WELCOME TO THE ONLINE CLASS

SESSION NO.: 5
CLASS: 5
SUBJECT: SCIENCE
CHAPTER NUMBER: 12
CHAPTER NAME: OUR LIFE SUPPORT
TOPIC: COMPOSITION OF AIR, PROPERTIES OF AIR

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

To enable the learner to:

- **know the composition of air.**
- **list the uses of gases in real life.**

LET'S RECAP

The blanket of air that surrounds the earth is called the atmosphere. It has five layers. Troposphere is the layer closest to the earth's surface. Here, weather changes takes place. Stratosphere is the layer next to troposphere and it contains ozone layer in it. Ozone layer protects us from the harmful rays of the Sun. Next to stratosphere we have mesosphere. This is the layer that burns out meteors or small rocks that comes towards us. Thermosphere lies just above mesosphere. Space shuttles move in this layer. Exosphere is the outermost layer of the atmosphere.

1. **Which layer is next to mesosphere?**

Ans: Thermosphere

LET'S RECAP

The blanket of air that surrounds the earth is called the atmosphere. It has five layers. Troposphere is the layer closest to the earth's surface. Here, weather changes takes place. Stratosphere is the layer next to troposphere and it contains ozone layer in it. Ozone layer protects us from the harmful rays of the Sun. Next to stratosphere we have mesosphere. This is the layer that burns out meteors or small rocks that comes towards us. Thermosphere lies just above mesosphere. Space shuttles move in this layer. Exosphere is the outermost layer of the atmosphere.

2. The layer which is closest to the earth's surface.

Ans: Troposphere

LET'S RECAP

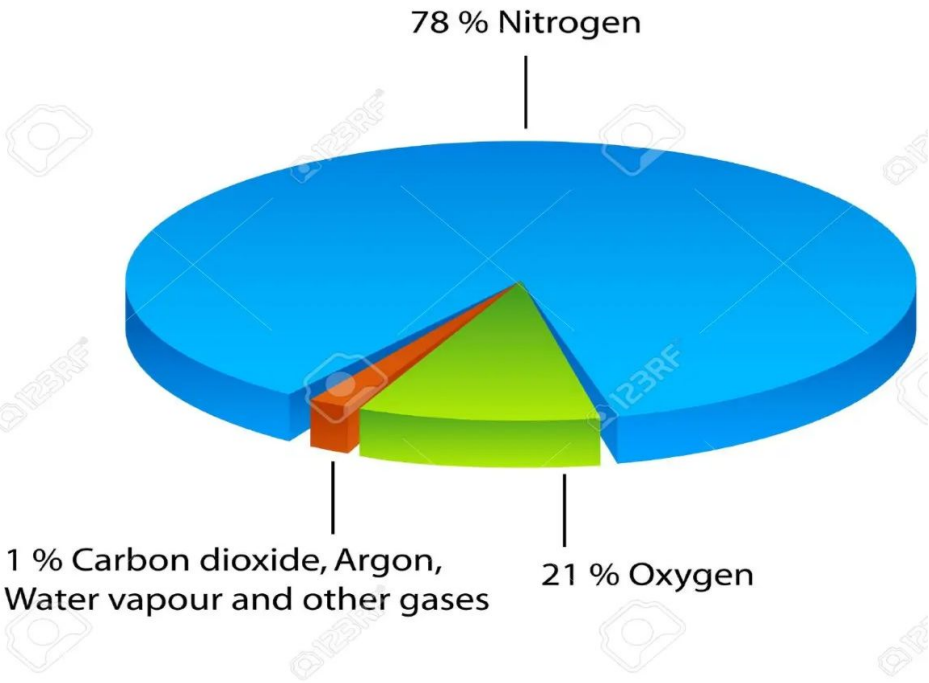
The blanket of air that surrounds the earth is called the atmosphere. It has five layers. Troposphere is the layer closest to the earth's surface. Here, weather changes takes place. Stratosphere is the layer next to troposphere and it contains ozone layer in it. Ozone layer protects us from the harmful rays of the Sun. Next to stratosphere we have mesosphere. This is the layer that burns out meteors or small rocks that comes towards us. Thermosphere lies just above mesosphere. Space shuttles move in this layer. Exosphere is the outermost layer of the atmosphere.

