



BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI – 110034

SUBJECT: SCIENCE

CLASS VII: Respiration in Organisms

Week: 23rd November to 27th November, 2020

No of blocks: 2 or 3

TOPIC: What do we breathe out and breathing in other organisms.

GUIDELINES FOR STUDENTS:

Dear Students,

- Refer to the following content of the chapter.
- These notes will help you to understand the concept of the lesson.
- Do the assignment questions in the Science notebook.
- Suitable Video links have been provided for better understanding of the concept.
- Do read NCERT too for better understanding of these concepts.

SUBTOPICS:

- What do we breathe out?
- Breathing in other organisms:
 - Cockroach
 - Earthworm
 - Breathing under water
 - Do plants respire?

INSTRUCTIONAL AIDS /RESOURCES:

- NCERT LINK FOR THE CHAPTER:
<https://ncert.nic.in/ncerts//gesc110.pdf>
- YouTube Links

LEARNING OUTCOMES:

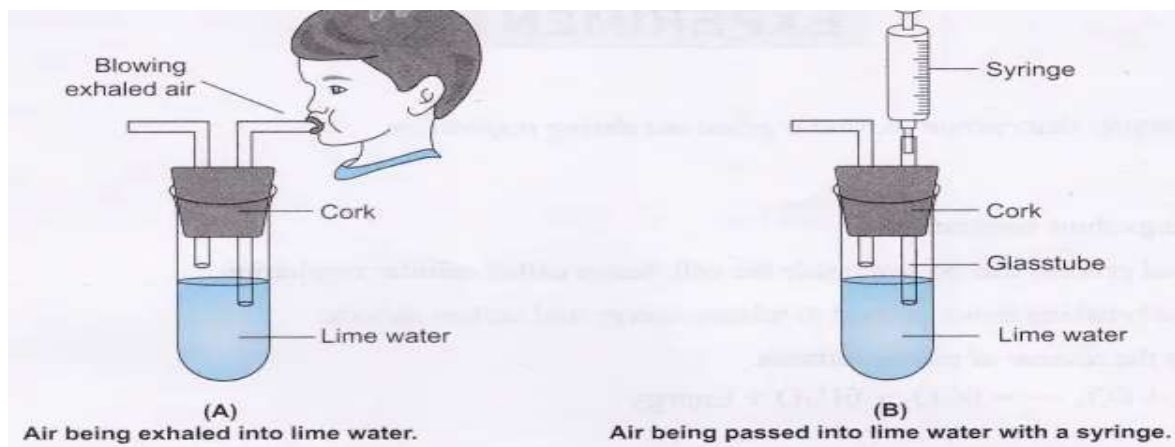
Learners will be able to:-

- Identify the various organs for breathing.
- Discuss the functions of organs in the given organisms.
- Demonstrate that carbon dioxide is released during exhalation.

Activity: What do we breathe out?

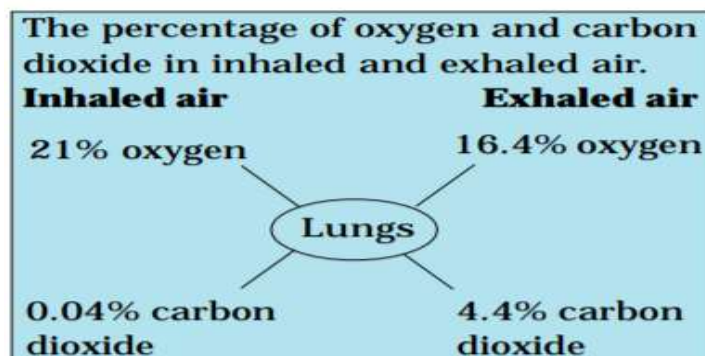
<https://youtu.be/X5An-xC0-gk>
<https://youtu.be/xvQNaAFkE6c>

- Take a slender, clean test tube or a glass/plastic bottle.
- Make a hole in its lid and fix it on the bottle.
- Pour some freshly prepared lime water in the test-tube.
- Insert a plastic straw through the hole in the lid in such a way that it dips in lime water.
- Now blow gently through the straw a few times.
- Is there a change in the appearance of lime water?
- You are aware that the air we inhale or exhale is a mixture of gases. What do we exhale?
- Do we exhale only carbon dioxide or a mixture of gases along with it?
- You must have also observed that if you exhale on a mirror, a film of moisture appears on its surface. From where do these droplets come?



