

TOPIC 1: Uses of important types of maps

What is a map?

A map is a representation of a part or the entire surface of the earth on a plane surface such as a sheet paper. It provides the greatest amount of information on a group of features in terms of their relative size and position on that surface.

Maps are not based on any random information gathered with great accuracy through surveys made by geographers, scientists and cartographers or map makers. Maps come in different sizes and could be folded up or rolled or kept flat and straight.

→ Types of maps

Maps can be classified into two broad categories - on the basis of scale and on the basis of purpose.

On the basis of scale, maps can be classified further into a large-scale map and a small-scale map. A large scale map shows a small area in great detail while a small-scale map shows a big area with some details.

Maps can be put into different categories based on the purpose for which they are used. Some of the important ones are as follows:

- ↳ **Cadastral maps** : These are large-scale maps that show the boundaries of every field and plot of land in a particular area.
- ↳ **Physical maps** : These maps show the physical features of a region such as mountains, valleys, plains, rivers, plateaus and so on.
- ↳ **Political maps** : These maps show political boundaries of countries, state and districts, and the location of capital cities and other important cities.
- ↳ **Thematic maps** : These maps show either a particular theme, such as climate, vegetation, rainfall, and population, or show the relationship between one or more themes.
- ↳ **Topographical maps** : These are large-scale maps that show both natural features such as mountains, hills, rivers, lakes, plateaus, cliffs etc. and man-made features such as settlements, roads, railway tracks, wells, embankments and settlements. The most important feature of these maps is that the shape of the land is generally shown by contour lines.

TOPIC 2 : Directions & scales

↳ What are cardinal directions ?

Cardinal directions are the four basic directions - north, south, east and west. These four cardinal directions can be divided into sub-directions. These are north-east, south-east, south-west and north-west. These can be further divided into north-northeast, east-northeast, east-southeast, south-southeast, south-south west, west-southwest and so on.

↳ What is a scale ?

Every map has a scale. The scale is the ratio of the distance between two places on the map to the actual distance between the same two places on the ground.

↳ Types of scales :

- i). **Statement of scale :** When a scale is expressed in words, it is called a statement of scale.
- ii). **Graphic scale :** A graphic scale consists of a straight line which is divided into lengths that represent given distances on the ground. It is drawn near the lower portion of the map. The scale is divided into primary divisions which begin from the right hand side of 0. The left hand side of scale from 0 is subdivided into smaller equal divisions called the secondary divisions.