3. Describe one use of ozone.

Ans: Ozone layer protects us from the harmful ultraviolet rays of the Sun.

COMPOSITION OF AIR

- The air we breathe contains various gases.
- Air consists of 78% nitrogen, 21% oxygen and less than 1% of argon, carbon dioxide and other gases.
- Air also contains water vapor, dust and smoke.



OXYGEN

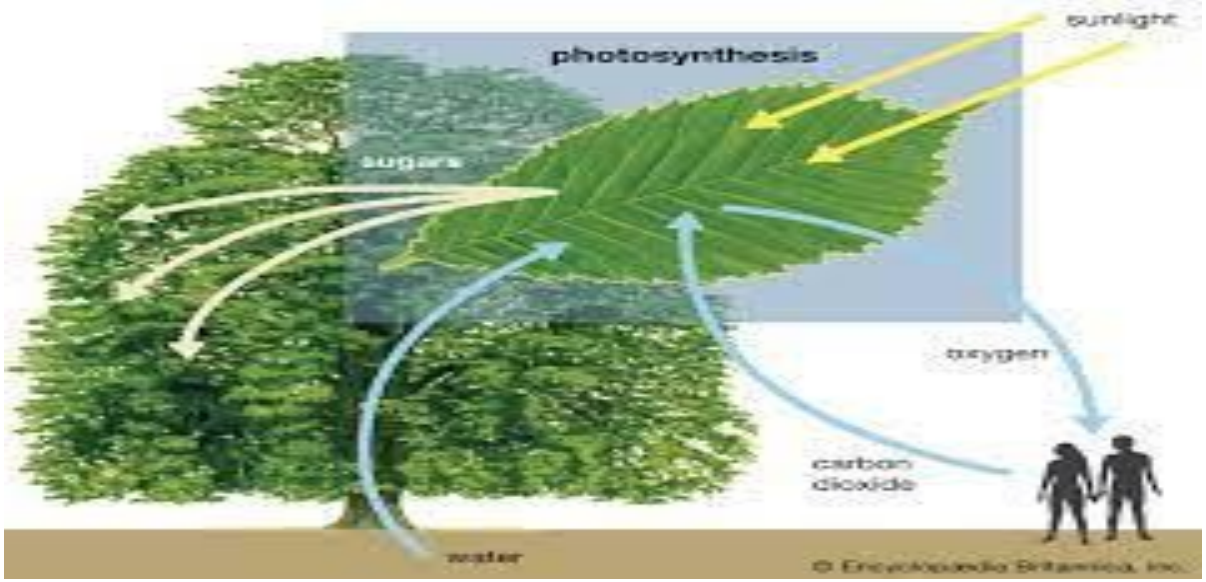
- It is the most important gas for the survival of living beings.
- All living things need oxygen.
- It is also needed for burning.

NITROGEN

- Living things do not use nitrogen directly from the air.
- Nitrogen is used by the plants with the help of bacteria in the soil.
- Nitrogen is also added to the soil by using chemical fertilizers.
- Animals get nitrogen from plants, meat and fish.

CARBON DIOXIDE

- Carbon dioxide is very important for plants.
- Plants prepare their food with the help of carbon dioxide water and sunlight by the process called photosynthesis.

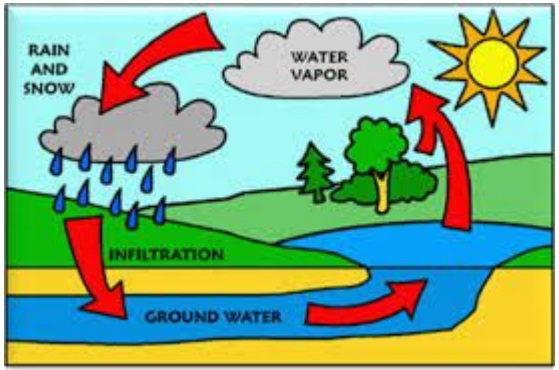


OTHER GASES

- Other gases such as hydrogen, ozone, helium, neon, argon and krypton are also present in the air.
- Neon and argon are used in electric lights to produce the colorful glow in the glass tube.

