

**LESSON PLAN OF EXCRETION-THE WASTE DISPOSING SYSTEM**

CLASS: 10th

SUBJECT: BS

Name of the Teacher: **B.GOUTAMUDU**

School: **ZPHS GOPPILI**

**MELIAPUTTI MANDAL**

Name of the Lesson/Unit	Topic	No. of Periods Required	Time line for teaching		Any specific Information
			From	To	
<b>EXCRETION-THE WASTE DISPOSING SYSTEM</b>	❖ Excretion Introduction, excretion in Human beings.	1			
	❖ Excretory system lab activity, Kidney's structure	1			
	❖ Structure of Nephron and urine formation	2			
	❖ Composition of Urine, Dialysis	1			
	❖ Kidney transplantation, other pathways of excretion	1			
	❖ Excretion in other organisms,	1			
	❖ Excretion in plants	1			
	❖ Excretion VS secretion, and What we have learnt.	1			
	❖ Improve learning	1			

**Prior Concept/ Skills:** (Essential concepts and skills to be checked/bridged before teaching the current concept.)

Teacher discusses with students by asking questions like

- What is excretion?
- what is the need of excretion?
- What will happen if excretion do not take place?
- Are plants excreting?
- Which organs help full in excretion?
- What are the excretory organs in plants?

Students participates in the discussion by answering the questions.

**Learning Outcomes:** (Select from SCERT Academic Calendar and Textbook)

- ❖ **The learner —**
- ❖ • **differentiates phenomena, and processes, based on, properties and characteristics,** such as, animal and plant excretion, Tubular re absorption and Tubular secretion. Dialysis and kidney transplantation etc...
- ❖ **plans and conducts investigations and experiments to arrive at and verify the facts, principles, phenomena, or to seek answers to queries on their own, such as, analyse the biochemistry reports of Blood and Urine reports. Gums, latex, resins etc...**
- ❖ **relates processes and phenomena with causes and effects, such as, hormones with their functions ex. Absence of Vasopressin hormone produce dilute urine.**
- ❖ **explains processes and phenomena, such as, Dialysis, kidney transplantation.**
- ❖ **draws labelled diagrams, flow charts, concept maps, and graphs, such as, Excretory system, kidney internal structure, Structure of nephron, etc...**
- ❖ **Handles tools and laboratory apparatus properly.**
- ❖ **Applies learning to hypothetical situations, such as, what will happen if kidney fails to work etc..**
- ❖ **Applies scientific concepts in daily life and solving problems, such as, suggest organ donation.**
- ❖ **makes efforts to conserve environment realising the interdependency**
- ❖ **and inter-relationship in the biotic and abiotic factors of environment, such as, appreciates make use of gums, latex tannins from plant excretory material.**

No. of Periods:

**10**

TEACHING LEARNING PROCESS

**Induction/Introduction** (Generating interest, informing students about the outcomes and expectations for the lesson)

Teacher introduces the lesson by asking questions on previous knowledge and discuss with students how the factories produce waste as by product and the same way our body cells also produce waste in various metabolic activities. And ask questions what they know about excretory system by mind mapping. And talk on uddanam kidney diseases with the help of paper cuttings. And need of excretion. Students discuss with teacher what will happens if excretion not done properly. And do plants produce waste? If so how they excrete? Likewise, discussion.

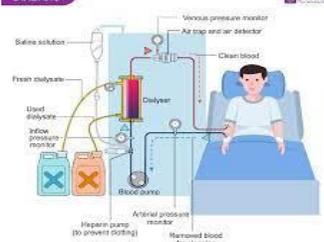


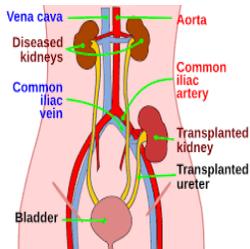
**Experience and Reflection** (Task/question that helps students explore the concept and connect with their life)

- ❖ students analyse the blood and urine reports.
- ❖ And answer the questions
  - What are the substances present in blood?
  - What are the substances present in urine?
  - What are the substances present both in blood and urine?
  - What are the materials needed to be removed from our body?
  - What do you think a reading above normal limits indicates?
  - From where do these materials removed?
  - What are the organs that separate excretory materials?
  - Why do you think the body must remove waste substances?