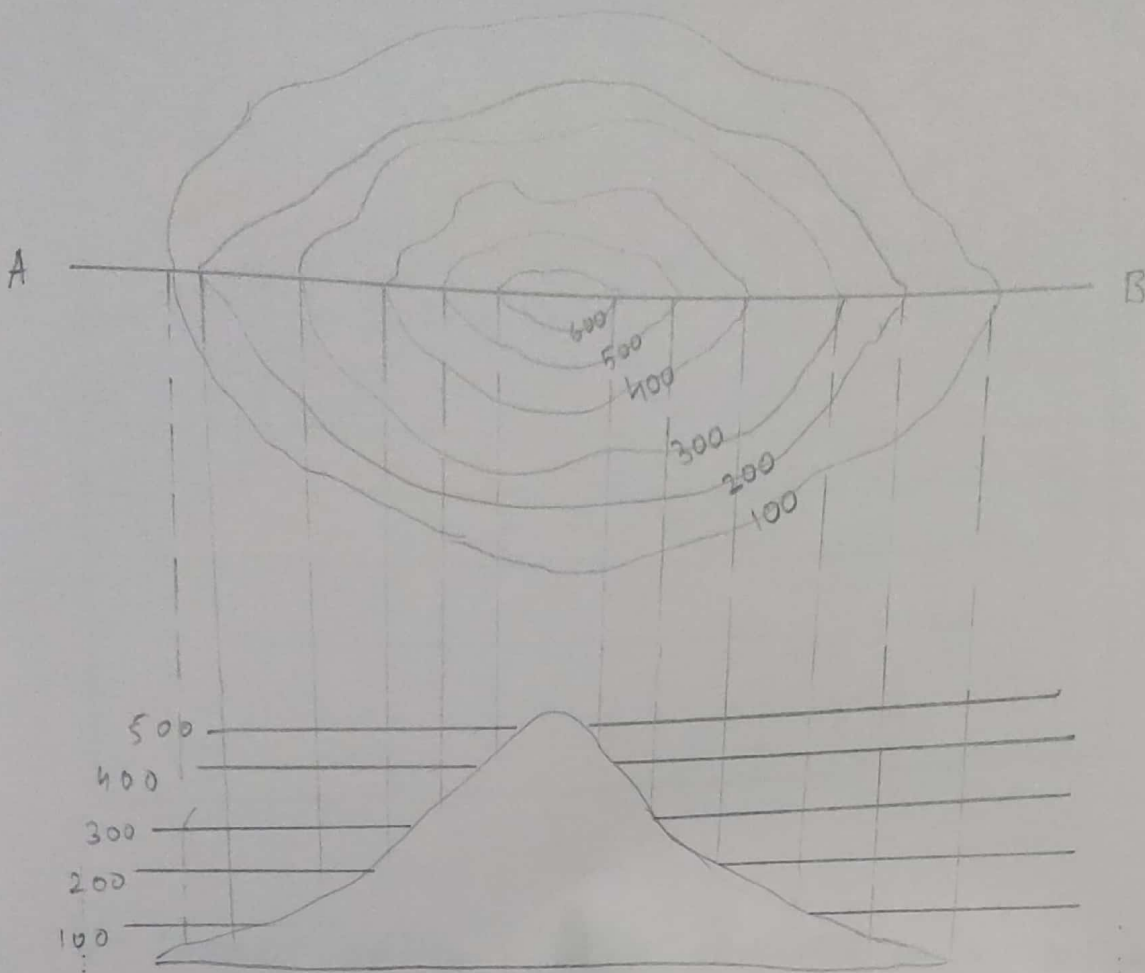
TOPIC 3 : Representation of relief through contours

→ What are the basic characteristics of contour lines ?

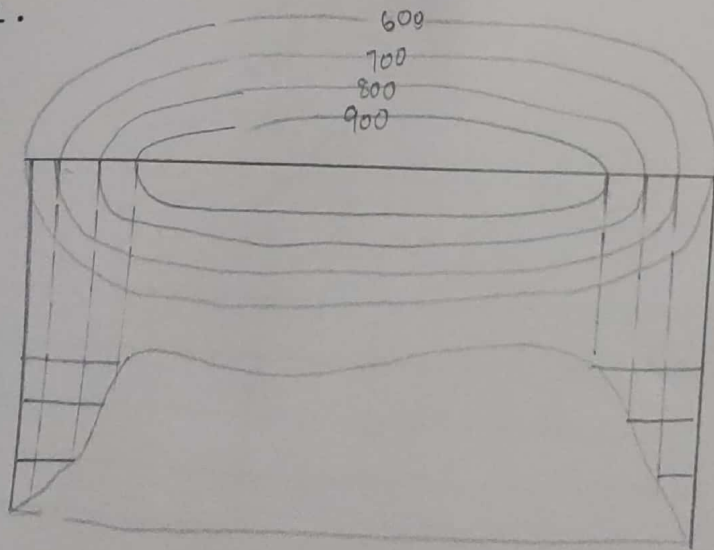
- Contour lines are drawn at fixed intervals such as 20 m, 50 m, or 100 m depending on the nature of elevation.
- Contour lines do not intersect one another but could meet and touch each other.
- Every contour line is marked with a number that indicates the height above sea level.
- The difference in values between two adjacent contour lines is known as contour interval. A contour interval is also called a Vertical Interval.
- The distance between any two contour lines is called the Horizontal Equivalent.
- If the contour lines are drawn close to one another, it indicates steep slope and if drawn far apart it indicates a gentle slope.