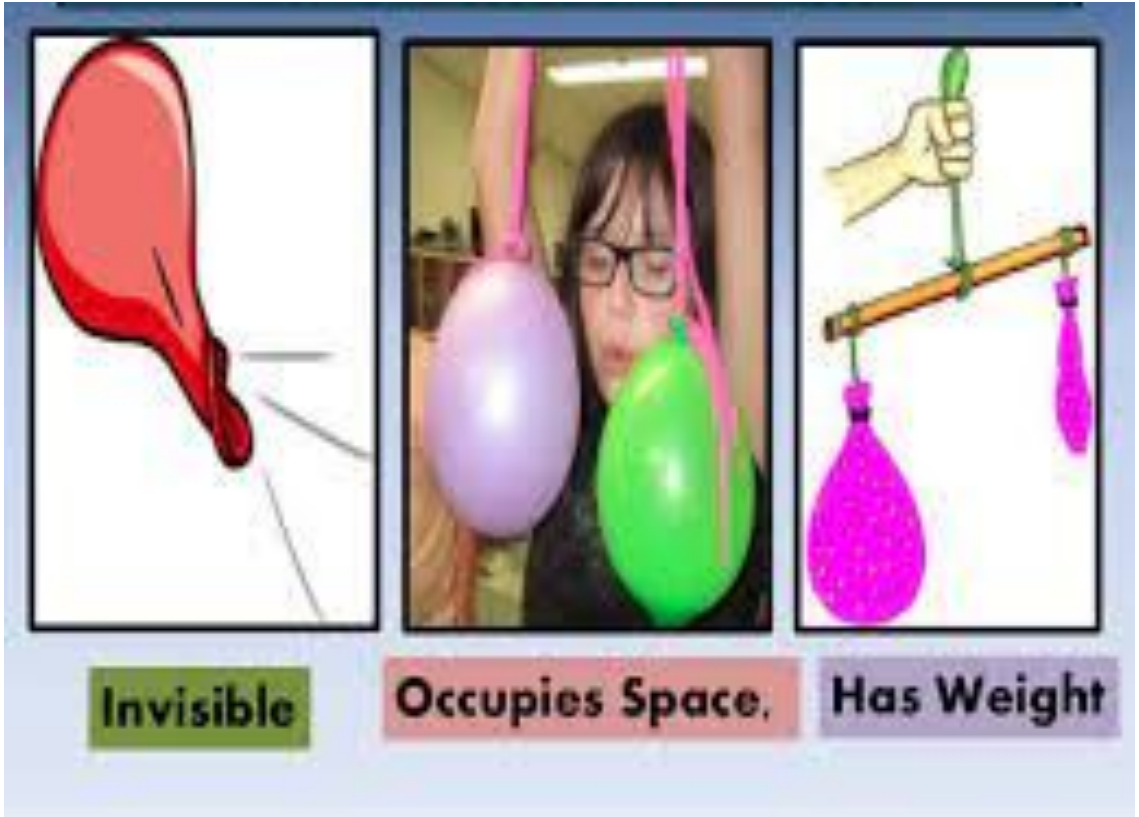
WATER VAPOUR

- Water vapour is also a part of air.
- Water vapour is formed because of the evaporation of water from the surface of water bodies.
- Water vapour in the air can cause changes in the weather.
- It condenses to form clouds, rain, fog and snow.
- The amount of water vapor present in the air is called humidity.
- High humidity makes us feel uncomfortable as our sweat does not evaporate easily.



PROPERTIES OF AIR

- Air is invisible.
- Air has weight.
- Air takes up space.
- Air exerts pressure.

