through genetic engineering human insulin is produced. **True**

2. **Look at the following diagram of a genetically modified crop and label it.**

Genetically modified rice plants carry a gene taken from soya beans.

3. **Define:**

   Biotechnology.

   Use of living cells in products and processes that improve the quality of human life.

   Genetic Engineering.

   It involves taking genes from one cell type and transferring them to another different cell.

   Vaccine.

   A vaccine is a liquid containing weakened or dead microorganisms when it is injected into human body.

   Diabetes.

   It is a disease where human body cannot control the level of sugar in the blood.

   Selective Breeding.

   It is a process in which parents with specific characteristics are made to breed together to produce offspring with describable qualities.

Unit 5: Periodic Table
Worksheet 1

1. Fill in the blanks.

a. There are **118** identified elements in the universe.

b. **Periodic Table** is a way of classifying elements in a form of a table.

c. **Groups** and **Periods** make up a Periodic table.

d. Groups are in **vertical rows** and Periods are **horizontal rows**.

e. Two electrons are found in outermost shells of **alkaline earth metals**.

2. Match the following.

Group I	The carbon family group
Group IV	The alkali metal group
Group VI	Noble gases groups
Noble gases groups	The oxygen and sulphur family group
Group 0	The halogens group

3. Look at the image and briefly write what happens to potassium when it is added in water?

Potassium is a soft metal which immediately reacts with water.

Worksheet 2

1. State whether True or False.

a. Iron is used to make pans as it is a poor conductor of heat. **False**

b. Gold has a shine. **True**

c. Copper is a good conductor of heat. **True**

d. Wood is a non-metal. **True**

e. Carbon exists only in one form known as graphite. **False**

2. Look at the images and write uses of the following.

Spoons made of wood, used in kitchens

Gold jewellery used as ornament

Plastic bottles used for keeping liquids

3. a. Define metalloids.

Metalloids are elements which show properties of metals and some of non-metals

b. Name any four metalloids.

- Boron
- Silicon
- Germanium
- Arsenic

Unit 6: Chemical Reactions
Worksheet 1

1. **Fill in the blanks.**

   a. **Reactants** are substances that participate in a chemical reaction.

   b. The new substance formed as a result of chemical reaction is known as **products**.

   c. All chemical reactions involve **intake** or **chemical** of chemical energy.

   d. **Elements** elements are represented through **signs** by scientists.

   e. State of reactants and symbols are represented by **state** symbols.

2. **Balance the following chemical equation.**

   $4Cu+O_2 \longrightarrow 2Cu_2O$

   $2Cu+O_2 \longrightarrow 2CuO$

   $CO_2+H_2O \longrightarrow C_6H_{12}O_6 +O_2$

   $6CO_2+6H_2O \longrightarrow C_6H_{12}O_6 +O_2$

3. **Look at the following images and mark whether endothermic or exothermic reactions are taking place.**

Exothermic Reaction

Endothermic Reaction

Worksheet 2

1. Mark as True or False.

a. There is only one type of chemical reaction. **False**

b. A synthesis reaction is also known as a combination reaction. **True**

c. Energy is not required in a decomposition reaction. **False**

d. In a displacement reaction a substance displaces another compound. **True**

e. Chemical reaction of burning is combustion reaction. **True**

2. Name the different types of chemical reactions.

- Synthesis
- Decomposition
- Displacement
- Double Displacement
- Combustion

3. Match the following.

Chemical bonds	Metals react with non-metals
Ionic compounds	Different atoms or molecules join together to form compounds
Cations	Negative ion
Anions	Positive ion
Ionic compounds	NaCl

Unit 7: Acids, Bases, and Salts
Worksheet 1

1. Fill in the blanks:

i. Materials around us are generally acidic, basic or neutral.

ii. A pH scale helps in identifying pH of a substance.

iii. Salts are neutral substances.

iv. Substances found right in the middle of the pH scale are neutral.

v. Acids give sour or tangy taste to many fruits like oranges and lemons.

