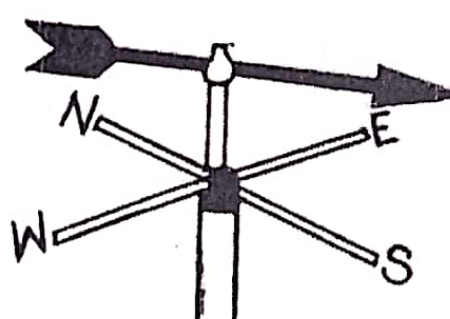


## Elements of weather / factors of weather/ weather makers

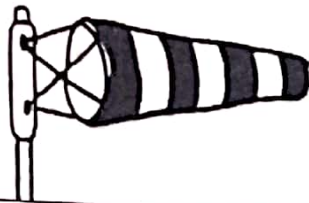
- Rainfall
- Cloud cover
- Wind
- Humidity
- Sunshine
- Air pressure/atmospheric pressure
- Temperature

## **WEATHER INSTRUMENTS**

⚡ These are tools used in measuring and recording the atmospheric conditions.

<b>Weather instrument</b>	<b>Importance</b>
<b>Wind vane / a weather cock</b> 	<ul style="list-style-type: none"><li>❖ It shows the <u>direction of wind</u>.</li><li>❖ A wind vane is placed in an open place or on top of buildings to prevent wind obstruction.</li></ul> <p><b>Note:</b></p> <ul style="list-style-type: none"><li>✓ An arrow of a wind vane usually points to the direction <b>from</b> which wind is blowing. <b>eg.</b></li></ul> <p><b>If an arrow of a wind vane is pointing to the North,</b></p> <ul style="list-style-type: none"><li>a) <b>From which direction is the wind blowing?</b><ul style="list-style-type: none"><li>- North</li></ul></li><li>b) <b>To which direction is the wind blowing?</b><ul style="list-style-type: none"><li>- South</li></ul></li></ul>

### A Windsock

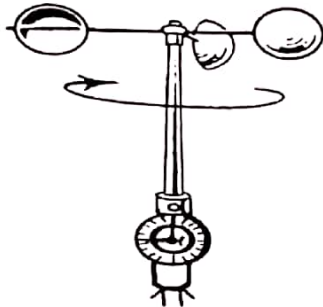


- ❖ It shows the strength of wind.
- ❖ It's usually found at the airports, air fields and at chemical plants.

#### Note:

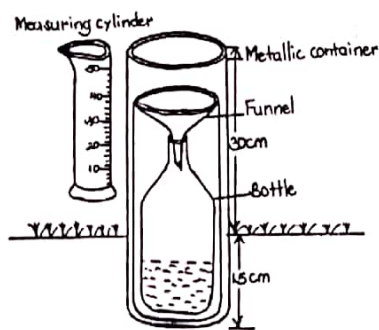
✓ A wind sock is **not** among the instruments of weather found at a weather station.

### An Anemometer



- ❖ It measures the speed of wind.
- ❖ It has cups which trap wind and rotate as wind blows into them.
- ❖ The speed of wind is measured in kilometres per hour (km/hr)

### A Rain gauge



- ❖ It is used to measure the amount of rainfall received in an area.
- ❖ It is always placed atleast 30cm above the ground to prevent splashes and flowing water on the ground from entering the rain gauge.
- ❖ It should be placed 15cm below the ground to prevent the evaporation of water collected and to make it firm.
- ❖ It is placed in an open flat place to prevent obstruction of rain drops from entering the funnel in order to take accurate measurements.

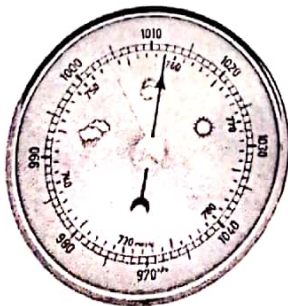
#### Importance of different parts of a rain gauge.

- ❖ The funnel-It directs water into the bottle.
- ❖ Water bottle-It collects the amount of rain water received.
- ❖ Measuring cylinder-It is used for measuring the amount of water collected in the bottle.

#### Note:-

✓ Rainfall is measured in **millimetres** in order to know the depth of rain water into the soil.

### A Barometer

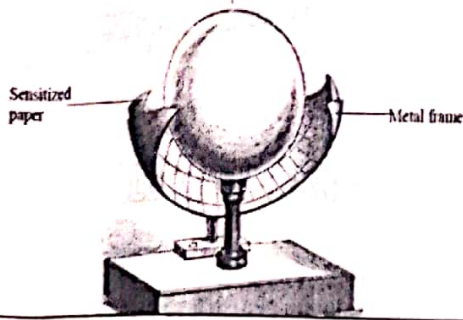


- ❖ It is used to measure air pressure.
- ❖ Air pressure is measured in millibars.
- ❖ Measuring air pressure enables experts to predict storms.



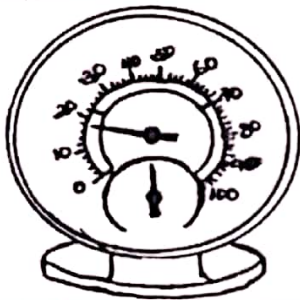
### A Sunshine recorder

A fixed round lens concentrates the sun's rays on one point



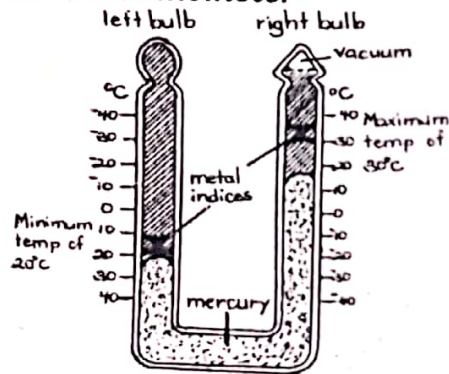
- ❖ It shows the duration of sunshine in a day.
- ❖ The duration of sunshine is measured in hours.

### Hygrometer



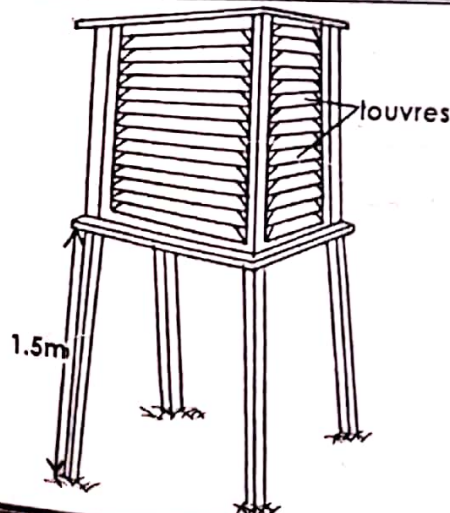
- ❖ It is used to measure humidity.
- ❖ Humidity is the amount of water vapour in the atmosphere.

### Six's thermometer



- ❖ It measures the highest and lowest temperatures of the day.

### A STEVENSON SCREEN



- This is a wooden box in which delicate weather instruments are kept at a weather station.
- It protects weather instruments from rainfall and direct heat.
- The Stevenson screen is made of louvres to allow free air circulation in the box.
- It is painted white to enable it reflect sunlight.
- It is raised 1.5m above the ground to keep it free from splash water.
- It is made of wood to prevent it from absorbing heat.

### Weather instruments kept in a Stevenson screen.

- Barometer
- Hygrometer
- Six's thermometer (Maximum and minimum thermometer).