WELCOME TO THE ONLINE CLASS

SESSION NO: 2

CLASS: 4

SUBJECT: SCIENCE

CHAPTER NUMBER: 12

CHAPTER NAME: AIR, WATER AND WEATHER

SUB TOPIC: HOT AND COLD AIR

LEARNING OBJECTIVE

To enable the learner to:

- **understand the movement of hot and cold air.**
- **know about the set up of air current.**

RECAPITULATION

1. The heat of the sun affects the movement of _____.
2. The season changes from day to day. [correct the underlined word]
3. What do you mean by term humid?
4. How does sun causes winds to blow?
5. Changes in the weather are caused primarily due to_____.

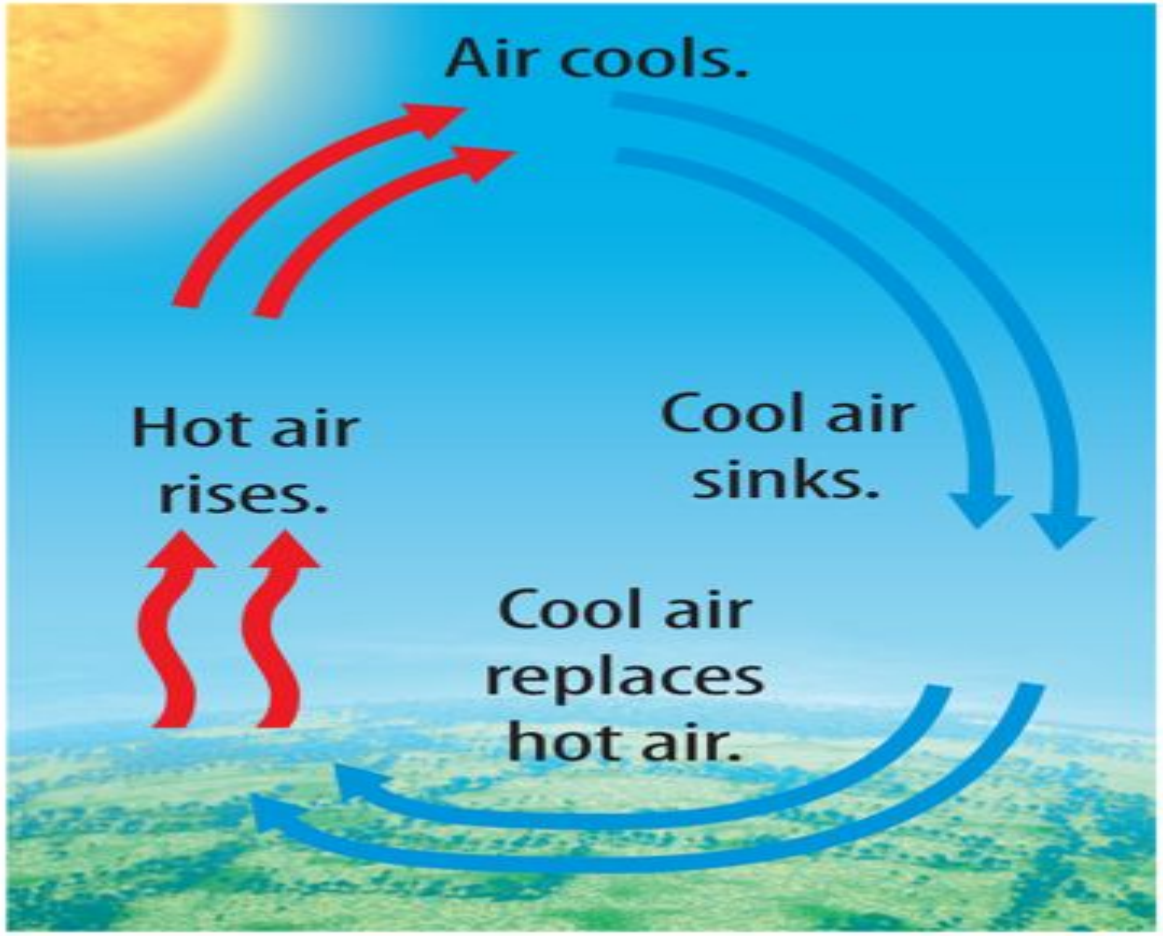
AIR

- Air contains water vapour, smoke, dust and germs.
- Moving air is called wind.
- Fast and strong winds can cause a storm.