2. Write four properties of acids:

- Sour taste
- Soluble in water
- Strong acids are corrosive
- Litmus test shows colour change from blue to red

3. Look at the following image and identify the substance and also write whether it is acidic or basic in nature.

Lemon juice contains citric acid

Milk contains lactic acid

Fizzy drinks contain carbonic acid

Worksheet 2

1. Mark the following statements as True or False.

i. Acid rain helps ingrowth of plants. False

ii. Alkalis have also been used in glassmaking. True

iii. Alkalis have a pH less than 7. False

iv. The strength of an acid is measured by H+ concentration (pH). True

v. Litmus paper indicates whether a solution is acidic or basic. True

2. Write 4 properties of alkalis.

- They are bitter in taste.
- There are corrosive bases
- They turn the red litmus blue
- They conduct electricity

3. Write down comparative properties of acids in the following table:

Alkalis	**Acids**
Slippery/soapy tough	Sticky to touch
Bitter taste	Sour taste
Usually no smell	Has smell
Turns red litmus blue	Turns blue litmus red

unit 8: Reflection and Refraction of Light
Worksheet 1

1. **i**. Light is a form of energy.

ii. Light travels in a straight line in a straight form.

iii. Light travels at a speed of 299,792 km/s.

iv. We are able to see light due to scattering of light.

v. Light is able to travel through transparent or translucent materials.

2. What is spectrum?

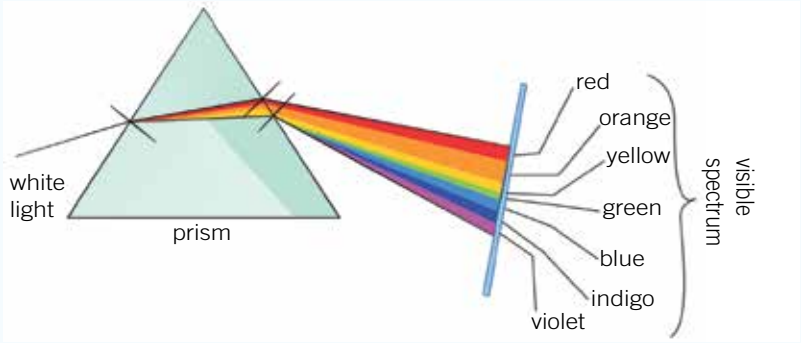
When a ray of white light is passed through a triangular prism, into different colours. These colours are present in a continuous spread of colours known as spectrum.

3. Name the colours of visible spectrum.

The colours of visible spectrum are as follows:

- Red
- Orange
- Yellow
- Green
- Blue
- Indigo
- Violet

4. Draw a diagram to show dispersal of white light through prism, into visible spectrum.



Red light has a longer wavelength than blue light, as it is not bent as much as blue light.

Worksheet 2

1. Mark the following statements as True or False.

i. Speed of light slows down as it enters a different medium. **True**

ii. Reflection is bending of light when it enters a new medium. **False**

iii. The bent ray of light is known as refracted rays. **True**

iv. When light enters a dense medium it speeds up. **False**

v. The apparent depth of a pool appears different if we look at a resting object at the bottom. **True**

2. Match the following:

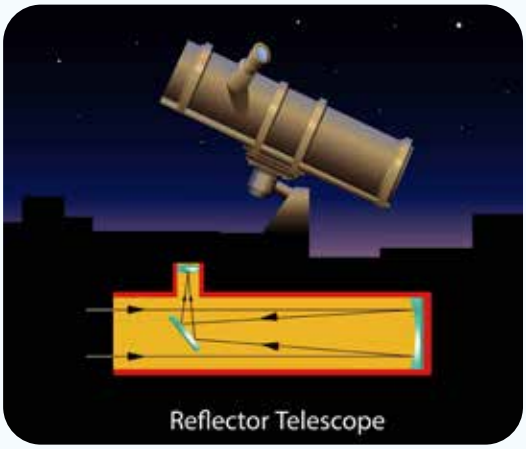
Lens	Thinner in the middle and thicker aroudn the edges
Concave lends	A curved place of transparent material
Convex lens	When it passes through lenses
Light bends	Thicker in the middle and thinner at the edges
Microscope	Optical instrument

