Brain International School

Vikas Puri, New Delhi

REVISION SHEET

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

Chapter -1: Nutrition in plants

1**. Choose the correct option:**

i. Which of the following statements is/are correct?
(i) All green plants can prepare their own food.
(ii) Most animals are autotrophs.
(iii) Carbon dioxide is not required for photosynthesis.
(iv) Oxygen is liberated during photosynthesis.
Choose the correct answer from the options below
(a) (i) and (iv)
(b) (ii) only
(c) (ii) and (iii)
(d) (i) and (ii)

ii. In the absence of which of the following, will photosynthesis not occur in leaves?

a) Chlorophyll b) Guard cells

c) Space bet ween the cells d) Vacuole

2. In each of the following questions, two statements are given one labeled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from 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) Both assertion and reason are false.

Assertion: Some bacteria are present in root nodules of leguminous plants

Reason: Leguminous plants have nodules roots

3. Answer the following question.

1. Wheat dough if left in the open, after few days, starts to emit a foul smell and becomes unfit for use. Give reason.
2. Nitrogen is an essential nutrient for plants growth. But farmers who cultivate pulses as crops like green gram, Bengal gram, black gram, etc., do not apply nitrogenous fertilizers during the cultivation. Why?
3. Describe the process by which plants prepare their food using different raw materials.
4. How can we test the presence of starch in leaves?
5 Differentiate between saprophytic, parasitic and symbiotic mode of nutrition.

4. Answer the following case study-based question

Priya was walking through a garden and noticed different kinds of plants. She saw a tall neem tree, some green grass, a yellowish weak-looking money plant kept indoors, and a few pitcher plants growing in a corner. She remembered from her science lesson that plants prepare their own food, but she also knew that not all plants follow the same method. Out of curiosity, she used a sunlight meter and found that the money plant was receiving very little light. She also read a note near the pitcher plant stating that the soil in that area was poor in nitrogen.

1. Which mode of nutrition is followed by:
   a) Neem tree
   b) Pitcher plant

2. Why is the money plant looking weak and yellowish?

3. How does a pitcher plant obtain nitrogen from its surroundings?

4. Write the word equation for photosynthesis that takes place in the neem tree.

Chapter 2 Nutrition in Animals

1. **Choose the correct option**:

   i. The acid present in the stomach

   (a) kills the harmful bacteria that may enter along with the food

   (b) protects the stomach lining from harmful substances

   (c) digests starch into simpler sugars

   (d) makes the medium alkaline

   ii. The finger-like projections in the small intestine that increase surface area for absorption are called:

   a) Villi b) Cilia c) Microvilli d) Papillae

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 from 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.

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   c) A is true, but R is false.

   d) Both assertion and reason are false.

   Assertion- There are four types of teeth present in mouth.

   Reason- The incisor, canine, premolar, molar are the four types of teeth present in moth.

3. **Answer the following question.**

   1. Small intestine in herbivores is longer than in carnivores. Do you agree? Support your Answer
   2. Write any two differences between ingestion and egestion.
   3. Why is bile juice important in digestion?
   4. Explain how digestion takes place in ruminants with the help of a diagram.
   5. Draw a neat and labelled diagram of the human digestive system and explain its main functions.

4. Case study-based question.

Rohan's class visited a village farm where they saw cows, goats, and hens. The farmer explained that cows and goats chew cud after some time, while hens keep pecking grains all day. Rohan also noticed that the farmer fed the cows green fodder, but also gave them some powdered grains for extra nutrition. While returning, Rohan saw his friend eating a sandwich and drinking juice. He remembered that in science class, they learned about how different animals and humans digest food in different ways.

1. Which type of nutrition do cows and goats show? Why is it called so?
2. Why do ruminants chew cud?
3. Name the compartment of the ruminant stomach where partially digested food is stored before cud chewing.
4. Name the part of the human digestive system where:
   a) Most digestion occurs
   b) Absorption of digested food takes place

Chapter 3 Heat

1. **Choose the correct option:**
   i. A beggar wrapped himself with a few layers of newspaper on a cold winter night. This helped him to keep himself warm because
      (a) friction between the layers of newspaper produces heat
      (b) air trapped between the layers of newspaper is a bad conductor of heat
      (c) newspaper is a conductor of heat
      (d) newspaper is at a higher temperature than the temperature of the surroundings
   ii. The process by which heat is transferred in solids is
      a) Conduction
      b) Convection
      c) Radiation
      d) Evaporation

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d) Both assertion and reason are false.

