

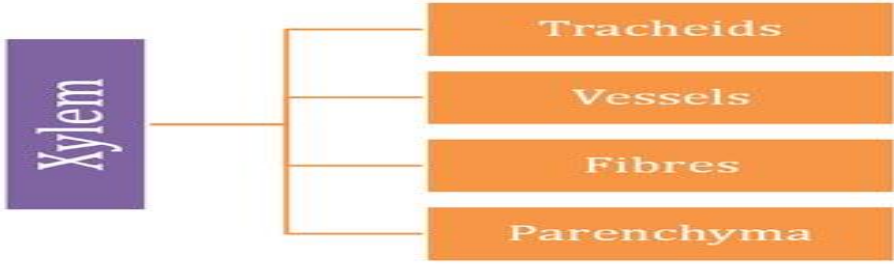
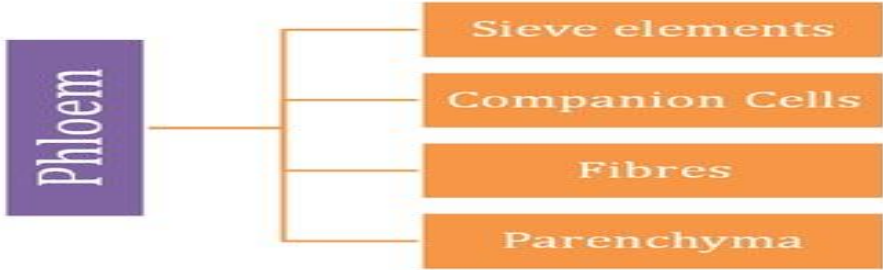
DCP FOR CHAPTER-1: TRANSPORTATION IN PLANTS.

Number of period	Sub-Topics.
1	Transportation, conducting tissues- xylem(tracheid's,vessels ,wood parenchyma, wood fibre). Phloem (sieve tube, companion cells, phloem parenchyma, phloem, phloem fibre).
2	Water absorption by the roots, Root system of a plant, root hair, semi-permeable membrane, speciality of root hairs
3	Movement of water and minerals, Active transport, passive transport, osmosis, diffusion, ascent of sap, root pressure
4	Transpiration, transpiration pull, capillary force, cohesion and adhesion. Factors affecting the rate of transpiration, importance of transpiration in plants, Micronutrients, Macronutrients.
5	Recapitulation of the chapter



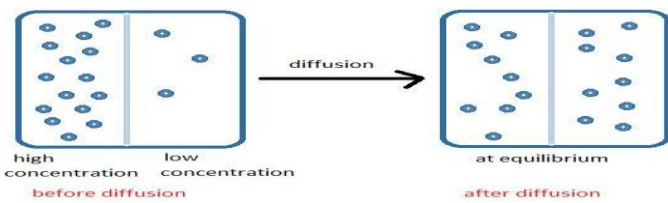
ODM Teachers' Note

Class	X	Subject	BIOLOGY
Period.	1	Chapter-1	TRANSPORTATION IN PLANTS.
Sub- Concepts	Transportation, conducting tissues- xylem(tracheid's,vessels ,wood parenchyma, wood fibre). Phloem (sieve tube, companion cells, phloem parenchyma, phloem, phloem fibre).		
TeachingAid To be used	Smart Class, PowerPoint presentation, classroom objects, charts.		
Learning Outcome	<p>On completion of this topic, students will be able to</p> <ul style="list-style-type: none"> • Investigate how transportation occurs in plants. • Understand the role of xylem • Distinguish between transportation and translocation. • Analyze how do transportation occurs in plants. • Demonstrate how the upward movement of water occurs in the plants. 		
Sl. No	Step Wise (What to be done)		
1. Introduction.	<ul style="list-style-type: none"> ➤ How plants prepare own food. ➤ Photosynthesis ➤ Transportation of food. ➤ Transportation of water 		
2. conducting tissues- xylem(tracheid's,vessels	<ul style="list-style-type: none"> ➤ Vascular bundle. ➤ water conducting tissues. ➤ Xylem elements 		

	
<p>3. wood parenchyma, wood fibre).</p>	<ul style="list-style-type: none"> ➤ What is wood parenchyma. ➤ What is wood fibre.
<p>4. Phloem (sieve tube, companion cells, phloem parenchyma, phloem, phloem fibre).</p>	<ul style="list-style-type: none"> ➤ Translocation. ➤ Phloem elements.  <ul style="list-style-type: none"> ➤ Difference between xylem and phloem
<p>5.Home Assignment</p>	<p>Exercise Question No-3 and LongAnswer Question No-9</p>