→ Contour diagrams of some simple landforms :-

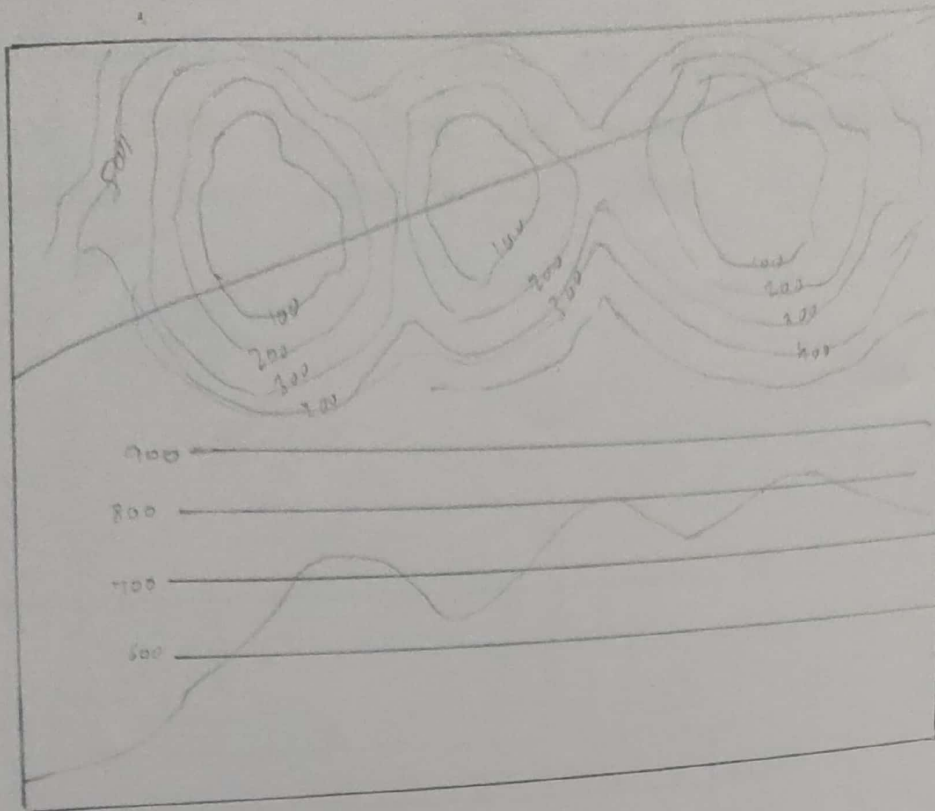
- i). Conical hill : The contour lines are evenly spaced in almost concentric circles.



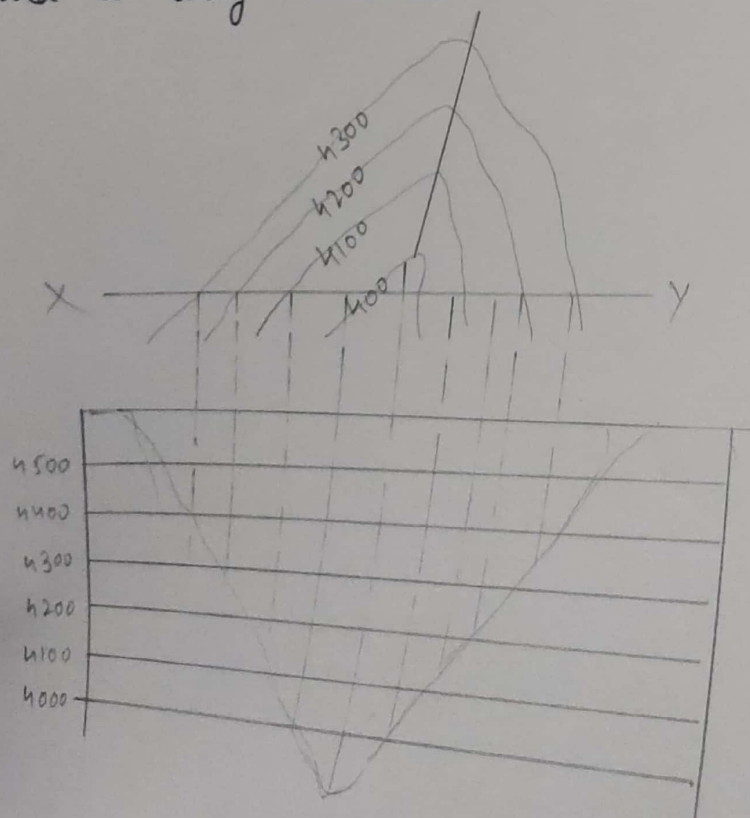
i). **Plateau :** On a contour map, plateaus are indicated by contour lines very close to each other on all sides, with none or very few lines at the centre.