HOT AND COLD AIR

HOT AIR : Air that has been heated and tends to rise up.

COLD AIR: Air which is having little warmth ,becomes heavier and more denser than hot air.



ACTIVITY 1
MOVEMENT OF HOT AND COLD AIR

- Let us do an activity to understand the movement of hot and cold air.
- Light a candle.
- Hold it in different positions as shown in picture below.

- Does the direction of candle flame change as you tilt the candle?
- The candle flame always burns upwards.

ACTIVITY 2
HOT AIR RISES UP

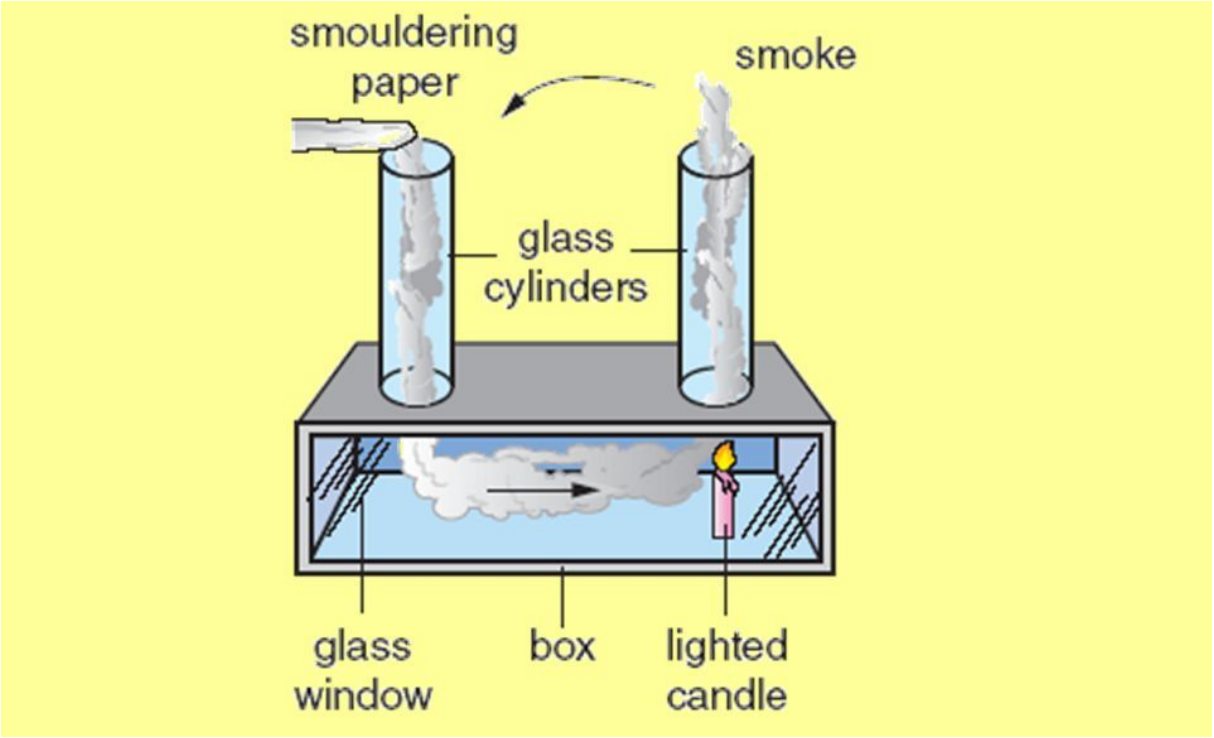
- Bring your hands close to the sides of the flame first and then above it.
- You will find that the air by the sides of the flame is not as hot as the air above.
- It proves that hot air rises up.

WHY HOT AIR RISES UP ?

- It is because the particles of air on becoming warm, move away from each other.
- So we can say that air on becoming hot occupies more space.
- Since the particles move away from each other, the air becomes less dense and lighter in weight.
- As a result, warm air rises up.

