Brain International School

Vikas Puri, New Delhi

REVISION SHEET

SUBJECT: SCIENCE **CLASS-VIII** **TERM 1**

Chapter 1: Crop Production and Management

1. Choose the correct option:

i. Levelling of soil helps to prevent

a) soil erosion b) cultivation c) sowing d) drought

ii. The chemical substances rich in nutrients are called

a) fertilizers b) weedicides c) pesticides d) herbicides

2. In each of the following questions, two statements are given one labelled. Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions the codes (a), (b), (c) and (d) as given below:

a) Both A and R are true, and R is correct explanation of the assertion.

b) Both A and R are true, but R is not the correct explanation of the assertion

c) A is true, but R is false

d) A is false, but R is true.

Assertion: Ploughing helps in the growth of microbes and earthworms in the soil.

Reason: Ploughing makes the soil hard and compact.

3. Answer the following question.

1. What is ploughing or tilling? State its advantages.
2. Why is organic manure considered better than fertilizers?
3. What is animal husbandry? Give examples. Why is it helpful for farmers?
4. If you are given a dry piece of land for cultivation what will you do before sowing the seeds? Explain.
5. (a) Name the tool used with a tractor for sowing seeds in a field.
   (b) What are the advantages of using this tool?

4. Answer the following case study-based questions

India is an agricultural country where a majority of the population is dependent on farming for their livelihood. To ensure food security and economic growth, scientific methods of crop production and management have been increasingly adopted in recent decades. A farmer named Ramesh owns a piece of land in Punjab. Earlier, he practiced traditional farming methods, including using cow dung as manure, ploughing manually, and sowing seeds by hand. Though this was inexpensive, the crop yield was low. After attending an agricultural workshop, Ramesh decided to adopt modern techniques such as: ploughing with tractors, using high-quality HYV (High-Yielding Variety) seeds, applying chemical fertilizers and pesticides etc. These changes significantly increased his productivity and profits. However, Ramesh also faced challenges such as soil degradation due to excessive fertilizer use and pest resistance caused by overuse of chemicals.

(i) What are the main steps involved in crop production? Explain any four briefly.

(ii) How did the adoption of modern farming methods help Ramesh increase productivity?

(iii) What is crop rotation and why is it beneficial?

Chapter 2: Microorganisms: Friend and Foe

1. Choose the correct option:

   i. Which microorganism causes malaria?

   a) Plasmodium b) Rhizobium c) Lactobacillus d) Trypanosoma

   ii. Substance used to produce immunity against diseases in the living body is called

   a) immune b) vaccine c) antibody d) antigen

2. In each of the following questions, two statements are given one labelled. Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions the codes (a), (b), (c) and (d) as given below:

   a) Both A and R are true, and R is correct explanation of the assertion.

   b) Both A and R are true, but R is not the correct explanation of the assertion

   c) A is true, but R is false

   d) A is false, but R is true.

   (i) Assertion: Microorganisms can live in extreme conditions such as hot springs and salty water.

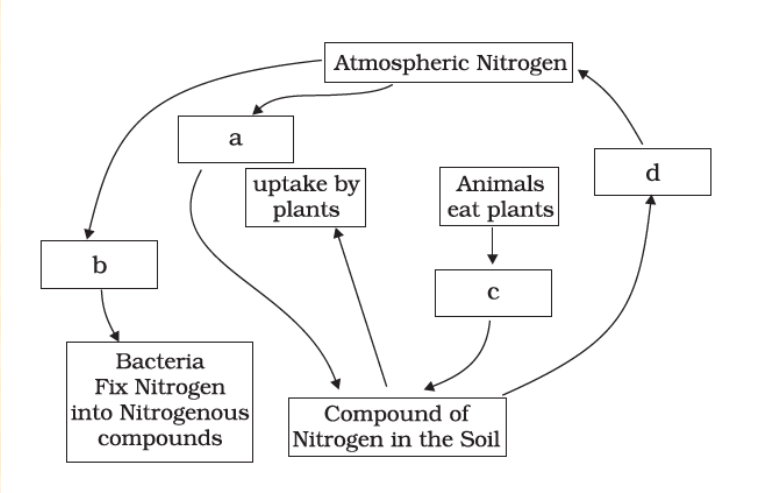
   Reason: Some microorganisms can survive only in clean and cold water.

   (ii) Assertion: Rhizobium bacteria are harmful to crops.

   Reason: Rhizobium bacteria reduce the fertility of soil by absorbing nitrogen.

3. Answer the following question.

1. Define food preservation. What role does sugar play in the preservation of food?
2. Explain the process of nitrogen fixation.
3. (a) Name two diseases that are caused by virus.
   (b) Write one important characteristic of virus.
4. What are pathogens and how are they harmful?
5. Complete the following cycle given as Fig. by filling the blanks (a), (b), (c) (d)



4. Answer the following case study-based questions

In the village of Haripur, a farmer named Rajesh faced two very different situations involving microorganisms in a single year. During the first half of the year, he used Rhizobium-enriched compost in his legume field. His crops grew well without any chemical fertilizers, and the soil quality improved. Later in the year, he stored his harvested grains in a damp storage room. After a few months, he found that a large portion of the grain was spoiled due to fungal growth and had to be discarded. Additionally, his son fell sick with typhoid, caused by Salmonella typhi, a harmful bacterium spread through contaminated water.