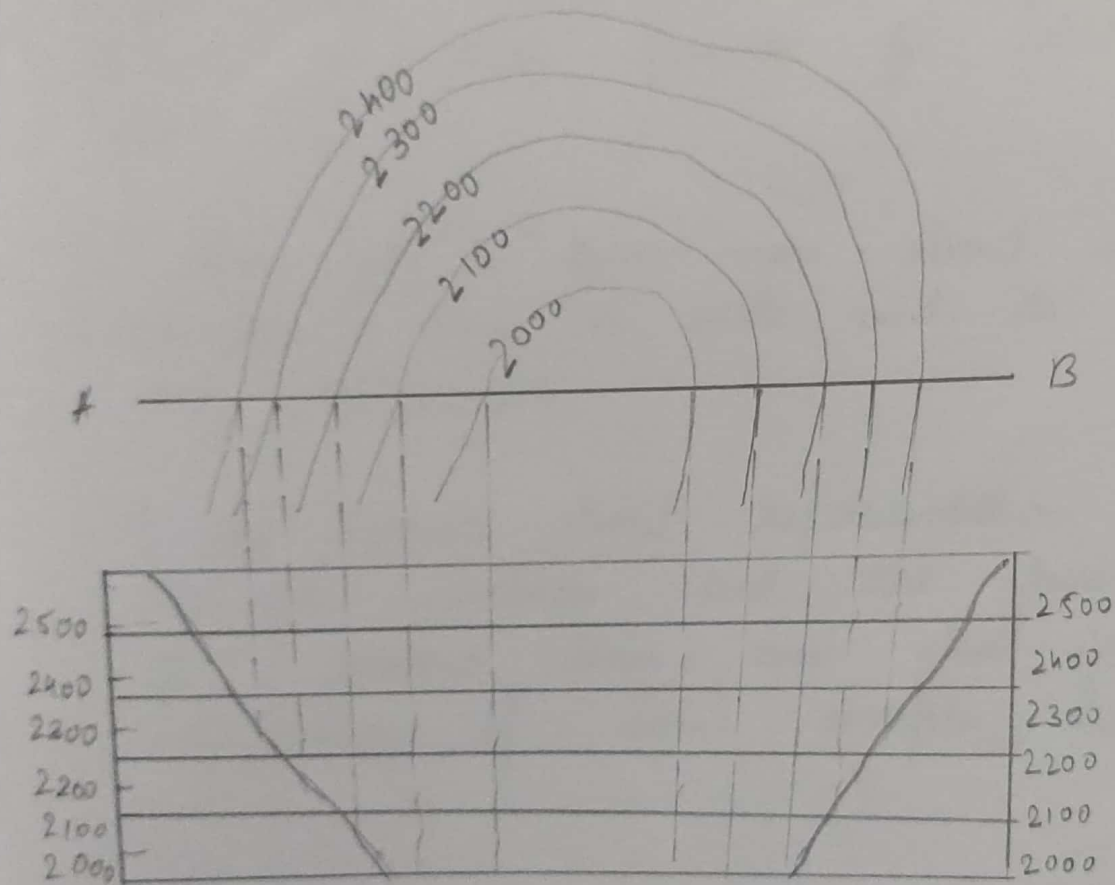
iii). **Ridge :** The contours of the ridge are elliptical with contours close to each other indicating steepness.



v). **V-shaped valley** : It is indicated on a contour map with the contour lines close to each other and a very dominant V.



v). **U-shaped valley** : These are identified on a contour map with the closed end more U-shaped and the contour lines close to each other.