Class	X	Subject	BIOLOGY
Period.	2	Chapter-1	TRANSPORTATION IN PLANTS.
Sub- Concepts	Water absorption by the roots, Root system of a plant, root hair, semi-permeable membrane, speciality of root hairs		
TeachingAid To be used	Smart Class, PowerPoint presentation, classroom objects, charts.		
Recapitulation.	Testing previous knowledge – 1. What is translocation.? 2. What is vascular bundle?		
Learning Outcome	On completion of this topic, students will be able to <ul style="list-style-type: none"> • Investigate how water absorption occurs in the plants. • Understand the root system in plants. • Distinguish between fibrous root and tap roots. • Analyze how water and minerals movement occurs. • Demonstrate how the conduction of water occurs. 		
Sl. No	Step Wise (What to be done)		
1. Water absorption by the roots	<ul style="list-style-type: none"> ➤ Lateral branch ➤ Main roots ➤ Water absorption. 		
2. Root system of a plant	<ul style="list-style-type: none"> ➤ Tap root system ➤ Fibrous root system 		
3. Root hair	<ul style="list-style-type: none"> ➤ Epidermal cells ➤ Root hair 		
4. semi-permeable membrane, speciality of root hairs	<ul style="list-style-type: none"> ➤ Freely permeable. ➤ Semi -permeable. ➤ Surface area 		
5.Home Assignment	Exercise Question No-8 and LongAnswer Question No-1		

Class	X	Subject	BIOLOGY
Period.	3	Chapter-1	TRANSPORTATION IN PLANTS.
Sub-Concepts	Movement of water and minerals, Active transport, passive transport, osmosis, diffusion, ascent of sap, root pressure		
Teaching Aid To be used	Smart Class, PowerPoint presentation, classroom objects, charts.		
Recapitulation	Testing previous knowledge – 1. What is semipermeable membrane? 2. What is cell sap?		
Learning Outcome	On completion of this topic, students will be able to <ul style="list-style-type: none"> • Define active transport. • Explain osmosis and diffusion. • Outline and analyses the process of diffusion and osmosis. • Analyze the processes of transpiration, transpiration pull. 		
Sl. No	Step Wise (What to be done)		
1. Movement of water and minerals	<ul style="list-style-type: none"> ➤ Types of solution. ➤ Isotonic solution ➤ Hypotonic solution ➤ Hyper tonic solution. 		
2. Active transport, passive transport	<ul style="list-style-type: none"> ➤ Active transport ➤ Passive transport. 		

<p>3.osmosis, diffusion</p>	 <p>high concentration low concentration before diffusion</p> <p>at equilibrium after diffusion</p> <ul style="list-style-type: none"> ➤ Osmosis ➤ Diffusion.
<p>3. ascent of sap,root pressure</p>	<ul style="list-style-type: none"> ➤ cell sap ➤ Ascent of sap ➤ Cell to cell diffusion ➤ Hydrostatic pressure ➤ Root pressure
<p>5.Home Assignment</p>	<p>Exercise Question No-9 and LongAnswer Question No-3</p>

Class	X	Subject	BIOLOGY.
Period.	4	Chapter-1	TRANSPORTATION IN PLANTS.
Sub-Concepts	Transpiration, transpiration pull, capillary force, cohesion and adhesion. Factors affecting the rate of transpiration, importance of transpiration in plants, Micronutrients, Macronutrients.		
Teaching Aid To be used	Smart Class, PowerPoint presentation, classroom objects, charts		
Recapitulation.	Testing previous knowledge – 1. What is root pressure? 2. Difference between osmosis and diffusion.		
Learning Outcome.	On completion of this topic, students will be able to <ul style="list-style-type: none"> • Identify and explain what are plant nutrients. • Define capillary force. • List the plant nutrients. • Categories the micronutrients and macronutrients. 		

Sl. No	Step Wise (What to be done)
1. Transpiration, transpiration pull	<ul style="list-style-type: none"> ➤ Transpiration. ➤ Transpirational pull ➤ How transpiration occurs ➤ Stomata ➤ Role of stomata in transpiration.
2. capillary force, cohesion and adhesion.	<ul style="list-style-type: none"> ➤ Capillary action. ➤ Cohesion. ➤ Adhesion.
3. Factors affecting the rate of transpiration,	<ul style="list-style-type: none"> ➤ Sunlight ➤ Wind ➤ Temperature. ➤ Humidity ➤ Importance of transpiration in plants.
4. Micronutrients, Macronutrients	<ul style="list-style-type: none"> ➤ Uses of water in plants ➤ Plant nutrients. ➤ Micro nutrients. ➤ Macro nutrients.
5.Home Assignment	Exercise Question No-10 and LongAnswer Question No-7,8