(i) How were microorganisms helpful to Rajesh in farming?

(ii) What caused Rajesh's son to fall ill, and how could it have been prevented?

(iii) What food preservation methods could Rajesh have used to avoid grain spoilage?

Chapter 3: Coal and Petroleum

1. Choose the correct option:

i Which of the following is obtained from coal tar?

a) petrol b) coke c) air d) Naphthalene balls

ii. Which of the following is a pair of exhaustible natural resources?

a) coal and soil b) air and sun-light c) water and petroleum d) wild life and minerals

2. In each of the following questions, two statements are given one labelled. Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions the codes (a), (b), (c) and (d) as given below:

a) Both A and R are true, and R is correct explanation of the assertion.

b) Both A and R are true, but R is not the correct explanation of the assertion

c) A is true, but R is false

d) A is false, but R is true.

Assertion: Coal is known as a fossil fuel.

Reason: Coal is formed from the remains of large aquatic animals.

3. Answer the following question.

1. Name three constituents of petroleum and write their uses also.
2. What is CNG? What are its uses?
3. List the steps to conserve the resources.
4. The burning of fossil fuels causes air pollution. Explain.
5. Explain refining of petroleum. Why do we find oil layer above water layer?

4. Answer the following case study-based questions

In the city of Bhopal, a student named Aryan became curious about fossil fuels after attending a school science exhibition. He learned that coal and petroleum are formed from the remains of dead organisms over millions of years and are classified as exhaustible natural resources.

Aryan noticed that the number of vehicles in his city was increasing rapidly, causing traffic jams, air pollution, and high consumption of petrol and diesel. His science teacher explained that if we don't use fossil fuels wisely, they may run out in the future. She also informed the class about alternative fuels like CNG (Compressed Natural Gas) and biogas, and how they are cleaner and more sustainable.

(i) What is carbonisation?

(ii) What did Aryan observe about the use of petroleum in his city, and what problems did it cause?

(iii) How is CNG a better alternative to petrol and diesel?

Chapter 4: Combustion and flame

1. Choose the correct option:

i Which of the following are required essentially for producing fire?

a) glass, coal, water b) fuel, coal, straw c) fire, wood, burner d) fuel, air, heat

ii. Shyam was cooking potato curry on a chulha. To his surprise he observed that the copper vessel was getting blackened from outside. It may be due to:

a) proper combustion of fuel b) improper cooking of potato curry

c) improper combustion of the fuel d) burning of copper vessel

2. In each of the following questions, two statements are given one labelled. Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions the codes (a), (b), (c) and (d) as given below:

a) Both A and R are true, and R is correct explanation of the assertion.

b) Both A and R are true, but R is not the correct explanation of the assertion

c) A is true, but R is false

d) A is false, but R is true.

Assertion: A substance will not burn until it reaches its ignition temperature.

Reason: Ignition temperature is the highest temperature at which a substance catches fire.

3. Answer the following question.

1. Differentiate between rapid combustion and spontaneous combustion.
2. Although wood has a very high calorific value, we still discourage its use as a fuel. Explain.
3. Manu was heating oil to fry potato chips. The cooking oil, all of a sudden, caught fire; he poured water to extinguish the fire. Do you think this action was suitable? If yes, why? If not, why not? In such a condition what should Manu have done?
4. You are provided with three watch glasses containing milk, petrol and mustard oil, respectively. Suppose you bring a burning candle near these materials one by one, which material(s) will catch fire instantly and why?
5. Sketch the different zones of candle flame. Label all parts.

4. Answer the following case study-based questions

People generally use wood, cow dung cakes, crop residues, kerosene oil, coke or LPG gas to cook food. For running vehicles, we use petrol or diesel oil. In factories, we use coal or fuel oil or natural gas. The materials, such as wood, coke, LPG (liquid petroleum gas), petrol, diesel, natural gas have one property in common, i.e., they produce heat on burning which is then put into different uses. Furthermore, some materials on burning produce flame and some do not. For example, a candle or coal gas on burning. Air or oxygen which helps in burning is called supporter of combustion and the chemical reaction which takes place with the release of heat and light energy is called combustion.

(i) Why is the person caught in fire, is covered with a blanket?

(ii) Why do you have to use paper or kerosene oil to ignite fire in wood or coal?

(iii) Why CO_2 is considered as the best fire extinguisher?

Chapter 6: Reproduction in Animals

1. Choose the correct option:

i In humans, the development of fertilized egg takes place in the

a) ovary b) oviduct c) testis d) uterus

ii. Sets of reproductive terms are given below. Choose the set that has an incorrect combination.

a) sperm, testis, sperm duct, penis b) menstruation, egg, oviduct, uterus

c) sperm, oviduct, egg, uterus d) ovulation, egg, oviduct, uterus

2. In each of the following questions, two statements are given one labelled. Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions the codes (a), (b), (c) and (d) as given below:

a) Both A and R are true, and R is correct explanation of the assertion.

b) Both A and R are true, but R is not the correct explanation of the assertion

c) A is true, but R is false

d) A is false, but R is true.

