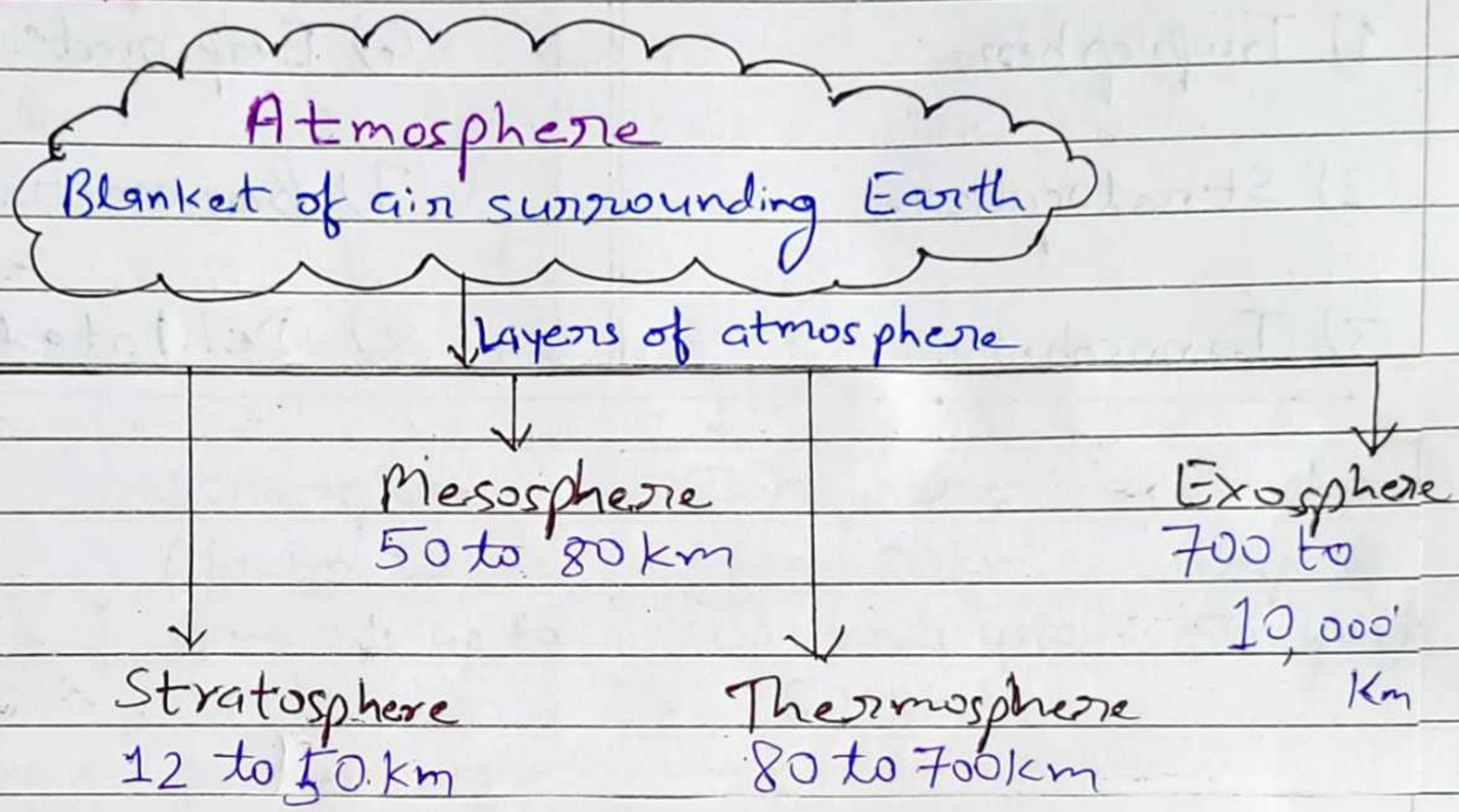
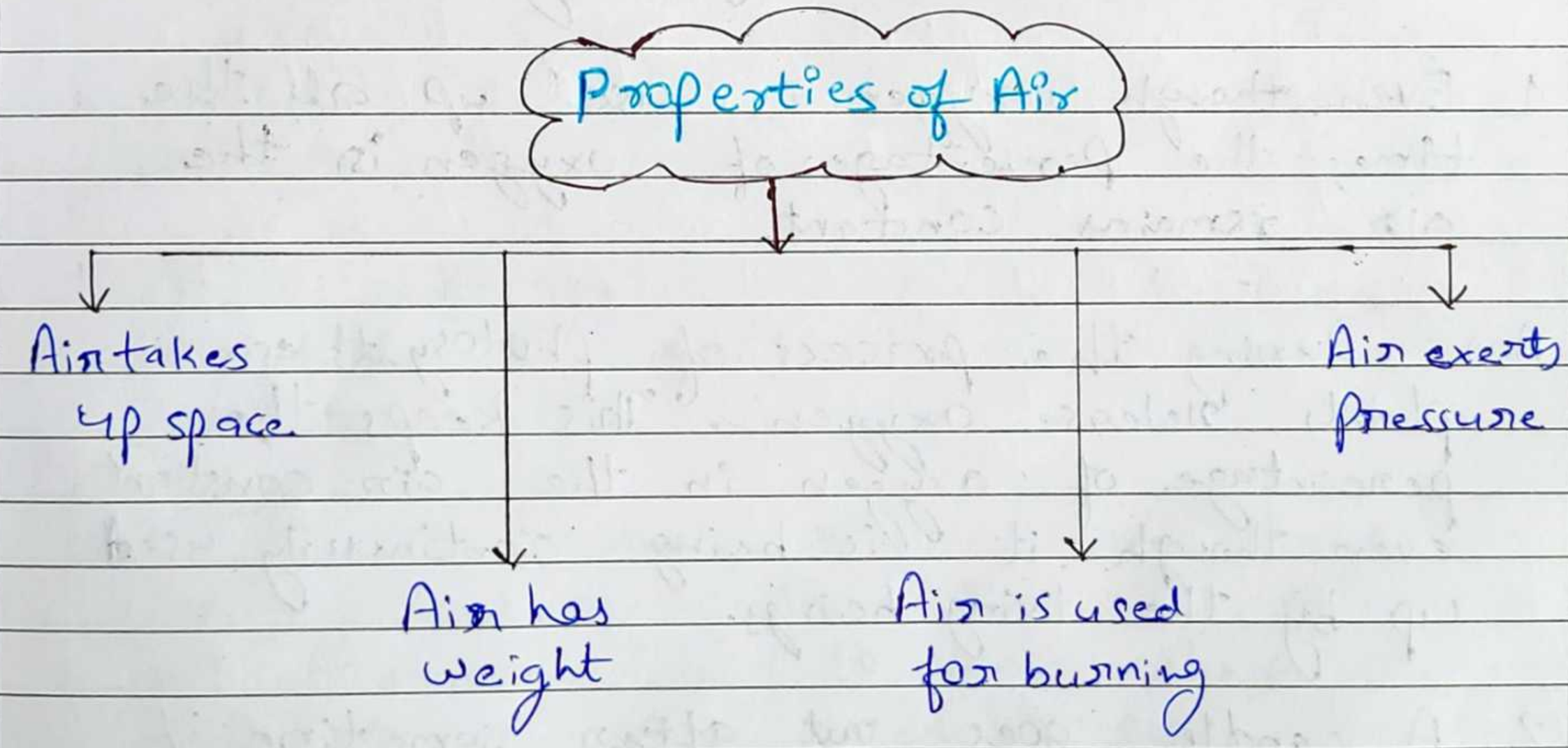
Chapter: 6 - Air and its Uses

