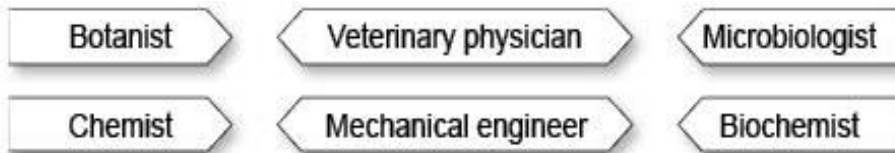


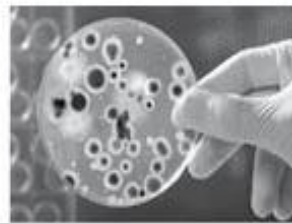
GS AB 5 ANSWERS KEYS

1.1 Branches of Science: Major of Major

Exercise A:



Botanist



Microbiologist



Biochemist



Mechanical Engineer

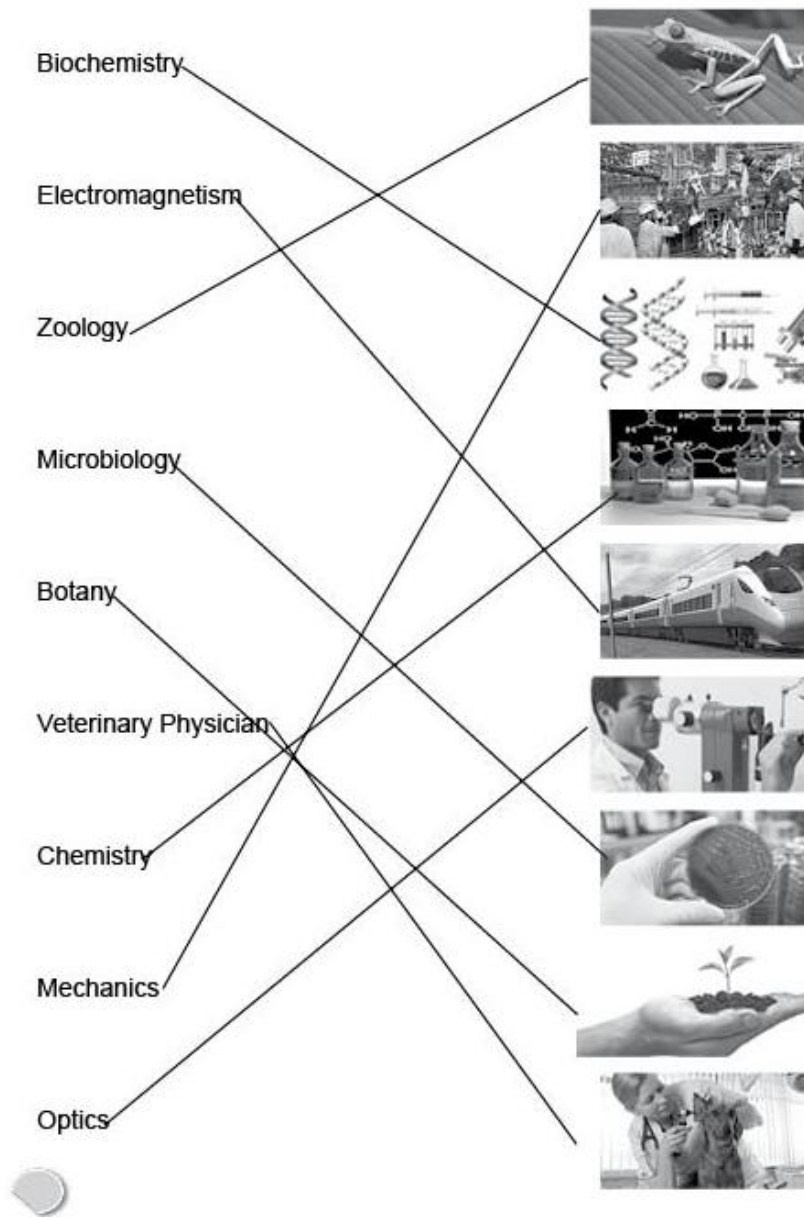


Chemist



Veterinary physician

Exercise B:



Exercise C: Practical

1.2 Scientific Methods

Exercise A:

1. Questions
2. Hypothesis
3. Experiments
4. Observations
5. Analysis
6. Conclusions

Exercise B: Practical

Exercise C: Practical

Exercise D: Practical

Exercise E: Practical

2.1 Investigating Living Cells

Exercise A: Practical

Exercise B: Practical

Exercise C:

Unicellular: Unicellular organisms are called single-celled organisms. They are made up of single cell. Bacteria, algae and fungi are some examples of unicellular organisms. They are vary in very small sizes we cannot see them from naked eyes. We only can see them through microscope.

Mutlicellular: Multicellular are called multi-celled organisms. They are made up of more than one cell. Human, animals and plants are few examples of multicellular organisms. They are identified and attached to each other. Most of multicellular organisms are visible to naked eyes. Some organisms arise from a single cell and grow up into multicellular organism.

Exercise D: Practical

2.2 Microorganisms

Exercise A: Practical

Exercise B:

1. Wash your hands before and after eating food.
2. Cover your mouth and nose with tissue when sneezing.
3. When you are sick, keep your distance others to protect them from getting sick too.
4. Stay at home from school and errands when you are sick. This will help prevent spreading your illness to others.
5. Get vaccinated, it will protect you from harmful diseases.
6. Wear shoes in public places.

3.1 Brain: The Control Panel

Exercise A: Practical

Exercise B:

Parts of Brain	Functions	Voluntary or Involuntary
Spinal cord	It connects the brain to the body. Its bones are called vertebrate.	Voluntary
Brain stem	It links the spinal cord with the brain. It is involved in numerous functions of the body.	Involuntary
Medulla	It is located between spinal cord and pons. It performs vital functions of body like heartbeat, blood pressure.	Involuntary
Cerebellum	It is at the lower side of brain. It helps in body movement and coordination and performs multiple actions at a time.	Voluntary
cerebrum	It is the largest part of the brain. It interprets the information and takes decisions and deals with the voluntary actions.	Voluntary

3.2 Stomach and The Digestive System

Exercise A: Practical

Exercise B:

Digestion steps	Functions
Chewing	It is first step of digestion. It breaks food into small pieces.
Swallowing	In this process food travels to stomach through esophagus, which is connected to our stomach.
Stomach	Food enter in stomach, in stomach enzymes also kill a lot of bad bacteria so that we don't get sick. As continue eating stomach covert bolus into a liquid mixture, and that mixture passes into small intestine.
Small intestine	It further processes the food into simpler form and keeps the food moving along the large intestine.
Large intestine	It absorbs salt and water from the unabsorbed digested food and leftover is excreted out from the body.
Rectum	It the part of large intestine and last step of digestion. It receives all the solid waste and stores it until it is excreted out in restroom.

Exercise C:

- 1. Constipation:** It is the most common digestion disorder that usually people have to face. Poor and unbalanced diet, inactive lifestyle and intake of less water are the main causes of constipation.
- 2. Diarrhea:** It is also very common disease caused by digestion disorder. Uncooked meal, drinking too much fruit juices, food allergy and sensitive medicines are the main causes of diarrhea.

Exercise D: Practical

3.3 Respiration and The Respiratory System

Exercise A: By students

Exercise B:

Alveoli (air sacs): Exchange of carbon dioxide for oxygen in the lungs.

Nose and Mouth: Air enters from nose and mouth and passes through the throat reaches trachea.

Bronchi and bronchioles: They are the tubes that carry air into the right and left lungs. The main function bronchiole is to make sure that all alveoli receive air properly.

Trachea or wind pipe: It is the pathway of gases during respiration. It is connected to the bronchi of the lungs. It also protect from germs.