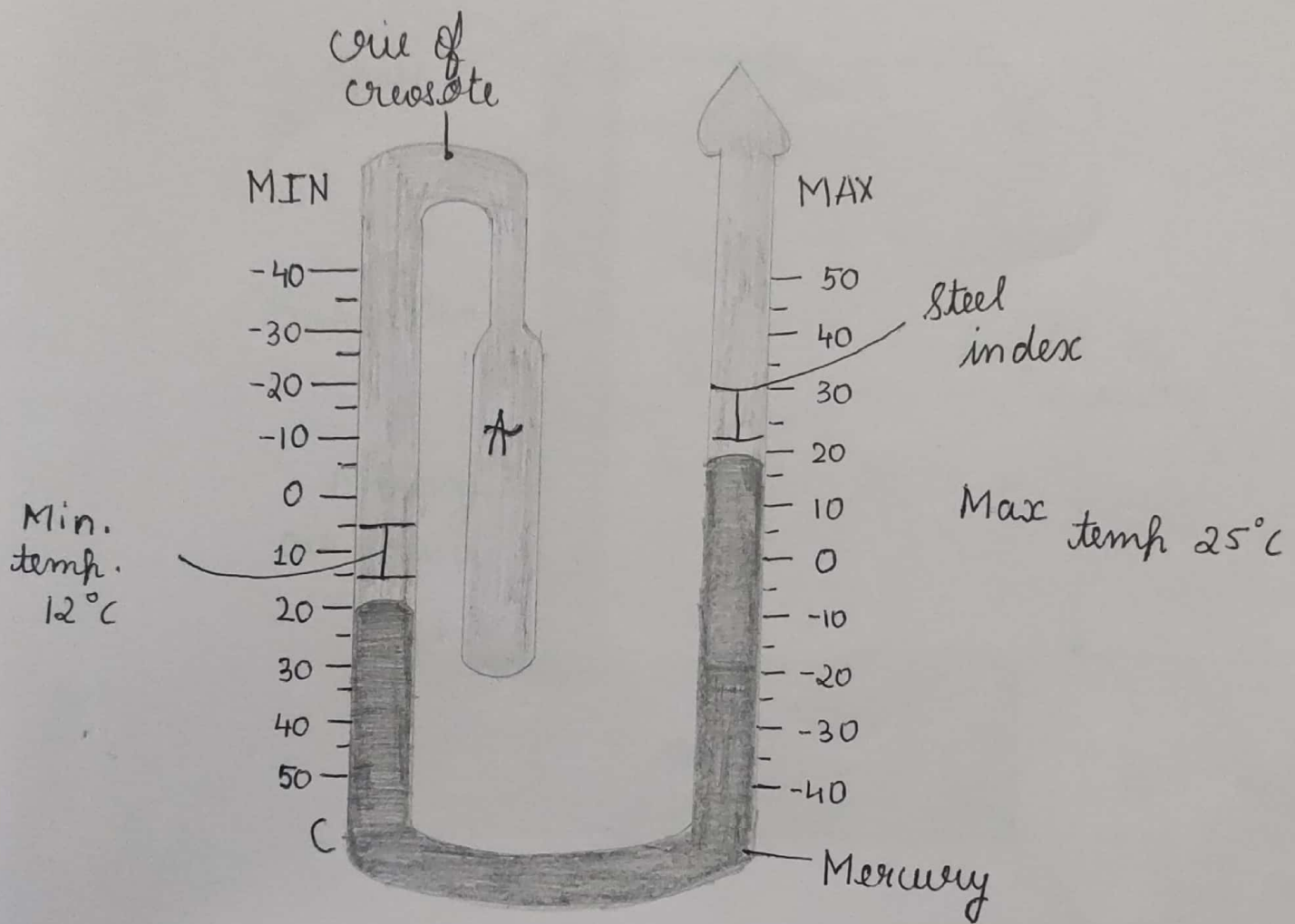


TOPIC: METEOROLOGICAL INSTRUMENTS

Draw Meteorological Instruments and write their uses :