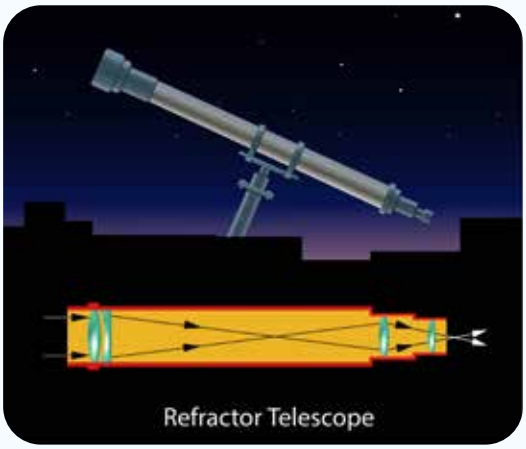
4.i. Name the two types of telescopes.

a. Reflector Telescope

b. Refractor Telescope

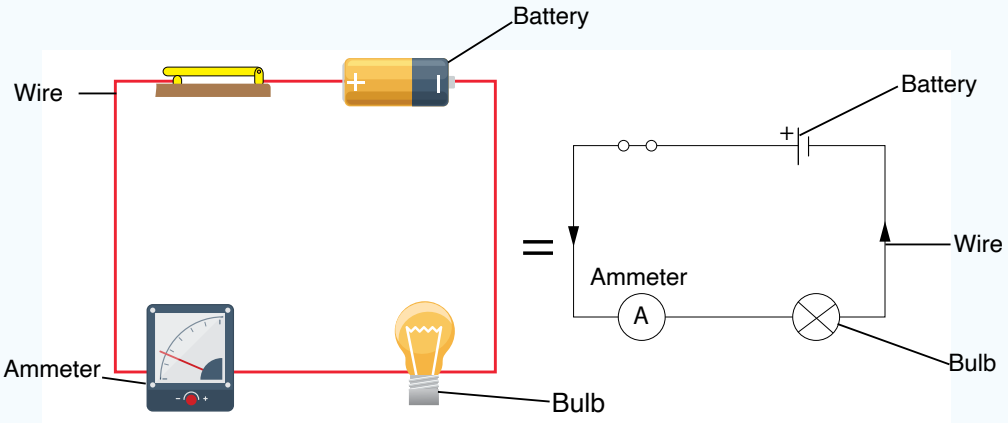
ii. Identify the following images.





Unit 9: Electricity and Magnetism
Worksheet 1

1. Look at the image below and draw its circuit diagram.



2. Fill in the blanks.

i. Battery is the most common source of electricity in a circuit.

ii. Voltage is also known as potential difference.

iii. The property of matter which slows down flow of electricity is known as resistance.

iv. Nichrome wire has more resistance than copper wire.

v. Electric current easily passes through copper wire.

3. Match the following.

SI units of electricity	Ampere
Flow of current	Volt is the SI unit
Voltage	A mmeter
Potential difference	Also called as voltage

Worksheet 2

1. Fill in the blanks'

i. A solenoid with an iron core is known as electromagnet.

ii. Putting a rod in a solenoid makes it stronger.

iii. In electromagnets magnetic field can be turned on and off.

iv. Electromagnets are used in many devices like radios.

v. A gong is enclosed in a fire alarm.

2. Complete the following.

a. Electricity can cause burns, heart beat increase, severe organ damage and even death.

b. Overloading plug sockets can damage the household electricity supply and cause a fire.

c. Safety sockets on plug sockets keep young children from harm.

3. Label the following images.

Safety caps on plug sockets keep young children from harm

Overloaded plug sockets can damage the household electricity supply and cause a fire

unit 10: Force and Pressure
Worksheet 1

1. Fill in the blanks.

i. Several forces may act on one object.

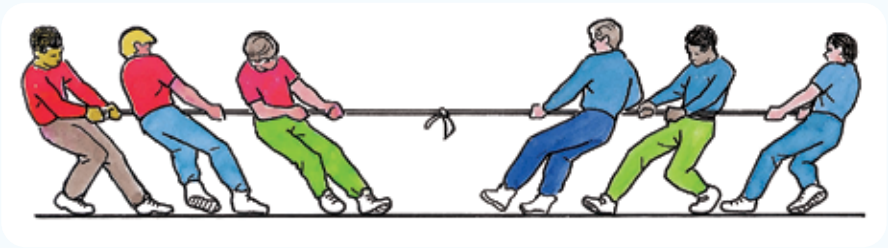
ii. Balanced forces cancel each other.

iii. If forces are balanced, the object will not change its state.

iv. Newton stated three laws of motion.

v. Unbalanced forces are not equal.

