

# CLASS -1



2

## In Search of the Source of Wind

**PLAY**

BIJU KK, HST GHSS TUVVUR, MALAPPURAM.



8 July 1497

Vasco da Gama started his voyage in four ships from the Port of Lisbon with a crew of 170. It was the longest voyage ever attempted in search of a country. They reached the coast of Brazil and from there they travelled to south east. The winds identified by Bartholomeo Dias aided Gama and took him to the southern coast of Africa. However Gama left the place due to disputes with the local government. He sailed past Mombassa and reached Malindi. On sighting Indian merchants there, he sought the help of a local navigator and set sail on 24 April 1498. With the help of the southwest monsoon winds, he reached Kappad near Kozhikode on 20 May after a voyage of 23 days. But Gama struggled a lot when he tried to return during the southwest monsoon season itself neglecting the advice of experts. It took him 132 days to reach Malindi!

*Handwritten signature: L. Rodrigues*

**PLAY**

# Atmospheric pressure

- **Atmospheric pressure is the weight of atmospheric air at the surface of the Earth.**
- **Winds are caused by atmospheric pressure fluctuations.**

# Variations in atmospheric pressure

- The average weight that air exerts on the earth's surface is 1034 mg per cm<sup>2</sup>.
- The atmospheric pressure is measured using an instrument called Mercury Barometer.
- It is recorded in units like millibar (mb) and hectopascal (hPa).
- The level of mercury at normal atmospheric pressure will be 76 cm.
- The atmospheric pressure at that point will be 1013.2 mb or 1013.2 hPa.

# Factors influencing Variations in atmospheric pressure

- **Altitude**
- **Temperature**
- **Humidity**



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# Atmospheric pressure and altitude

- The atmospheric pressure decreases with altitude.
- The pressure decreases at the rate of 1 millibar (mb) per an altitude of 10 meters.
- There is a decrease in atmospheric pressure in high altitudes, due to decrease in the density of air with altitude.
- The atmospheric pressure and the altitude are Inversely proportional.





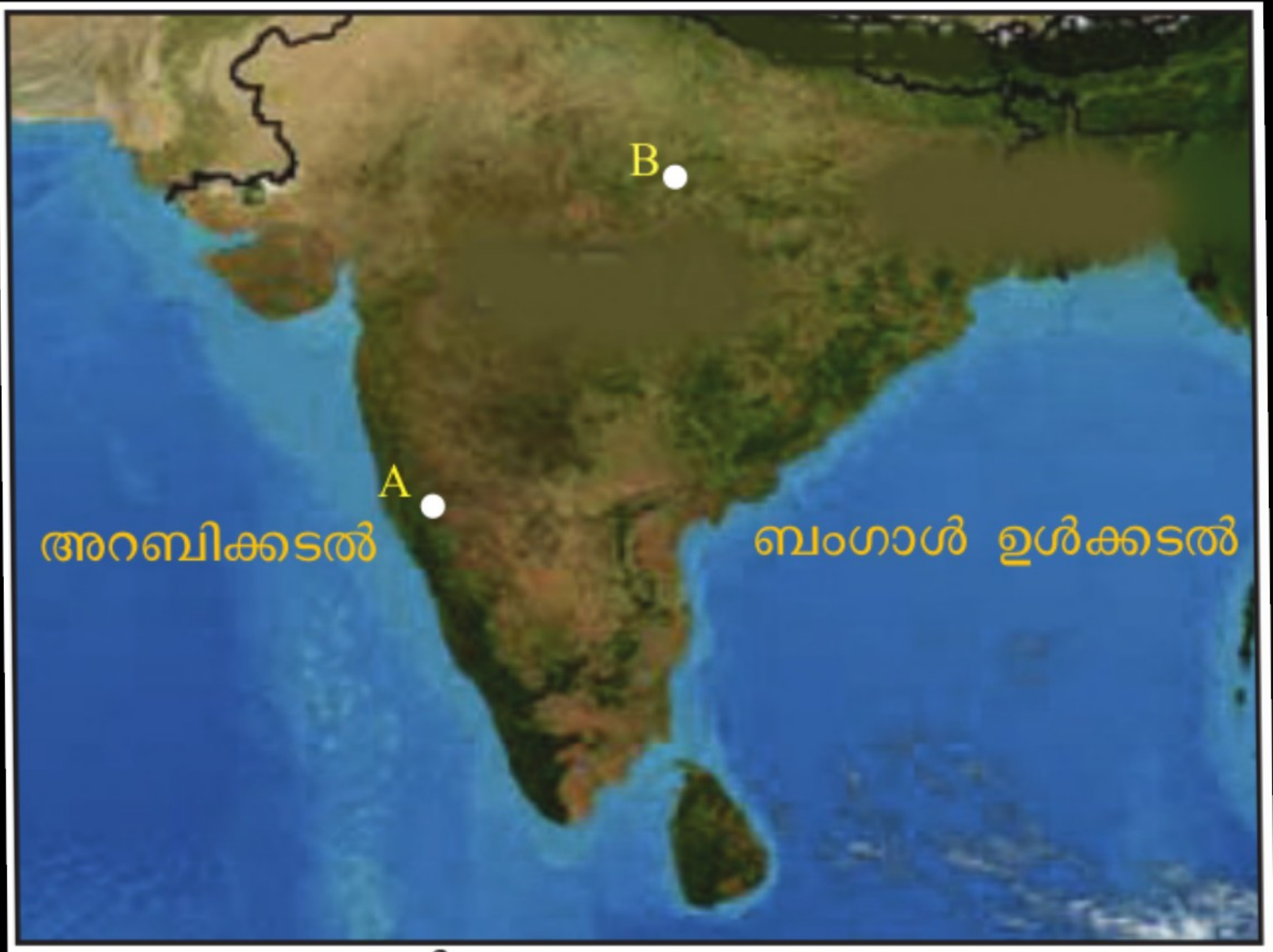
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# Temperature and atmospheric pressure