Assertion: The embryo gets embedded in the wall of the uterus.

Reason: The uterus provides a suitable environment for the development of the embryo.

3. Answer the following question.

1. What do you mean by reproduction? Describe various modes of reproduction.

2. Hens and frogs are both oviparous exhibiting different types of fertilization. Explain.

3. Describe female reproductive organs with the help of a labelled diagram.

4. What is the difference between sperm and ovum?

5. What kind of asexual reproduction is shown in hydra? Draw a diagram to show reproduction in hydra.

4. Answer the following case study-based questions

All plants and animals go through life cycles. Just think about all the growing and changing human children do as they grow up. Children grow in height and get heavier until they reach adulthood. Children also change as their body matures. Although we grow lots from the time we are born to adulthood, humans never transform. Unlike us, butterflies go through a metamorphosis, or transformation. A butterfly looks very different as it changes through all four stages of its life cycle. A butterfly transforms through the first stage egg to the last stage adult butterfly. Similarly, frogs go through the same transformation from egg to an adult.

(i) What is metamorphosis?

(ii) Why do animals like fish and frog produce eggs and sperm in large numbers?

(iii) Explain the life cycle of a frog with diagram.

Chapter 8: Force and Pressure

1. Choose the correct option:

i School bags have broader strips to

a) increase pressure b) decrease mass c) decrease pressure d) increase grips

ii. Which of the following is an example of a non-contact force?

a) The force exerted by us to lift a bucket b) push a stationary car

c) The force exerted by magnets d) force due to friction

2. In each of the following questions, two statements are given one labelled. Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions the codes (a), (b), (c) and (d) as given below:

a) Both A and R are true, and R is correct explanation of the assertion.

b) Both A and R are true, but R is not the correct explanation of the assertion

c) A is true, but R is false

d) A is false, but R is true.

Assertion: A sharp knife cuts better than a blunt one.

Reason: A sharp knife exerts less pressure on the surface.

3. Answer the following question.

1. Differentiate between contact and non- contact forces.
2. What is pressure? What is the relation of pressure with area on which it is applied?
3. It is much easier to burst an inflated balloon with a needle than by a finger. Explain.
4. Give reasons:
   (a) The tyres of truck and other heavy vehicles are made broad and thick.
   (b) You peddle a cycle to make it move but when you stop at length the cycle stops after moving a distance.
5. Describe an activity to show that air exerts pressure in all directions.

4. Answer the following case study-based questions

Rohan and Meera were helping their grandfather in the garden. Rohan tried to push a heavy wheelbarrow filled with soil but couldn't move it. When Meera joined in and pushed together with him, the wheelbarrow started to move. Later, Meera noticed that when she stood on wet soil wearing high heels, her feet sank in, while Rohan, wearing flat shoes, could walk easily without sinking.

(i) What is force? Name any two effects of force.

(ii) Why did the wheelbarrow move only after Meera helped Rohan?

(iii) Why did Meera's high heels sink into the soil while Rohan's flat shoes did not?

Chapter 9: Friction

1. Choose the correct option:

i Which of the following is responsible for wearing out of bicycle tyres?

a) Muscular force b) Magnetic force c) Frictional force d) Electrostatic force

ii. Rolling friction is smaller than

a) Sliding friction b) Static friction

c) Fluid friction d) all of the above

2. In each of the following questions, two statements are given one labelled. Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions the codes (a), (b), (c) and (d) as given below:

a) Both A and R are true, and R is correct explanation of the assertion.

b) Both A and R are true, but R is not the correct explanation of the assertion

c) A is true, but R is false

d) A is false, but R is true.

Assertion: Friction always opposes the motion of an object.

Reason: Friction helps in walking and holding objects.

3. Answer the following question.

1. What are the causes of friction? Explain in detail.
2. Does friction cause any disadvantage? Explain with the help of an example.
3. Cartilage is present in joints of our body, which helps in their smooth movement. If cartilage wears off, how would this affect the movement of joints?
4. Give reasons:

   (a) A pencil will write on paper but not on glass.

   (b) The handles of motor cycle are covered with a rubber sheet with spikes.
5. Explain increasing and decreasing friction with suitable examples.

4. Answer the following case study-based questions

During the winter holidays, Aanya and her brother Arjun visited a skating rink. While skating, Arjun slipped and fell several times, while Aanya managed to balance better. Curious, they asked their coach why it was difficult to skate on ice but easier to walk on a rough road. The coach explained that friction is the force that opposes motion between two surfaces in contact. On ice, the surface is very smooth, offering very little friction, which makes slipping more likely. In contrast, rough surfaces offer more friction, making walking easier. Back at home, Arjun noticed that bicycle brakes use rubber pads and that oil is used in machine parts.

(i) What is friction? On what factors does it depend?

(ii) Why is it easier to walk on a rough surface than on a smooth ice rink?

(iii) How can we reduce friction in machines? Give two methods.