LESSON DEVELOPMENT:

Percentage of oxygen and carbon dioxide in inhaled and exhaled air:

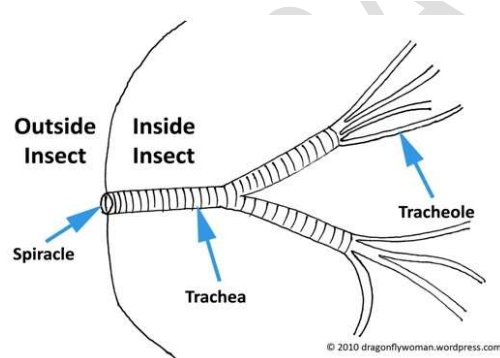
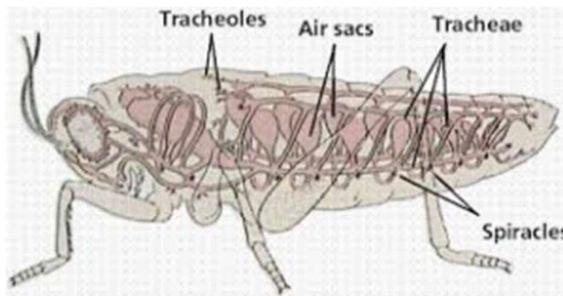


Breathing in other ANIMALS

- Many animals have just cavities in their bodies just like human beings for example lions, elephants, goats, cows, snakes and birds.

- **Breathing in cockroach:**

- Many insects like Cockroaches have small openings called spiracles present on the sides of the bodies.
- Also, they have an air tube-like structure called the **trachea** that allows the exchange of gases in these insects.
- The air enters the body through the spiracles and diffuses in the cells via the trachea.
- Similarly, the air from the cells enters the trachea and moves out of the body through spiracles.

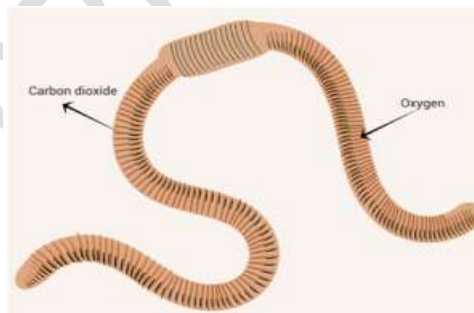


Structure of the tracheal system of insect

Breathing organs in cockroach

- **Breathing in earthworms**

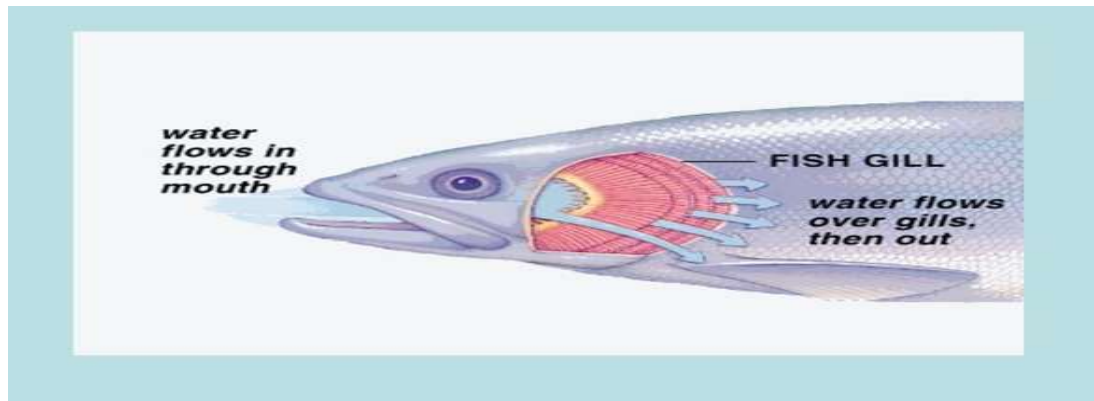
- Earthworms have a soft, slimy and moist skin from where the gases can easily exchange
- Similarly, frogs also have a slippery and moist skin that can help in breathing. However, frogs contain lungs too.



