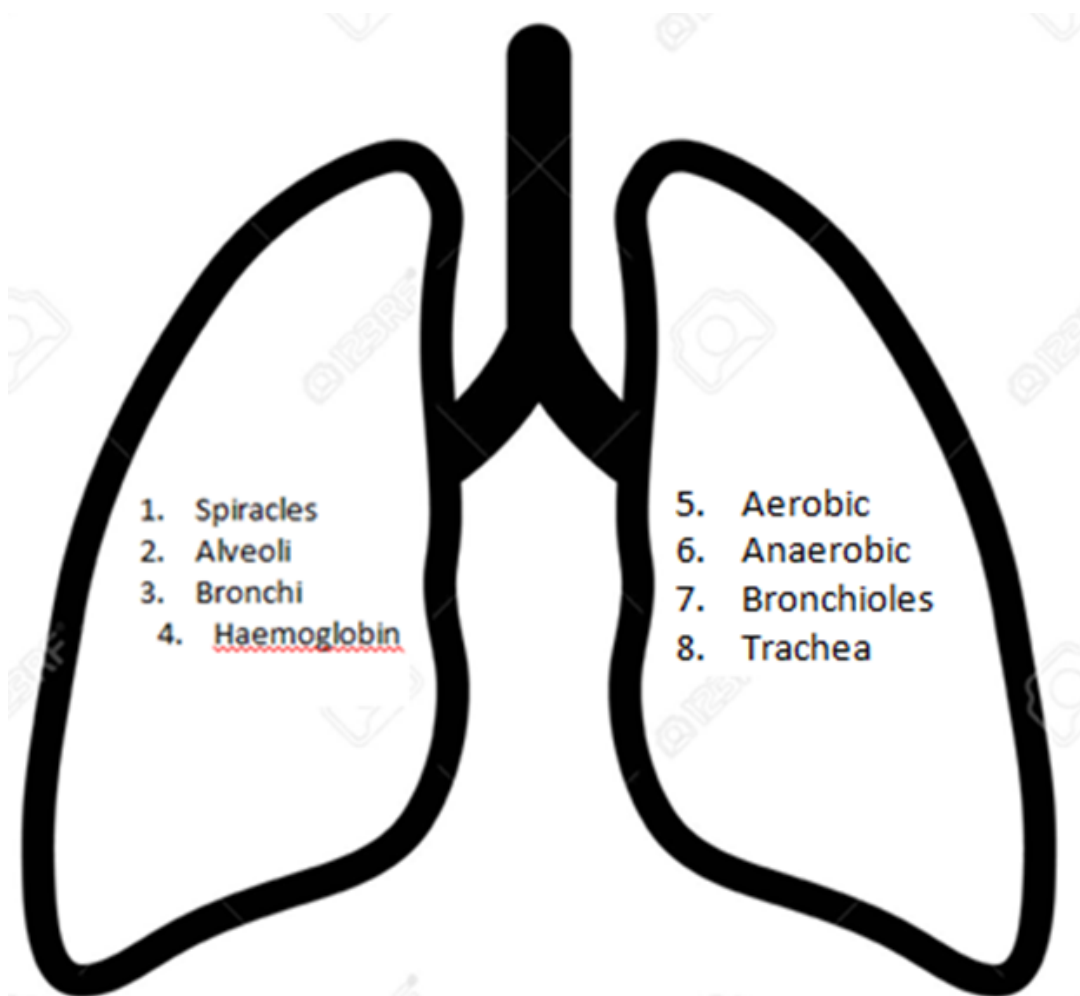


## Lesson - 11

### Respiration

#### I. Word Focus



#### II. Define the following

(Refer book, find the answers and write)