* MIND MAP





* HARD WORDS :-

1) Troposphere	6) Evaporation
2) Stratosphere	7) Barometer
3) Ionosphere	8) Deflated
4) Exosphere	9) Humid
5) Vaccum	10) Inflate

* Give reasons for the following.

1. Even though oxygen is used up all the time, the percentage of oxygen in the air remains constant.

Ans :- During the process of photosynthesis plants release oxygen. This keeps the percentage of oxygen in the air constant even though it is being continously used up by the living beings.

2. A candle goes out after sometime if you place a glass over it.

Ans:- Burning of candle is possible only in presence of oxygen. When we cover burning

candle with glass, after sometime a candle goes out because oxygen present inside is used up for burning candle.

3. Even though air exerts a lot of pressure, we don't feel it on our body.

Ans :- As, the pressure in our body is roughly the same as the air pressure outside our body. So, we donot feel the pressure of air on our body.

4. When a fire does not burn properly, air is blown on it.

Ans :- When a fire doesnot burn properly, air is blown on it so that more air reaches the fire, as air is needed for burning.

5. While siphoning, the liquid stops flowing when both the containers are placed at the same level.

Ans :- This is because at the same height the air pressure is the same. So, this will not allow the liquid to flow when both the containers are placed at same level.

* Answer the following questions in short.

1) How do you know that there is air around you?

Ans :- Air is all around us but, we cannot see, taste or touch it. We can feel the air when it moves and also see its effect on other things.

2) What will happen if green plants stop taking in carbon dioxide and releasing oxygen?

Ans :- If green plants stops absorbing in carbon dioxide and releasing oxygen, atmospheric carbon dioxide would increase while oxygen levels would decrease. This would lead to climate change, reduced air quality and harm to ecosystem and human life.

* Answer the following questions in long.

1) With the help of an experiment show that air exerts pressure.

Ans :- → Take a plastic bottle. Put some boiling water in it.