2. Look at the image and answer the following questions.



i. Name the game being played on the image.

Tug of war

ii. This game is a good example of what kind of what kind of forces?

Unbalanced forces

iii. What will happen when both the teams apply same force?

There will not be any movement if same force is applied.

iv. What will happen if team A applies a force of 350 N and Team B 275?

The team will be able to pull Team B, because of more force applied.

4. Look at the image and briefly write about it.

If a skydiver is falling at a steady speed, the forces acting on him are balanced. His downward force (weight) is balanced by the upward force of the air resistance.

Worksheet 2

1. Mark as True or False.

i. he density in liquids does not affect pressure. **False**

ii. Weight of liquid pressing down on the base produce pressure. **True**

iii. Deep oceans have greater pressures at the bottom. **True**

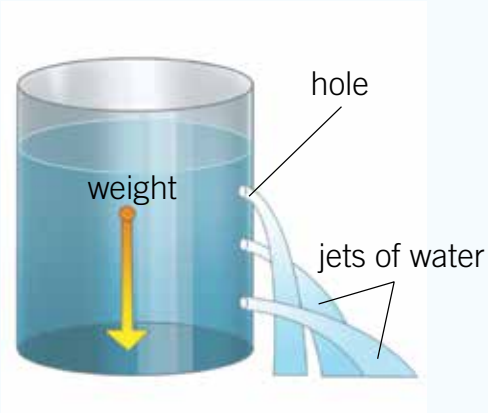
iv. Pressure in liquids acts in one direction. **False**

v. The pressure applied by a liquid does not depend on the shape of the container. **True**

2. Look at the image and identify the objects and its purpose(work).

This is a soil excavator. It uses hydraulic pressure to dig holes in the ground.

3. Look at the diagram and briefly write what it shows?



unit 11: The Universe
Worksheet 1

1. Fill in the blanks.

i. The entire physical world is indicated by the word universe.

The soil excavator uses hydraulic pressure to dig holes in the soil

ii. Astronomers are the scientists that study the space and the universe.

iii. Universe billions of galaxies.

iv. Each galaxy contains billions of stars.

v. Planet Earth is a tiny part of the Milky Way.

2.

Galaxy	Holds the objects in place in space
Gravity	Huge collection of many celestial bodies
Sagittarius A*	Number of galaxies in the universe
Andromeda	Huge black hole
Two Trillion	2.5 million light years