Breathing Organs in Earthworm

Breathing underwater

<https://youtu.be/B-T4ORXLgLI>

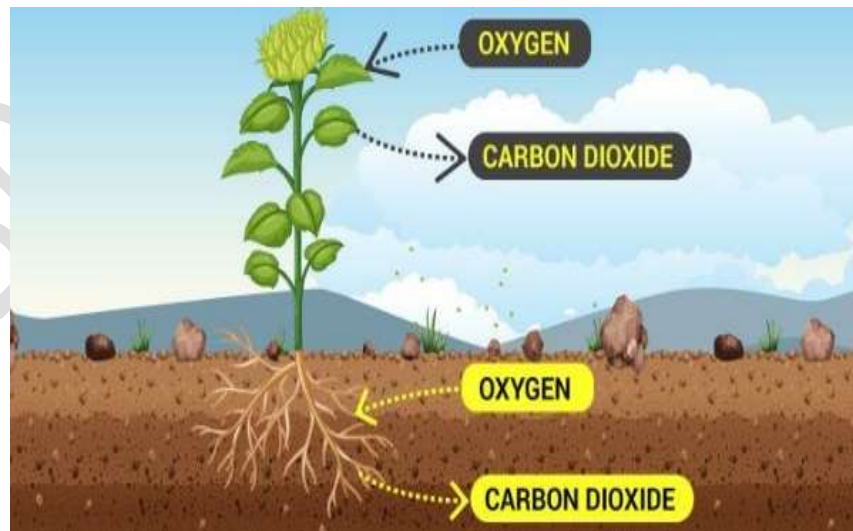


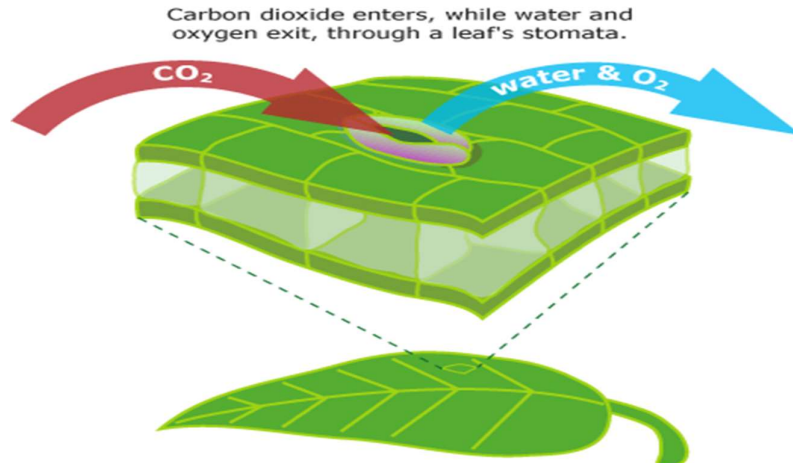
Breathing in Fish

- Animals that live underwater have special respiratory organs called gills which are a comb-like structure present on the skin of these animals.
- Gills allow the exchange of gases between animals and the water easily.
- Some animals called the amphibians can breathe on land by lungs and through moist skin under water.

DO PLANTS ALSO Respire?

<https://youtu.be/j8U0ACzjcf>





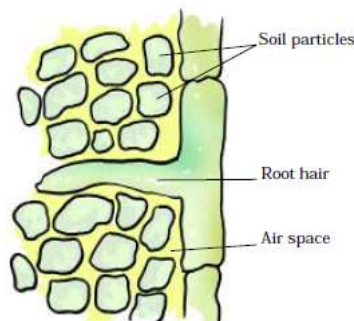
Respiration in Leaves through Stomata

- We know that plants also respire. They take in the carbon dioxide present in the atmosphere and use it in the process of photosynthesis to produce food. As a result of photosynthesis in plants, they release out oxygen in the environment.
- All the parts of the plants can independently respire that is they can take in the carbon dioxide and release oxygen on their own.
- The leaves of the plants have stomata present upon them which are small pore-like structures. They allow gases exchange in leaves.

Why plants can die if overwatered?

<https://youtu.be/dYJq4xk-M54>

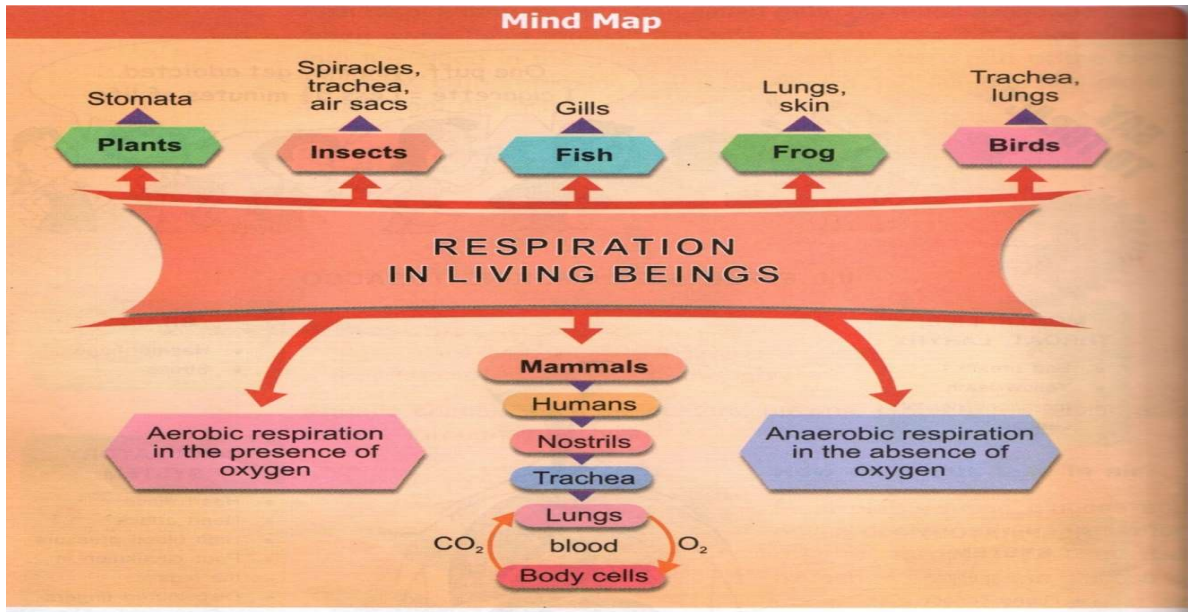
- We know that the roots get oxygen from the soil.
- We also understand that the air in the soil is present between the soil particles.
- Along with the air, soil also contains some water or moisture.
- If we over-water the plants the spaces between the soil particles get clogged.
- As a result, the roots will not be able to get enough air and the plant can die.