Diaphragm: When we breathe out, the diaphragm expands and reduces the amount of space for the lungs and forces air out.

Exercise C: Practical

3.4 The Heart, A Blood Circulatory System

Exercise A: Practical

Exercise B:

1. Heart is the main pumping mechanism in blood circulatory system.
2. Heart has four compartments two upper atria and two lower ventricles. They are separated by valves and it inhibits the back-flow of blood between them.
3. Ventricles function is to pump blood out of the heart.
4. Atria function is to receive the blood.

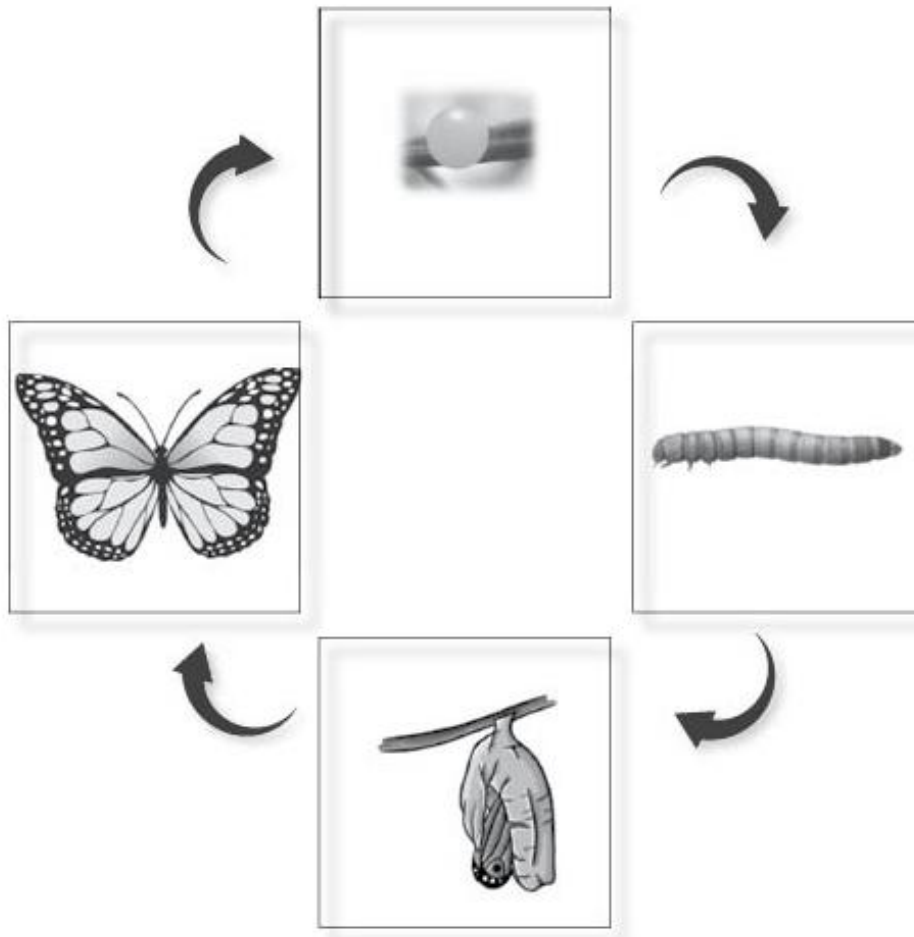
Exercise C: Practical

Exercise D:

1. Blood
2. Ventricle
3. Atria
4. Septum
5. Capillaries
6. Deoxygenated

4.1 Life Cycles

Exercise A:



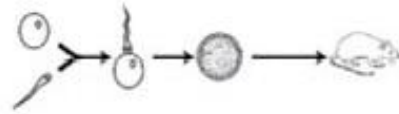
Exercise B: Practical

1. Life cycle
2. Exact copies
3. offspring
4. Metamorphosis
5. Incomplete metamorphosis

Exercise C:



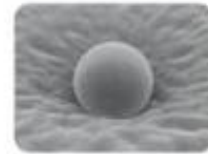
single celled organism



combination of two cell reproduction



complete metamorphosis



female egg



combination of two cell reproduction



male sperm



single cell reproduction



incomplete metamorphosis

5.1 Flowering and Nonflowering

Exercise A: Practical

Exercise B: Practical

Exercise C: Practical

Exercise D: Practical

Exercise E:

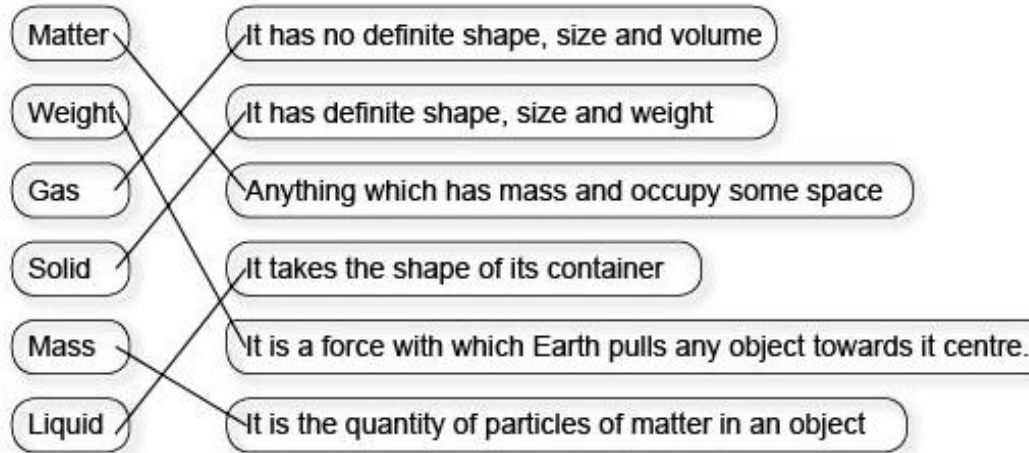
1. Plants convert carbon dioxide into oxygen that we need to breath.
2. Plants provide us food. Plants are also used to feed animals.
3. Trees and bushes provide shade from the sun.
4. Plants provide fuel for cooking and making charcoals.

Exercise F: By students.

6.1 Matter, Mass and weight

Exercise A: Practical

Exercise B:



Exercise C:

1. **Solid:** It has definite shape.
Its particles are closely attached with each other.
Its particles occupy fixed amount of space.
2. **Gas:** It does not have definite shape.
It takes the shape of its container.
Its particles are very far from each other.
3. **Liquid:** Its particles loosely stick to each other.
It does not have definite shape.
Its particles occupy fixed amount of space.

Exercise D: Practical

6.2 Greenhouse Effect The Global warming

Exercise A:

1. Air
2. Land
3. Water

Exercise B:



air pollution



land pollution



water pollution



air pollution



water pollution



air pollution

(Causes by students)

Exercise C:

1. Summers getting much hotter.
2. Winters getting much cooler.
3. Sea-level increases.
4. Excess of rainfall ruin the crops.
5. Many animals migrate from one place to another.

Exercise D: Practical

7.1 Deep Into The Earth

Exercise A:

Earth's layer	Properties
Crust	It is molten and made up of Nickel and Iron.
Mantle	It is the hottest part of the Earth. It's temperature is about 5,000 to 6,000 °C.
Outer Core	Outer most layer of the Earth. Life exists on this layer.
Inner Core	It is almost 1800 miles deep and tectonic plates float over this layer.

Exercise B: Practical

1. When the Earth's layer collides with each other earth quake occurs.
2. When the tectonic plates collide and deep trenches and other plate slides under another plate, then it forms mountain.
3. Earth's crust is made up of massive pieces of land that contains 47% oxygen, 27% silicon, aluminum 8% and iron 5% are called tectonic plates.
4. Inner core is the hottest layer of Earth. Its temperature makes it too hot it is about 5000 to 6000 °C.
5. It is the outer most layer of Earth. We live on it. Sea water exist on this layer.