- When the air warms up, it expands and goes up.
- This causes a decrease in atmospheric pressure
- Heat and atmospheric pressure are inversely proportional.
- During the day the atmospheric pressure decreases as the result of the heat of the Sun.
- However, because of the lack of sunlight at night, atmospheric pressure increases.



# Humidity and atmospheric pressure

- Humidity is the amount of water (vapour) in atmospheric air.
- Vapour is lighter than air.
- If the quantity of water vapour is more in a unit Volume of air, then naturally the atmospheric pressure will be less.
- On the seashore, which receives plenty of sunlight, the humidity is high and the pressure is low.

- **In areas far from the sea, humidity is low and atmospheric pressure is high.**
- **Humidity and atmospheric pressure are inversely proportional.**

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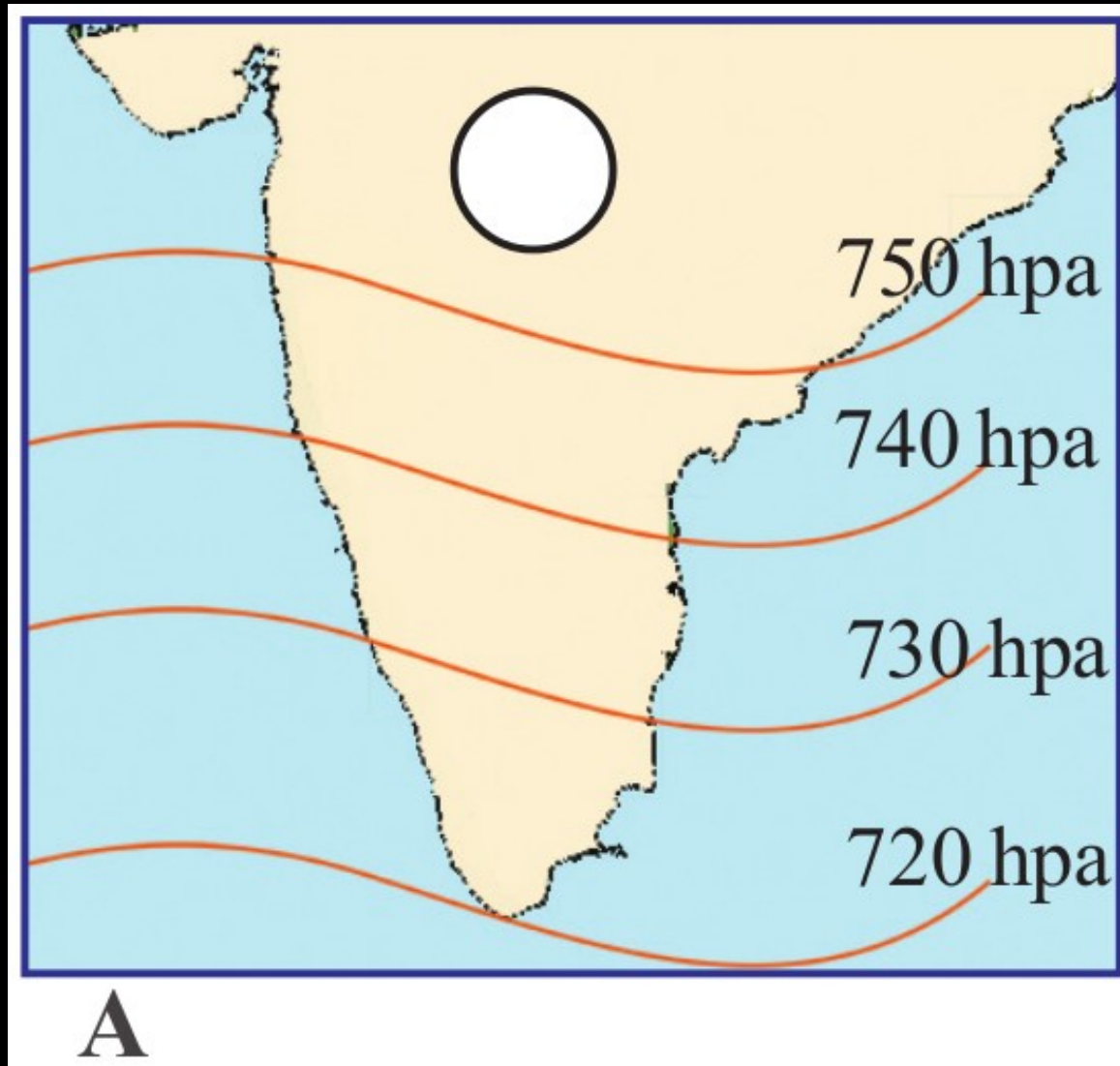
- **Altitude, temperature and humidity experienced in a region influence the atmospheric pressure.**
- **If the atmospheric pressure of an area is higher than that of the surrounding regions, it can be designated as 'high pressure' (High – H).**
- **And if the atmospheric pressure of an area is lower than that of the surrounding regions, it can be designated as 'low pressure' (Low - L).**