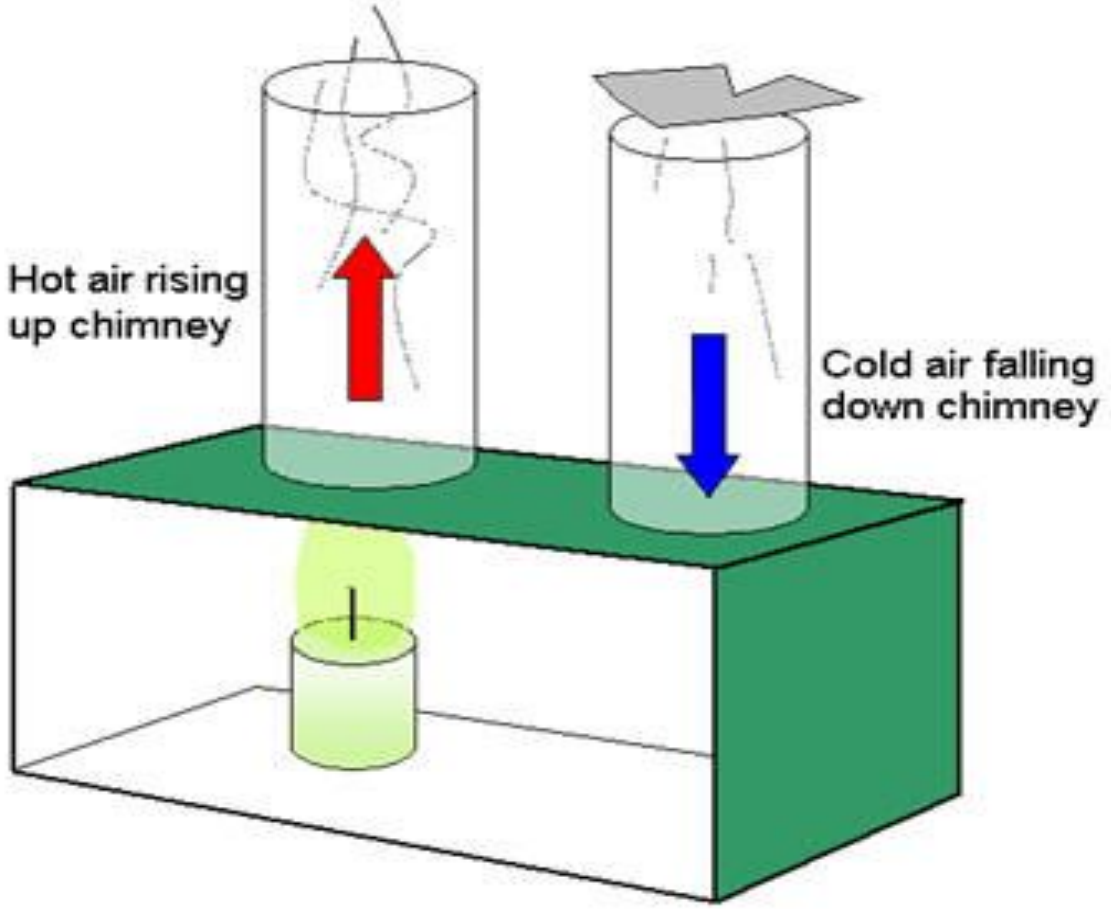
ACTIVITY 3
FORMATION OF AIR CURRENTS

- Take a cardboard or wooden box with a glass front.
- Fit two wide glass tubes in holes at the top to form chimneys.
- Put a small lighted candle below one of the chimneys.



FORMATION OF AIR CURRENTS

- Hold the smouldering piece of paper at the top of the other chimney.
- The air above the candle gets heated and becomes lighter. It rises up.
- The smoke from smouldering paper rushes into the box to take the place of the warm air.
- Thus air currents are set up.



SUMMARY

- Hot air rises because gases expand as they heat up. When air heats up and expands, its density also decreases.
- The molecules in hot air are moving faster than the molecules in cold air.
- When a candle burns, the flame heats the nearby air and starts to rise, the continuous movement of hot air going up displaces cooler air down to the side which then gets heated up again and move upwards.


QUIZ!
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1. Air that has been heated and tends to rise up.

Ans: Hot air

2. _____ are set up when hot air rises and cooler air takes its place.

Ans: Air currents

3. The molecules in hot air are moving faster than the molecules in cold air. (True/False)

Ans: True

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NO HOMEWORK

LEARNING OUTCOME

The learner will be able to :

- **understand the movement of hot and cold air.**
- **know about the set up of air current.**

THANKING YOU

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