→ The steam coming out of the water will expel most of the air from inside the bottle.

→ After about 2 minutes, screw the cap tightly on the bottle. Put the bottle in a container and pour some cold water mixed with ice on it.

→ As the bottle cools down the steam condenses. We will observe that the bottle gets crushed.

→ We will see that the steam has expelled most of the air from inside the bottle, and the bottle now has very less air inside it.

→ The air pressure acting on the bottle from side is, therefore, much larger than the pressure exerted by the air inside it. This causes the bottle to get crushed.

a.

b.

2. How will you show that air exerts pressure
a) in the downward direction?

Ans :- a) → Drinking of liquids through a straw is an example of air pressure working in downward direction.

→ As we suck the air, a vacuum is created in the straw.

→ The air pushing down on the surface of the drink forces the liquid up the straw.

b) in the upward direction.

Ans :- b) → Take a glass and fill it with water up to the brim.

→ Put a stiff card on top of the glass. Hold the card firmly in place and turn the glass upside down.

→ Now, remove your hand gently. The card doesnot fall and the water remains in the glass.

→ This experiment shows that air exerts pressure in the upward direction.

3. How does a siphon work?

Ans :- → Take a jar 'A' and fill it with water. Place it on a table.

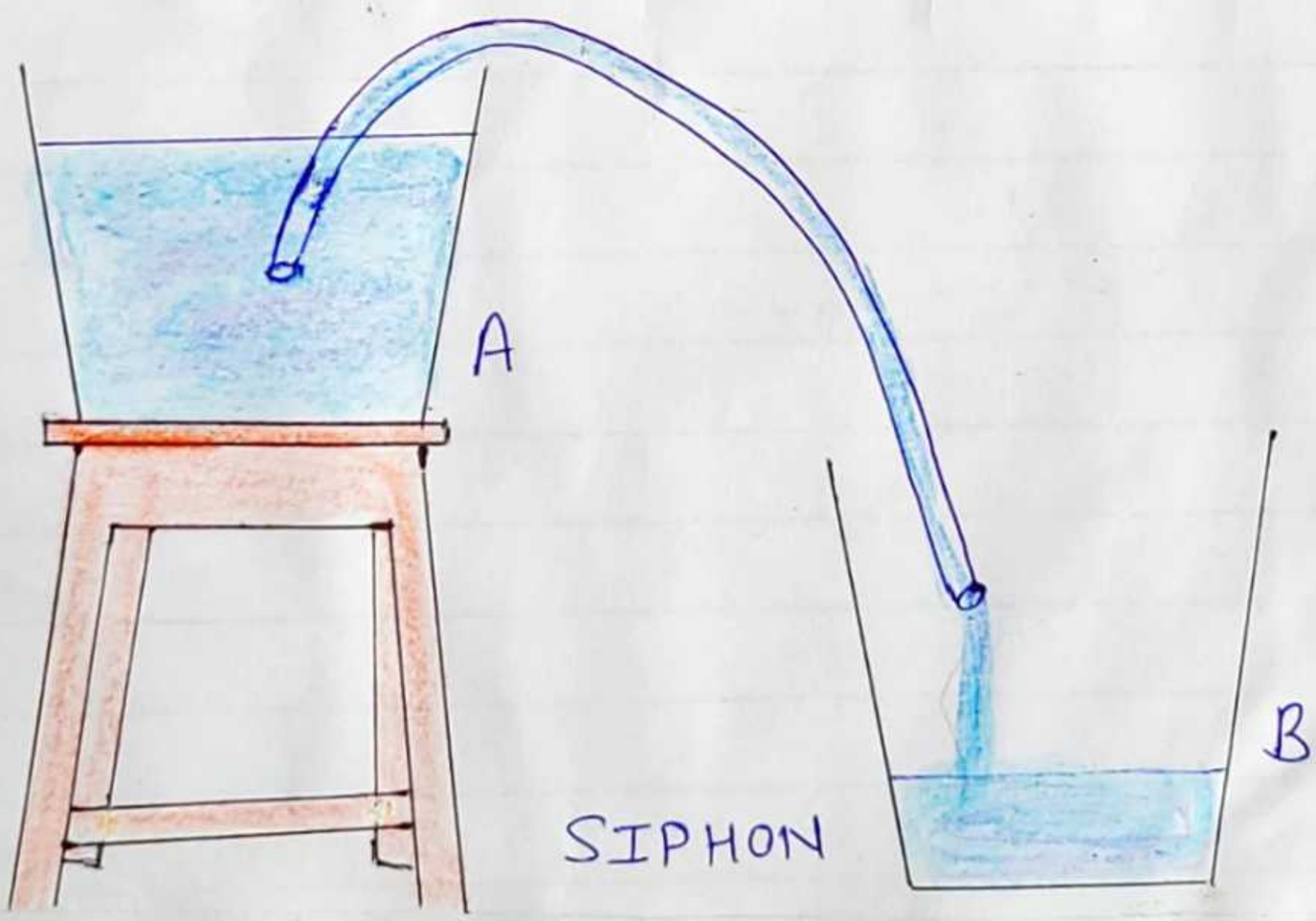
→ Take another empty jar 'B' and put it on the floor.