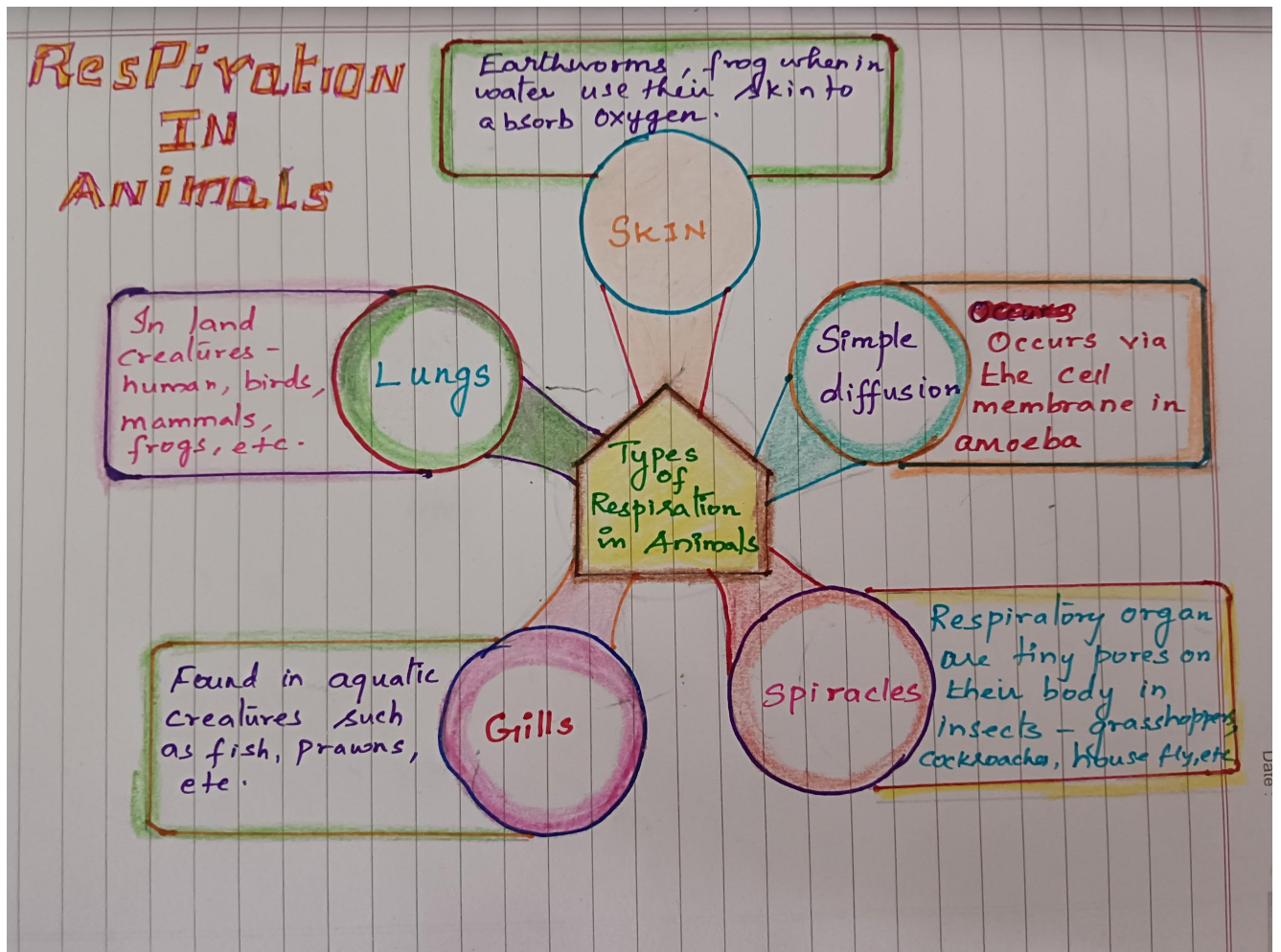
1. Inhalation
2. Exhalation

### 3. Breathing

### 4. Respiration

## III. Complete the graphic organizer

### 1. Respiration in animals



## 2. Respiration in humans - Respiratory system

Nostrils (Through passages)