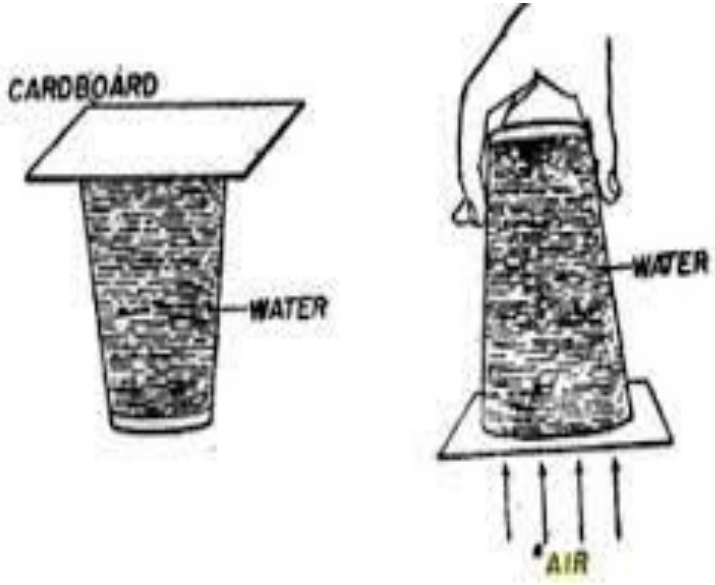


AIR HAS WEIGHT

AIR OCCUPIES SPACE

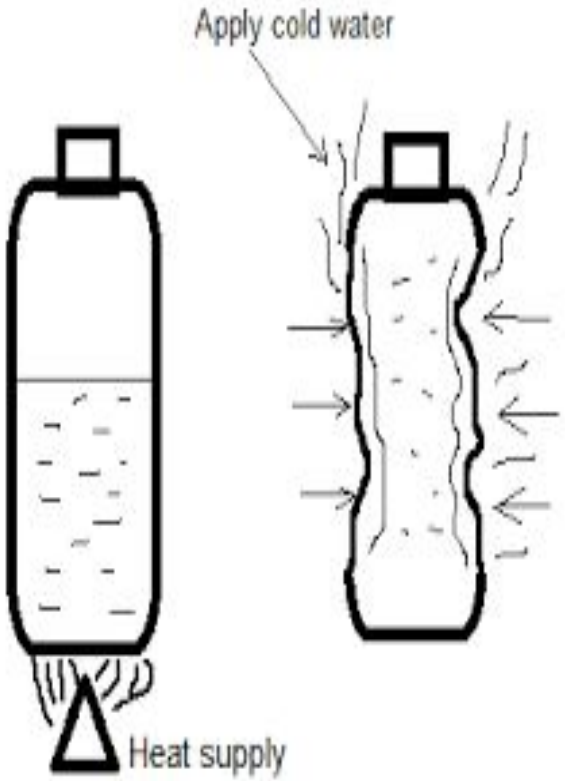
AIR EXERTS PRESSURE

AIR EXERTS PRESSURE IN UPWARD DIRECTION



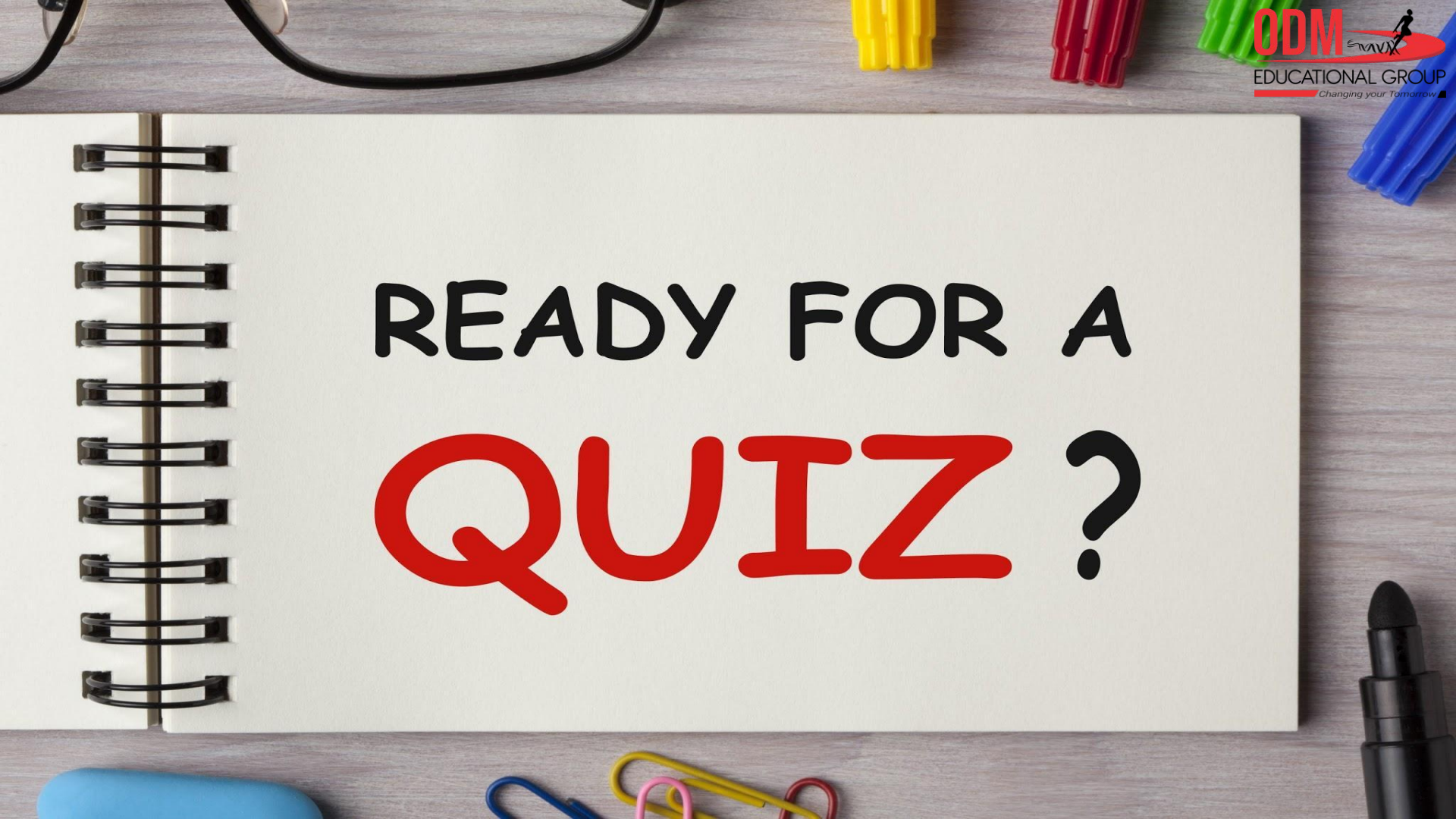
AIR EXERTS PRESSURE IN DOWNWARD DIRECTION

AIR EXERTS PRESSURE



SUMMARY

- Air consists of 78% nitrogen, 21% oxygen and less than 1% of argon, carbon dioxide and other gases.
- Air also contains water vapor, dust and smoke.
- Properties of air:
  - Air is invisible.
  - Air has weight.
  - Air takes up space.
  - Air exerts pressure.


ODM
EDUCATIONAL GROUP
Changing your Tomorrow
READY FOR A
QUIZ ?

Assertion(A): Exhaled air is warmer than inhaled air.
Reason(R): Gaseous exchange takes place in nose.

a. Both A and R are true and R is correct explanation of A.
b. Both A and R are true but R is not the correct explanation of A.
c. A is true and R is false.
d. A is false and R is true.
e. Both A and R are false.

Ans: c. A is true and R is false.

Assertion(A): Argon is filled in glass tubes.
Reason(R): Argon produces a colourful glow in glass tubes.

a. Both A and R are true and R is correct explanation of A.
b. Both A and R are true but R is not the correct explanation of A.
c. A is true and R is false.
d. A is false and R is true.
e. Both A and R are false.

Ans: a. Both A and R are true and R is correct explanation of A.

Assertion(A): Animals need oxygen to breathe.
Reason(R): Oxygen is needed for survival.

a. Both A and R are true and R is correct explanation of A.
b. Both A and R are true but R is not the correct explanation of A.
c. A is true and R is false.
d. A is false and R is true.
e. Both A and R are false.

Ans: a. Both A and R are true and R is correct explanation of A.

HOMEWORK

- **Do the oral Q & A of page no. 113.**

LEARNING OUTCOME

The learner will be able to:

- **know the composition of air.**
- **list the uses of gases in real life.**

ODM EDUCATIONAL GROUP
Changing your Tomorrow

THANKING YOU

ODM EDUCATIONAL GROUP