3. Identify the galaxies in the following images.

Spiral galaxy

Elliptical galaxy

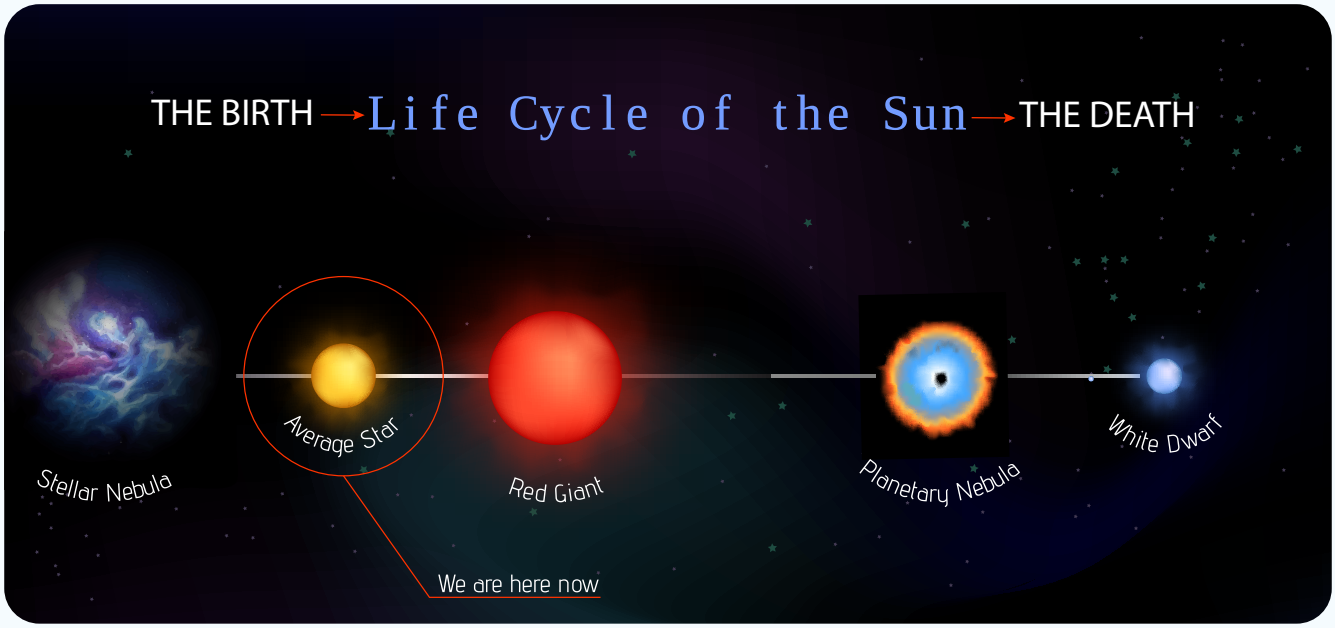
Irregular galaxy

Worksheet 2

1. Match the following.

Protostar	A massive cloud of dust and gases
Nebula	Nebula turns into it due to further compression
White dwarf	A baby star
Core	Centre of the star
Main sequence star	End up in a black dwarf star

2. Draw and label life cycle of the Sun.



Life Cycle of the Sun

3. What is supernova?

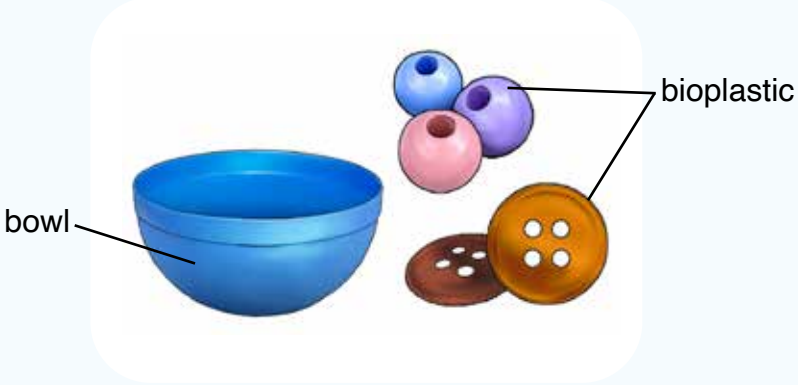
Stars which are much bigger than our Sun, collapse and finish their life cycle in explosions are called as supernova.

4. What is end of supernova?

The supernova finally end up in as black holes with gravitational pull so strong that no light can escape it

unit 12: Technology In Everyday Life
Worksheet 1

1. Look at the following diagram and label.



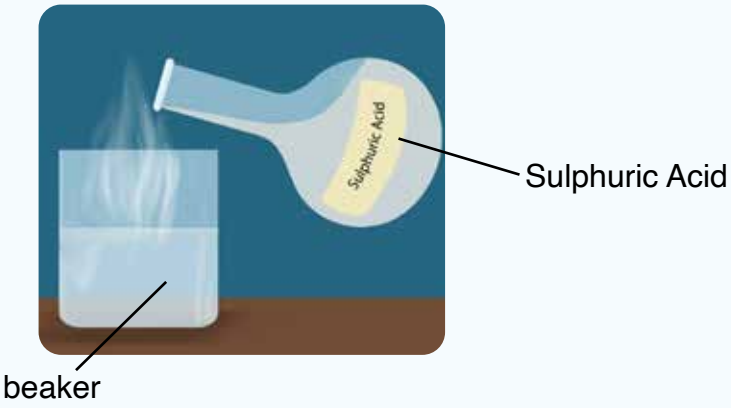
2. Name any two applications of acids and basis in daily life.

- Making soap
- Making detergent

3. How can you clean a dirty coin?

We can clean a dirty coin lemon juice and baking soda.

4. Label the following diagram.



Worksheet 2

1. Look at the following image and label.

Food will cook when placed at the focal point of a concave mirror.

2. Identify the following and write its leval.

Wind turbines are a renewable energy resource

3. Look at the following image and label it.

UPS systems come in all shapes and sizes but they all work in much the same way.

4. Name the four components of a UPS.

- switch
- Rectifier and charger
- battery
- Inverte