Pharynx (Throat cavity)



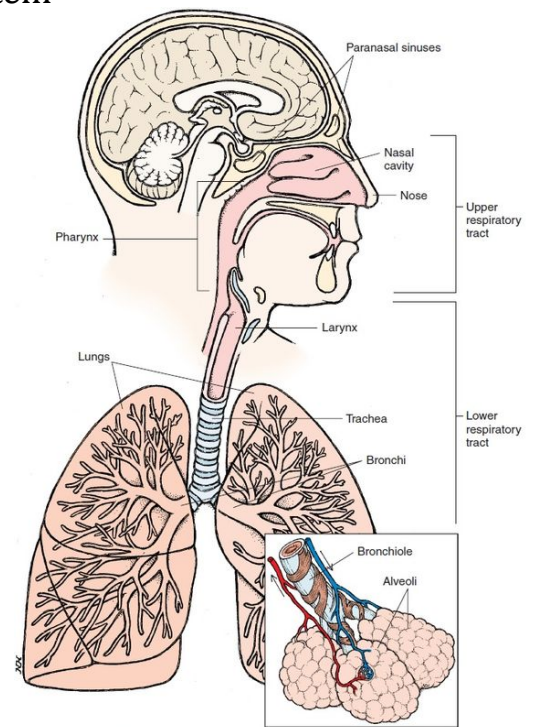
Bronchi (singular : Bronchus)



bronchioles (branches of smaller tubes in the lungs)



Alveoli (air sacs at the end of bronchioles. 300 -400 million in each lungs)



### IV. Distinguish between

#### 1. Breathing and respiration

<b>BREATHING</b>	<b>RESPIRATION</b>
It is the process of inhalation and exhalation.	It is a process where food is oxidized to produce energy.
It is a biophysical process.	It is a biochemical process.
It takes place in the lungs or gills.	It takes place in the cells.
No energy is produced in this process.	Energy is released during this process.

## 2. Aerobic respiration and Anaerobic respiration

Aerobic Respiration	Anaerobic Respiration
It takes place in the presence of oxygen.	It takes place in the absence of oxygen.
Glucose breaks down or completely oxidizes into energy, carbon dioxide and water.	Glucose breaks down into ethyl alcohol, carbon dioxide, and energy or lactic acid.
It occurs in plant and animal cells	It occurs in bacteria, yeast and also in human muscle cells.
Complete oxidation takes place.	Glucose is not oxidised completely.
It produces a large amount of energy.	It produces a small amount of energy.

### V. Assertion and reasoning

1. **Assertion(A)** : Breathing in and out is a simple breathing process.

**Reason(R)** : Breathing occurs in animals, not plants.

**ANS:** Both A and R are true, but R is not the correct explanation of A.

2. **Assertion(A)** : When we breathe rapidly, we inhale more oxygen.

**Reason(R)** : When we inhale air it passes through the nasal cavity.

**ANS:** Both A and R are true, but R is not the correct explanation of A.

3. **Assertion (A)** : When muscle cells, in humans respire anaerobically cramps occur.

**Reason (R)** : Accumulation of lactic acid causes cramps.

**ANS:** Both A and R are true and R is the correct explanation of A.

## VI. HOTS

1. Why do you think that we yawn, when we are sleepy or drowsy?

When people are sleepy or drowsy, their respiration slows down. This phenomenon leads to decrease the level of oxygen.

2. Why do mountaineers climbing high mountains carry oxygen cylinder with them?

When we climb high mountains we face oxygen deficiency as the air is thinner higher up. To supplement that mountaineers carry oxygen cylinder with them.

## VII. Case Study

(No print outs. Only hand written. Refer but write in your own words. Follow the given headings)

Chronic obstructive pulmonary disease (COPD)

Introduction:

Common symptoms

Causes and Risk factors

Treatment

Prevention

Conclusion