Exercise C: Practical

Exercise D:

Across

3. Has many planets and stars in it
5. It is molten, made of nickel and iron

Down

1. Second layer of the Earth
2. Occurs when different layers collide
4. Rises up due to intense heat of the core

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7.2 Planets and The Solar System

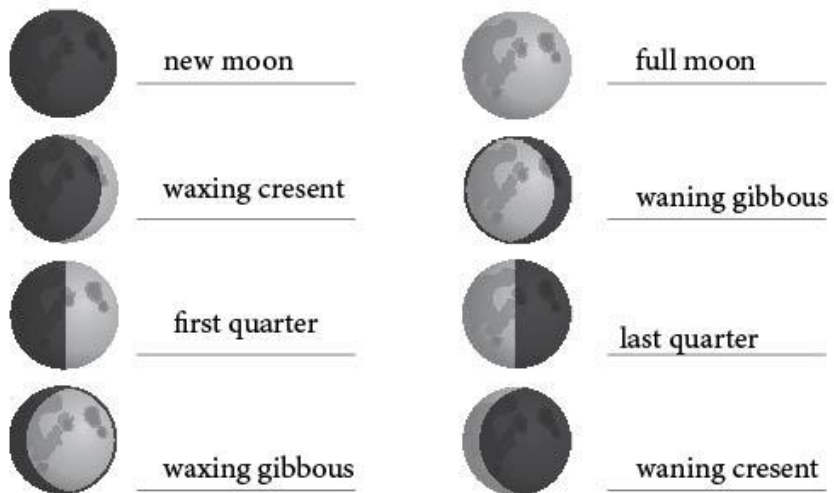
Exercise A: By student

Exercise B:

1. Mercury: Nearest to the sun.
2. Venus: Hottest planet.
3. Earth: Life present here.
4. Mars: It has two moons.
5. Jupiter: Biggest planet.
6. Saturn: It has set of 4 bright rings around it.
7. Uranus: It has set 13 dim rings.
8. Neptune: It is the last known planet.

Exercise C: Practical

Exercise D:



Exercise E: By student

7.3 Understanding Sounds

Exercise A:

1. Era drum.
2. Middle ear.
3. Inner ear.
4. Brain.
5. Electric signal.
6. Cochlea.
7. Electric signals.
8. Sound.

Exercise B: Practical

Exercise C: Practical

Exercise D: Practical



pleasant sound



echo



echo



noise



noise



unpleasant sound



musical sound

7.4 Striking Light

Exercise A: Practical

Artificial source of light	Natural source of light
Torch	Firefly bird
Tube light	Sun
Street light	Moon
Projector	Burning wood
Lamp	Stars
Gas light	Rainbow

Exercise B: Practical

Exercise C: Practical

Exercise D:


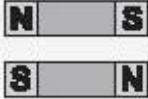

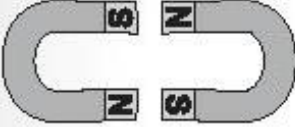
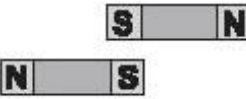
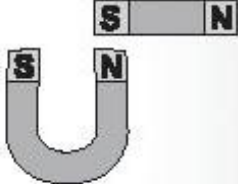
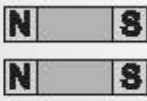
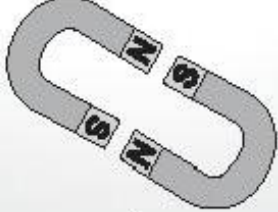

1. Vision.
2. Artificial source.
3. Reflection.
4. Optics.
5. Smooth surface.
6. Lens.
7. Refraction.
8. Irregular reflection.

Exercise E: Practical

7.5 Electromagnetism

Exercise A: Practical

Exercise B: Practical

 <p>attract ✓ repel</p>	 <p>attract ✓ repel</p>	 <p>attract ✓ repel</p>
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Exercise C: Practical

Exercise D: Practical