Roots can absorb air from the soil

LET'S SUMMARISE:

Keywords: Exhalation, Gills, Lungs, Inhalation, Spiracles, Trachea, Ribs



Let's do an assignment:

Q1. How do the following animals breathe? Draw and write the names of the organs:

SNO.	Organisms/ animals/plants	Organ
1.	Earthworm	
2.	Cockroach	
3.	Frog	
4.	Fish	
5.	Plants	

Q2. Match the following:

Column A	Column B
(i) Unicellular organisms	(a) Skin
(ii) Plants	(b) Spiracles
(iii) Earthworm, Leech	(c) Cell membrane
(iv) Insects	(d) Lungs, skin
(v) Frog	(e) Stomata
(vi) Mammals	(f) Gills
(vii) Fish	(g) Lungs

Q3. How does exchange of gases take place in fish? Draw a diagram of breathing organs in fish.

Q4. Why do people often breathe out on the spectacles to clean them?

Q5. Pick the odd-one-out from each of the groups given below on the basis of respiratory organs. Give reason for your answer.

1. cockroach, grasshopper, snail, ant
2. lizard, cow, earthworm, snake
3. crocodile, whale, dolphin, fish
4. snake, tadpole, crow, goat

Q6. What is the difference between pores present in insects and leaves of a plant?

Q7.



correctly represented by X, Y and Z?

A)

X	Y	Z
Tadpole	Whale	Earthworm

B)

X	Y	Z
Fish	Crocodile	Cockroach

C)

X	Y	Z
Frog	Shark	Toad

D)

X	Y	Z
Prawn	Grasshopper	Cockroach

ALTERNATE ACADEMIC CALENDAR ACTIVITIES:

Week: 23rd November to 30th November 2020



www.google.com

Theme- Material Fibre to Fabric • Animal fibres

Learning outcomes:

Students will be able to

- Apply learning of scientific concepts in day-to-day life.
- Exhibit creativity in designing, planning, making use of available resources, etc. for carrying out different suggested activities at home.
- Exhibit values of honesty, objectivity, cooperation, freedom from fear and prejudices, etc., such as, reporting the findings honestly, supporting other friends in need, etc.

Learning Resources:

- Laboratory Manual in Science for Classes VI-VIII

<http://www.ncert.nic.in/exemplar/labmanuals.html>

- E-Resources developed by NCERT, which are available on NROER and also attached as QR Code in textbooks of NCERT.

• From fibre to wool • Processing fibres into wool

Task 1

- Watch the following video and try to answer the Questions mentioned below:
 - **Jaanta vreshey azantu reshe on the given link**
<https://www.youtube.com/watch?v=E6MveN6GIUk&feature=youtube>
- Represent various steps of the processing of fibre into wool with the help of flow chart.
- Explore and make a list of the different breeds of sheep.
- Mark the states in the map of India where these breeds are reared to obtain different quality of wool.

Task 2

Share your opinion on whether it is fair on the part of humans to rear sheep and then chop off their hair for getting wool.

b) Silk • Life history of silk moth • From cocoon to silk

Task 1

Watch the following videos and try to answer the questions mentioned below.

'*Cocoon Se Resham Tak*' on the given link <https://www.youtube.com/watch?v=pFTT MNKPh4&feature=youtu.be>

Resham on the given link <https://www.youtube.com/watch?v=G4LtN4ZoYH4&feature=youtu.be>

Questions

- Mention the stage of life cycle of silkworm from which silk is obtained.
- What are the conditions required for rearing of silkworm?
- Explain the process of Sericulture with the help of a diagram.
- Draw a labelled diagram of the life history of a silk moth.

Task 2

Write a story on discovery of silk and make a comic script on that.

Task 3

Collect information on different types of silk fibres and create a picture book of different types of silk fibres and their sources.
