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CLASS – 7

SOCIAL SCIENCE

Exploring Society : India and Beyond

CH –2
Understanding the Weather

Part – 1

Weather and its element

Sukhdeep Kaur

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OVERVIEW

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IMD

1. Weather and Its Element
2. Observing Nature's Clues
3. Weather Instrument : Temperature, Precipitation
4. Weather Instrument : Atmospheric Pressure , Wind
5. Weather Instrument : Humidity
6. Weather Station

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WHAT IS WEATHER ?

- Weather is the state of the Earth's atmosphere at a specific time and place.
- The atmosphere is the layer of gases (called air) surrounding Earth.

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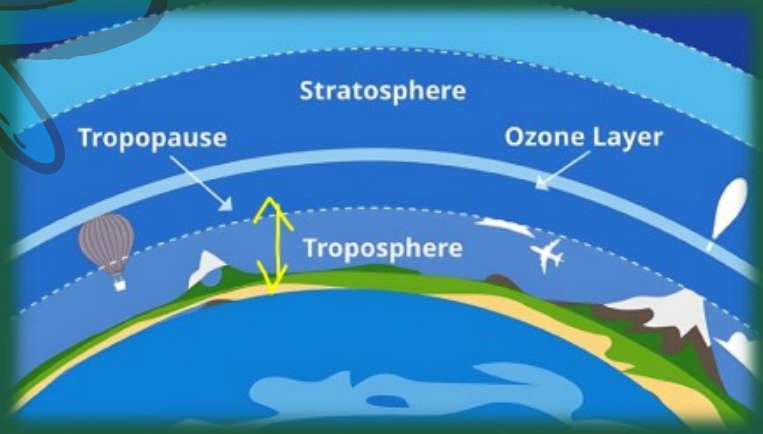
- Troposphere : layer closest to Earth's surface.
- Life exists in the troposphere.
- Weather forms here.
- Height: 6–18 km.



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- It is less thick at the poles (cold air contracts) and thicker in the tropics (warm air expands).
- We describe weather as hot, cold, rainy, cloudy, humid, snowy, windy, etc., based on how we experience its elements.

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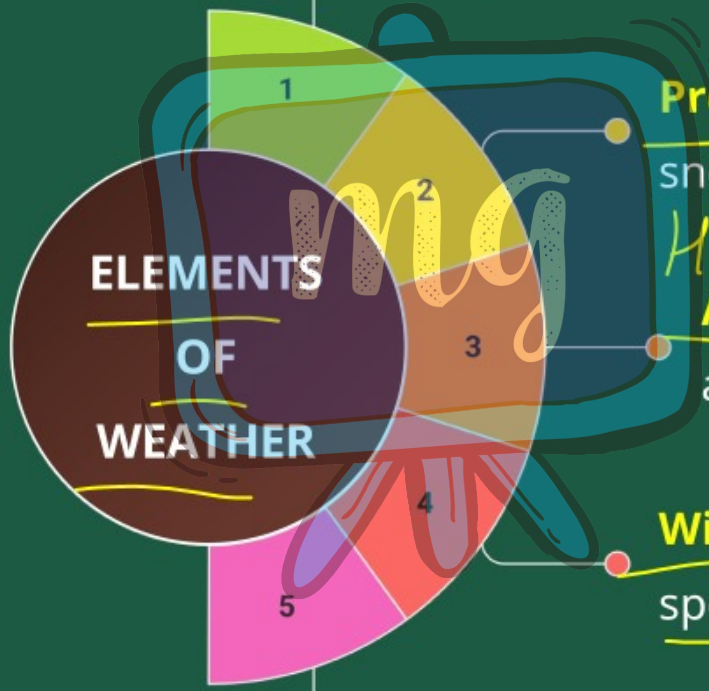

Temperature : How hot or cold the atmosphere is.

Precipitation : Water in forms like rain, snow, sleet, or hail falling from the sky.

HT-LP LT-HP

Atmospheric Pressure : Weight of air above us on the Earth's surface.

Wind : Movement of air, including speed and direction.

Humidity : Amount of water vapour in the air.