→ Now, take a long transparent plastic or rubber tube.

→ Dip one end of the tube in jar A. Suck out the air at the other end of the tube.

→ The water begins to flow out. Put the tube in jar B.

→ The air pressure acting on the surface of the liquid at a higher level pushes it down to the lower level.



SIPHON

* Define the following :-

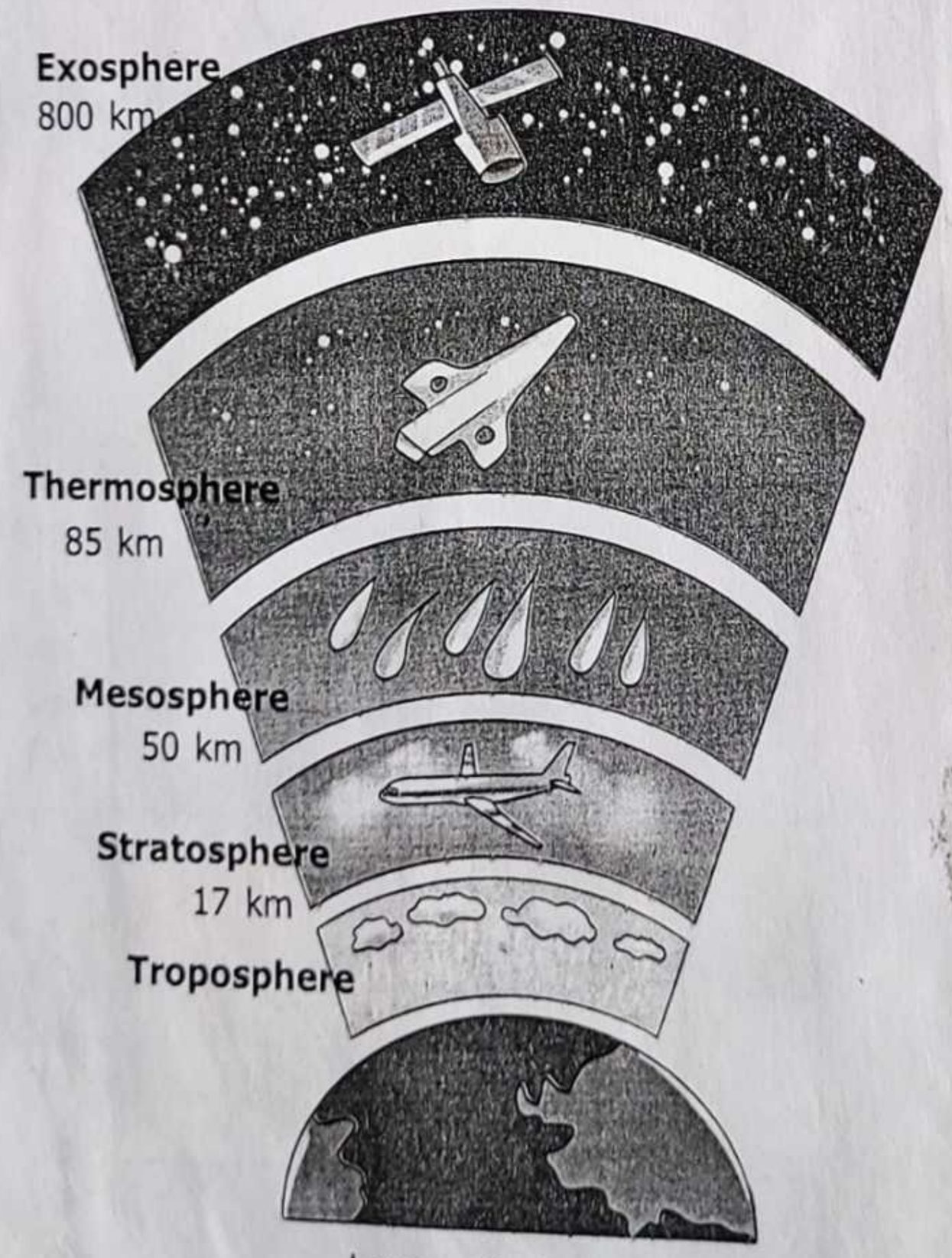
1) Atmosphere :- The blanket of air surrounding the earth is called atmosphere.

2) Wind :- Moving air is called wind.

3) Siphon :- Siphon is a convenient method of drawing a liquid by means of a tube.

Diagram :-

*Layers of Atmosphere



Layers of atmosphere