Assertion: We cannot receive heat from the Sun through convection.

Reason: Sun is too far away from Earth. The heat from the Sun dissipates mid-way.

3. Answer the following question

1. Why are cooking utensils made of metals but their handles made of plastic or wood?
2. Why is water heated faster in a metallic container than in a plastic container?
3. Explain the process of **land breeze** and **sea breeze** with diagrams.
4. Why are woolen clothes warm in winter but cotton clothes are preferred in summer? Explain with the concept of heat transfer.
5. Describe the structure, working, and precautions of a clinical thermometer.

4. **Case Study-Based Question**.

Ravi went camping with his friends near a hill station. At night, the temperature dropped sharply, and they lit a campfire to stay warm. Ravi noticed that when he held his hands close to the fire, they became warm without touching the flames. The next morning, while making tea, he boiled water in an aluminum kettle. He observed that the water at the bottom of the kettle got hot first, and soon the whole water became warm. Later in the day, while walking near a lake, he felt a cool breeze coming from the water towards the land.

1. Which mode of heat transfer warmed Ravi's hands near the campfire?
2. Why did the water at the bottom of the kettle heat first? Which mode of heat transfer caused the rest of the water to get warm?
3. Why was aluminum used for the kettle instead of plastic?
4. What type of breeze did Ravi experience near the lake during the day? Explain the reason for its occurrence.

Chapter 4 Acids Bases and Salts

1. **Choose the correct option:**

   i. Colours of phenolphthalein indicator in acidic and basic medium, respectively are

   (a) pink and colourless (b) colourless and pink

   (c) blue and red (d) red and blue

   ii. Which of the following salts is used in kitchen

   (a) Sodium carbonate (b) Sodium bicarbonate

   (c) Sodium chloride (d) Ammonium chloride

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   d) Both assertion and reason are false.

   Assertion- Acids are sour in taste.

   Reason- Bases are soapy to touch and bitter in taste.

3. **Answer the following question**

1. Name the products formed when an acid reacts with a base.
2. Match the chemical substances given in Column (A) with their appropriate application given in Column (B)

Column (A)	Column (B)
(A) Bleaching powder	(i) Preparation of glass
(B) Baking soda	(ii) Production of H_2 and Cl_2
(C) Washing soda	(iii) Decolourisation
(D) Sodium chloride	(iv) Antacid

3. Name the acid present in ant sting and give its chemical formula. Also give the common method to get relief from the discomfort caused by the ant sting.
4. Salt A commonly used in bakery products on heating gets converted into another salt B which itself is used for removal of hardness of water and a gas C is evolved. The gas C when passed through lime water, turns it milky. Identify A, B and C.

4. Case Study based question

Meera was helping her mother in the kitchen. While cutting lemons, she noticed that lemon juice had a sour taste. Later, she accidentally spilled some lemon juice on a marble floor, which left a dull patch after some time. Her mother told her that marble contains calcium carbonate and reacts with acids. In another corner, her younger brother was blowing soap bubbles. Meera remembered from her science lesson that soaps are basic in nature. Curious, she dipped a strip of red litmus paper in the soap solution and saw it turn blue.

1. Which type of substance is lemon juice – acid, base, or salt? Name the acid present in it.
2. Why did the red litmus paper turn blue in the soap solution?
3. Name one natural indicator other than litmus that could be used to test the soap solution and its expected colour change.
4. In the case study, identify one example of:
   a) An acid
   b) A base

Chapter 5 Physical and Chemical Changes

1. Choose the correct option

i. Which process is an irreversible change?

a) Freezing water b) Boiling water

c) Curdling of milk d) Condensation of steam

ii. Which of the following changes is both physical and chemical?

a) Melting of wax b) Burning of wax in a candle flame

c) Breaking of chalk d) Freezing of water

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d) Both assertion and reason are false.

Assertion- Neutralization reaction is accompanied by evolution of heat.

Reason- Neutralization reaction is a reaction between an acid and a base to form salt and water.

3. Answer the following question:

1. State two characteristics of chemical changes.
2. Give one example each of a reversible and irreversible change.
3. Differentiate between physical and chemical changes in three points with examples.
4. Why is rusting harmful? Give the conditions required and two methods to prevent it.
5. Explain with examples how you can tell whether a change is physical or chemical. List any four characteristics of a physical change.