# Isobars

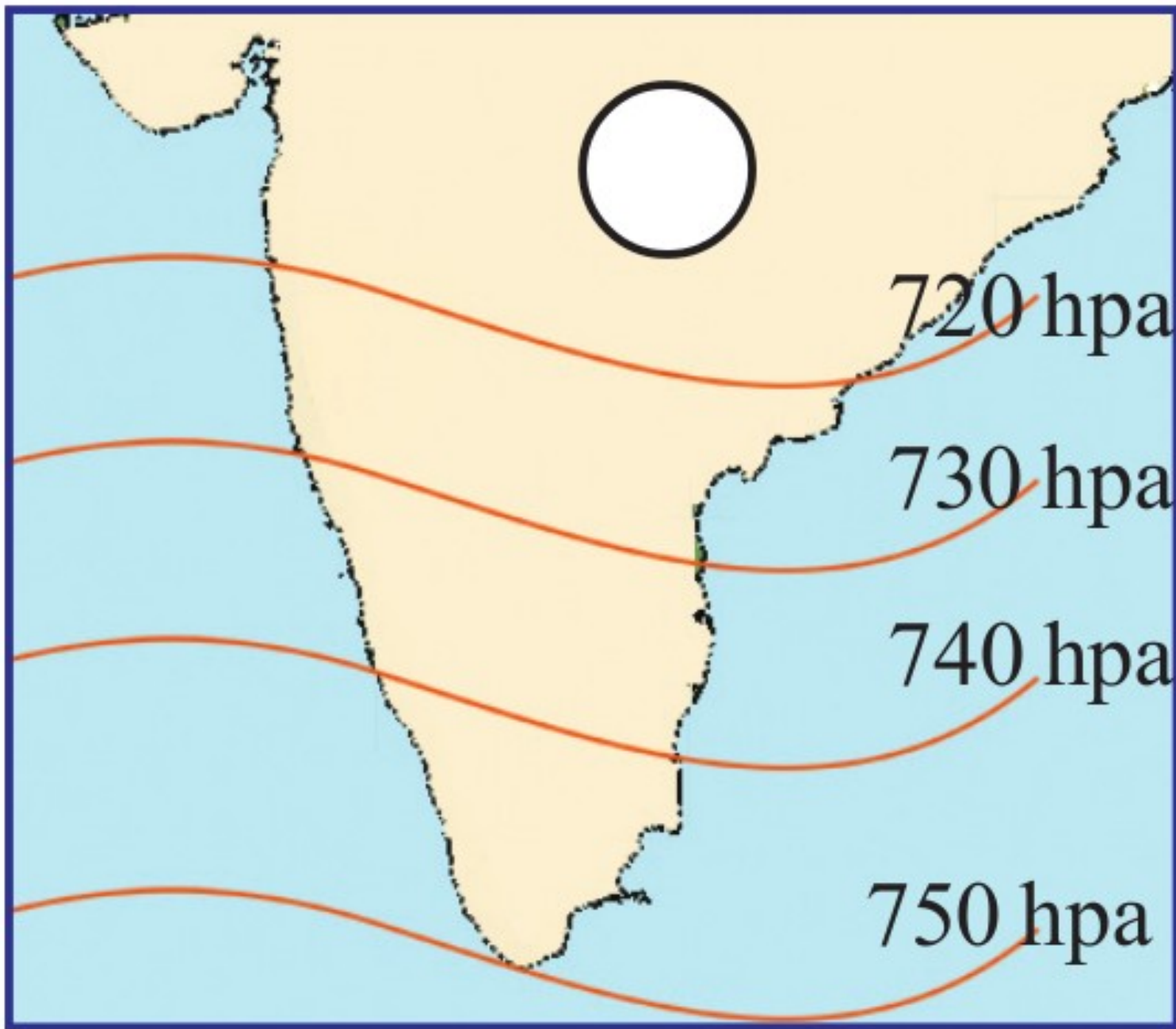
**-Isobars are the imaginary lines joining places having the same atmospheric pressure.**

**- We can easily understand the distribution of the atmospheric pressure of any region by observing the isobars.**

**-Observe the distribution of isobars in the given figure and mark the places experiencing high pressure and low pressure as H and L respectively**







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**ALL THE BEST**

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