Students discuss

- Why weeds and wild plants are not affected by insects and pests?
- What is gum?
- Making slogans on organ donation?
- Gathers information on UDDANAM KIDNEY DISEASES.
- Visits nearby dialysis canter when possible.
- Makes a list of good habits for proper functioning of kidneys.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for: ● Using textbook prompts and activities for each of the sections.
<ul style="list-style-type: none"> <li>➤ Teacher provides blood reports and urine reports</li> </ul>  <ul style="list-style-type: none"> <li>➤ Teacher exhibits goat kidney and dissects it</li> <li>➤ Teacher shows the chart of Nephron and explains its functions</li> <li>➤ Analyse urine composition</li> <li>➤ Exhibits dialysis image and on over head projector</li> </ul>  <ul style="list-style-type: none"> <li>➤ Exhibits kidney transplantation image</li> </ul>	<p>Discuss in groups about the blood and urine reports.</p> <p>Observes the outer structure of kidney. And materials required for dissection and internal structure of the kidney.</p> <p>Observes the nephron image and discuss its functions.</p> <p>Analyse and discuss on urine composition.</p> <p>Knows about dialysis.</p> <p>Discuss the effects of kidney failures and reasons and precautions.</p>	<ul style="list-style-type: none"> <li>❖ Note down the findings and answers the questions.</li> <li>❖ Draws the outer and inner structure of kidney.</li> <li>❖ Draws the nephron diagram. And wrote down the functions of nephron.</li> <li>❖ Observes dialysis on screen</li> <li>❖ Participate in excretion in other organisms</li> <li>❖ Gathers information on ayurvedic products. And exhibits in class room.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Blood reports</li> <li>❖ Urine reports</li> <li>❖ Dissection box</li> <li>❖ Goat kidney</li> <li>❖ Excretory system model, diagram.</li> <li>❖ Dialysis chart.</li> <li>❖ Over head projector</li> <li>❖ Other organisms and their excretory organs table chart.</li> <li>❖ Nephron model and image chart.</li> <li>❖ Plant products.</li> </ul>



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- Discuss excretion in other organisms.
- Talks about plant excretion.
- Analyse excretion VS secretion.
- Discuss what we have learnt and help in improve learning question and answers.

Discuss excretion in other organisms

Gather plant productions like gums, and latex etc.

Make project on plant products and their medicinal uses.

- ❖ Makes slogans on organ donation.
- ❖ Note down question and answers

- ❖ Organ donation placards.
- ❖ Text book.

### Check For Understanding Questions

#### A. Factual:

- What is meant by excretion?
- Name different excretory organs in human body?
- Describe the structure of nephron with the help of diagram.?
- The principle involved in dialysis is \_\_\_\_\_.
- \_\_\_\_\_ performed first Kidney Transplantation.
- Which part of the cinchona plant used as a medicine.
- What are the excretory organs in Annelids?

#### B. Open Ended / Critical Thinking:

- what indicates our blood?
- Why we advised to take sufficient water?
- Why do some children pass urine during sleep at night until 15 or 16 years of age?
- *What happens if both kidneys fail completely?*
- *Collect information on sebum and prepare a news bulletin, display it on bulletin board?*
- *Why weeds and wild plants are not affected by insects and pests?*
- *Why plants shed their leaves and bark periodically?*
- *Name the alkaloids which are harmful to us?*
- *Why do we get peculiar smell when you shift the potted plants?*
- *Make some slogans on organ donation.*

#### C. Student Practice Questions & Activities (Exercises from workbook / textbooks/ blackboard)

1. What is meant by excretion? Explain the process of formation of urine.
2. How are waste products excreted in amoeba?
3. Name different excretory organs in human body and excretory material generated by them?
4. Deepak said that 'Nephrons are functional and structural units of kidneys' how will you support him?
5. How plants manage the waste materials?
6. Why do some people need to use a dialysis machine? Explain the principle involved in it.
7. What is meant by osmoregulation? How is it maintained in human body?
8. Do you find any relationship between circulatory system and excretory system? What are they?
9. Give reasons
  - A. Always vasopressin is not secreted.
  - B. When urine is discharged, in beginning it is acidic in nature later it become alkaline.
  - C. Diameter of afferent arteriole is bigger than efferent arteriole.

D. Urine is slightly thicker in summer than in winter?

**Assessment** (Think of what children SAY, DO and MAKE while learning that can form the evidence of learning to be used for assessment).

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEAD MASTER

VISITING OFFICER WITH REMARKS