4. Case study-based question

During the annual village fair, the following activities took place:

- A blacksmith heated iron to make it soft and shaped it into a tool.
- Ice cream was served to visitors but melted quickly under the sun.

- A bonfire was lit in the evening.
- A sugar candy maker made colored lollipops from sugar by heating.
- People inflated balloons for decoration.

Answer the following question on the basis of case study

1. During the annual village fair, the following activities took place:
2. A blacksmith heated iron to make it soft and shaped it into a tool.
3. Ice cream was served to visitors but melted quickly under the sun.
4. A bonfire was lit in the evening.
5. A sugar candy maker made colored lollipops from sugar by heating.
6. People inflated balloons for decoration.

Chapter 9 Motion and Time

1. **Choose the correct option**.

   i. A car covers 180 km in 3 hours. Its average speed is:

   (a) 30 km/h (b) 60 km/h (c) 90 km/h (d) 120 km/h

   ii. The pendulum of a clock takes 2 seconds to complete one oscillation. Its time period is:

   (a) 1 second (b) 2 seconds (c) 4 seconds (d) 0.5 second

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 from the codes (a), (b), (c) and (d) as given below:**

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   d) Both assertion and reason are false.

   Assertion-Speed is defined as the distance travelled per unit time.

   Reason-The SI unit of speed is meter/second (m/s).

3. **Answer the following question.**

1. Draw the shape of a distance–time graph for a body moving with uniform speed.
2. State one difference between uniform and non-uniform motion with an example.
3. A car covers 120 km in 2 hours and the next 150 km in 3 hours. Calculate the total distance travelled and average speed of the car.
4. A cyclist covers 500 m in 40 seconds. Calculate his speed in m/s and km/h.
5. A simple pendulum has a time period of 2 seconds.

   (a) How many oscillations will it make in 1 minute?

   (b) What happens to the time period if the length of the pendulum is increased? Explain.

   (c) Why is the time period independent of the mass of the bob?

4. Case study-based question.

A group of students participated in a school cycling race. The sports teacher recorded the distance covered by one student, Rohan, at different time intervals. The data is shown below:

Time (minutes)	**Distance (metres)**
0	0
2	240
4	480
6	720
8	800
10	900

1. Plot a distance–time graph for Rohan's motion.
2. From 0 to 6 minutes, was the motion uniform or non-uniform? Give a reason.
3. Calculate Rohan's average speed for the entire 10 minutes in m/s.
4. Between which time intervals did Rohan slow down? Justify your answer from the data.
5. If Rohan continued at his speed from the first 6 minutes, what distance would he have covered in 10 minutes? Compare it with the actual distance and state the difference.

Chapter 6 Respiration in Organisms

1. **Choose the correct option.**

   i. **Which gas is essential for aerobic respiration?**

   (a) Carbon dioxide **(b) oxygen**

   (c) Nitrogen **(d) Methane**

   ii. **Which of the following organisms can respire through their skin**

   (a) Frog **(b) Fish**

   (c) Sparrow **(d) Insect**

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   d) Both assertion and reason are false.

   Assertion-In non-uniform motion, the slope of the distance–time graph is a straight line.

   Reason- In non-uniform motion, unequal distances are covered in equal intervals of time.

2. **Answer the following questions.**

   1. **Define respiration. How is it different from breathing?**
   2. **Write the word equation for aerobic respiration in humans.**
   3. **Describe the process of breathing in humans, mentioning the role of the diaphragm.**
   4. **Write three adaptations in fish that help them in respiration under water.**
   5. **Differentiate between aerobic and anaerobic respiration based on:**

      (a) Requirement of oxygen

      (b) End products

      (c) Amount of energy released

      (d) Examples

      (e) Location where it occurs in the cell

4. Case Study based question

During the annual sports day, Ananya participated in a 400-metre race. Before the race, her breathing rate was about 16 breaths per minute. After completing the race, her breathing rate increased to 32 breaths per minute. She also experienced muscle cramps in her legs. Later, in the science lab, her teacher explained that this was due to the difference between aerobic and anaerobic respiration in muscles.

1. Why did Ananya's breathing rate increase after the race?
2. What caused the muscle cramps in her legs? Explain the process.
3. Write the word equation for anaerobic respiration in yeast.
4. Write the word equation for anaerobic respiration in muscle cells.
5. Which type of respiration releases more energy – aerobic or anaerobic? Why?