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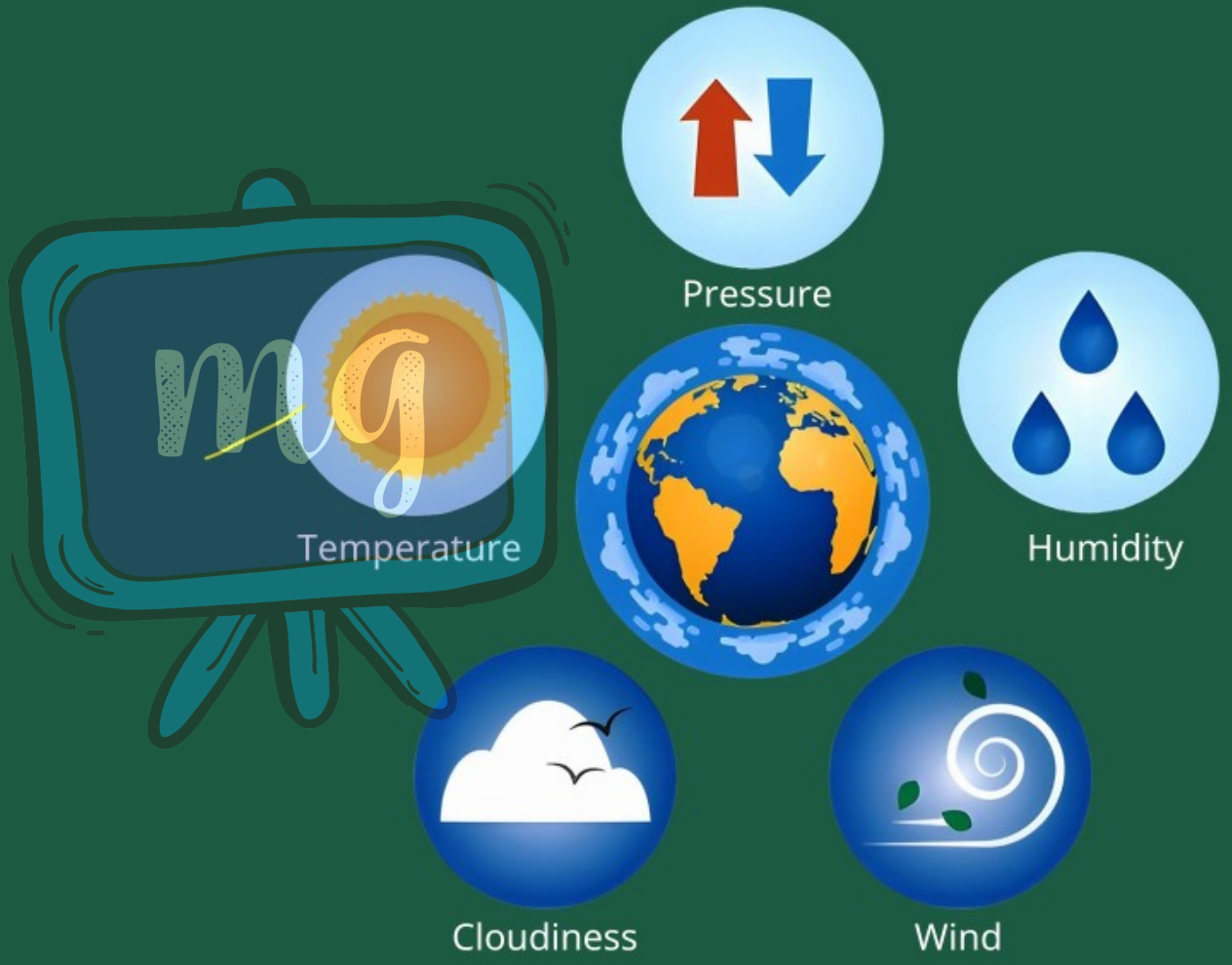
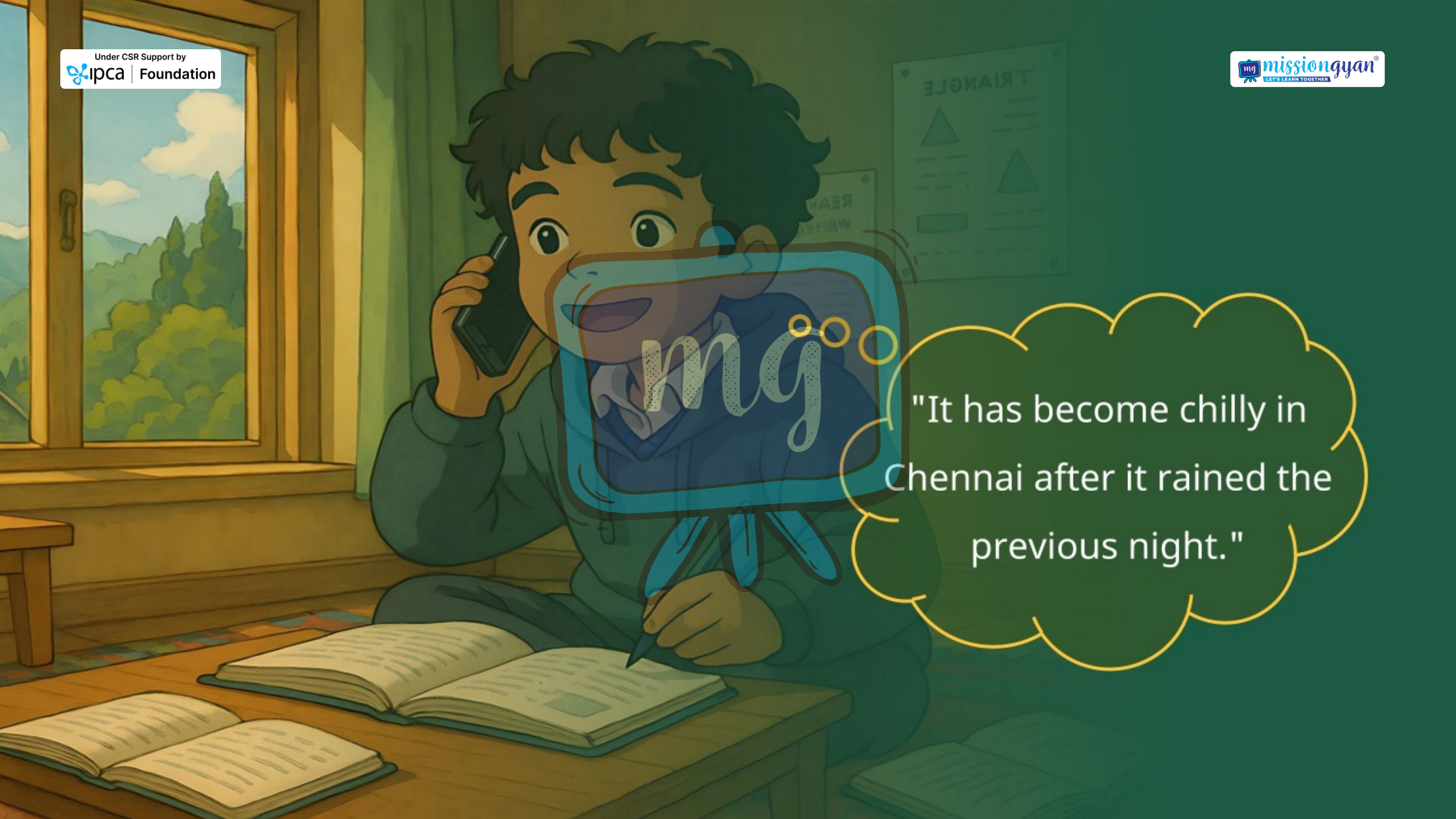



"How cold it is?"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"It has become chilly in Chennai after it rained the previous night."

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- Since early times, humans used nature's signs to predict weather.
- Signs included birds flying low, ants carrying eggs, squirrels gathering nuts, frogs croaking, and pine cones opening or closing.
- Such knowledge was passed down through generations.

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☛ Even today, many in India use traditional methods to predict weather, especially the monsoon.



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OBSERVING NATURE'S CLUES



1. Ants shifting eggs signals heavy rain.
2. Frog croaking in forests indicates rain.
3. Pine cones close in humidity and open in dry conditions to spread seeds.





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- Scientists developed precise methods to measure and monitor weather elements.
- Meteorologists use this data to predict weather for hours, days, or weeks.
- They rely on instruments, not guesswork.

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LEARNING OUTCOMES

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1. Weather
2. Elements of Weather
3. Observing nature's clues



1 How many kilometers does the troposphere extend?

A 8–20 km

B 9–18 km

C 6–18 km

D 5–20 km



2 In which zone do most of the meteorlogical events take place?

A Troposphere

B Stratosphere

C Ozone layer

D Mesosphere