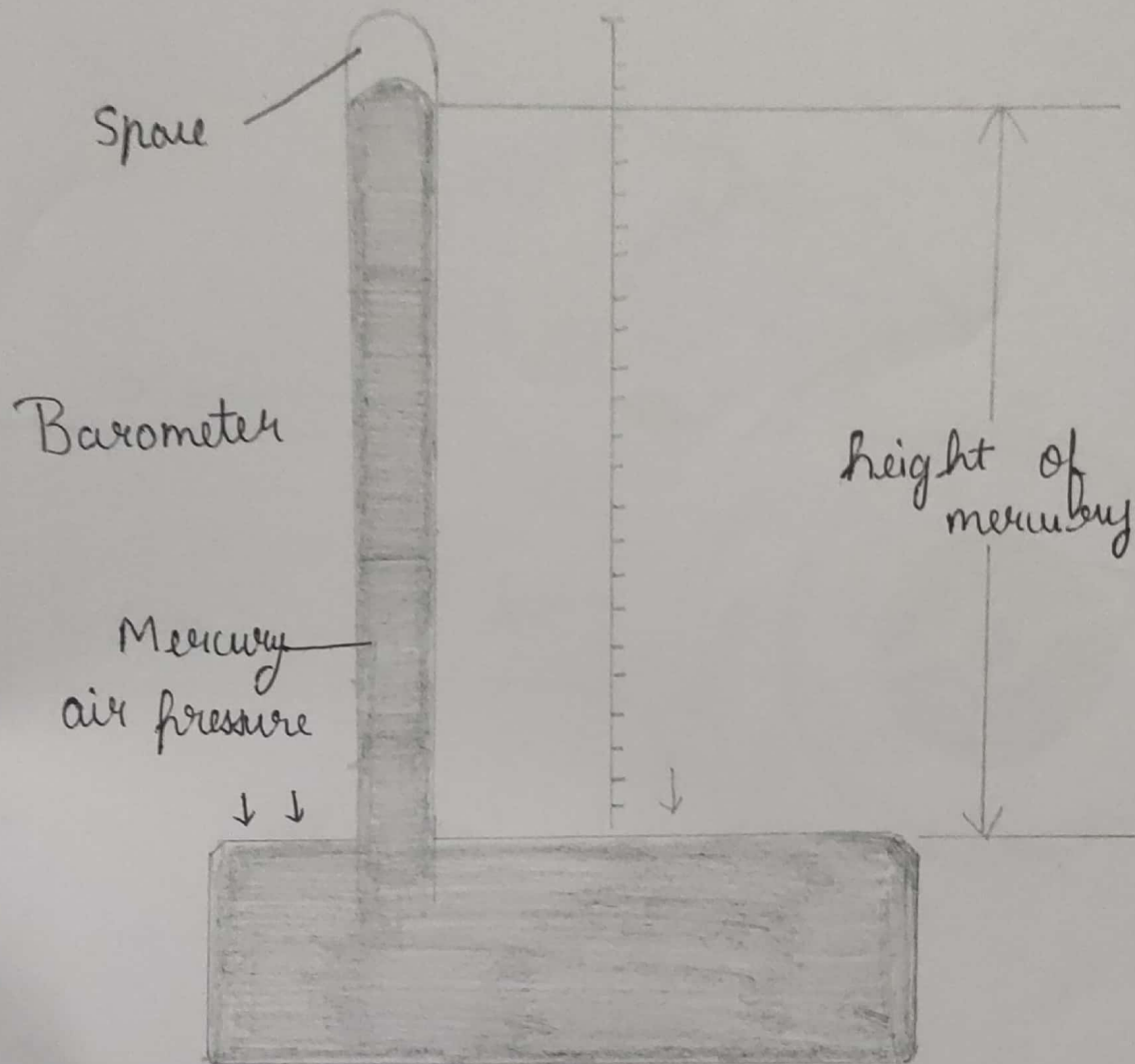
- Six's maximum and minimum thermometer
- Mercury barometer
- Aneroid barometer
- Wind vane
- Anemometer
- Rain Gauge
- Hygrometer

Six's MAXIMUM & MINIMUM THERMOMETER



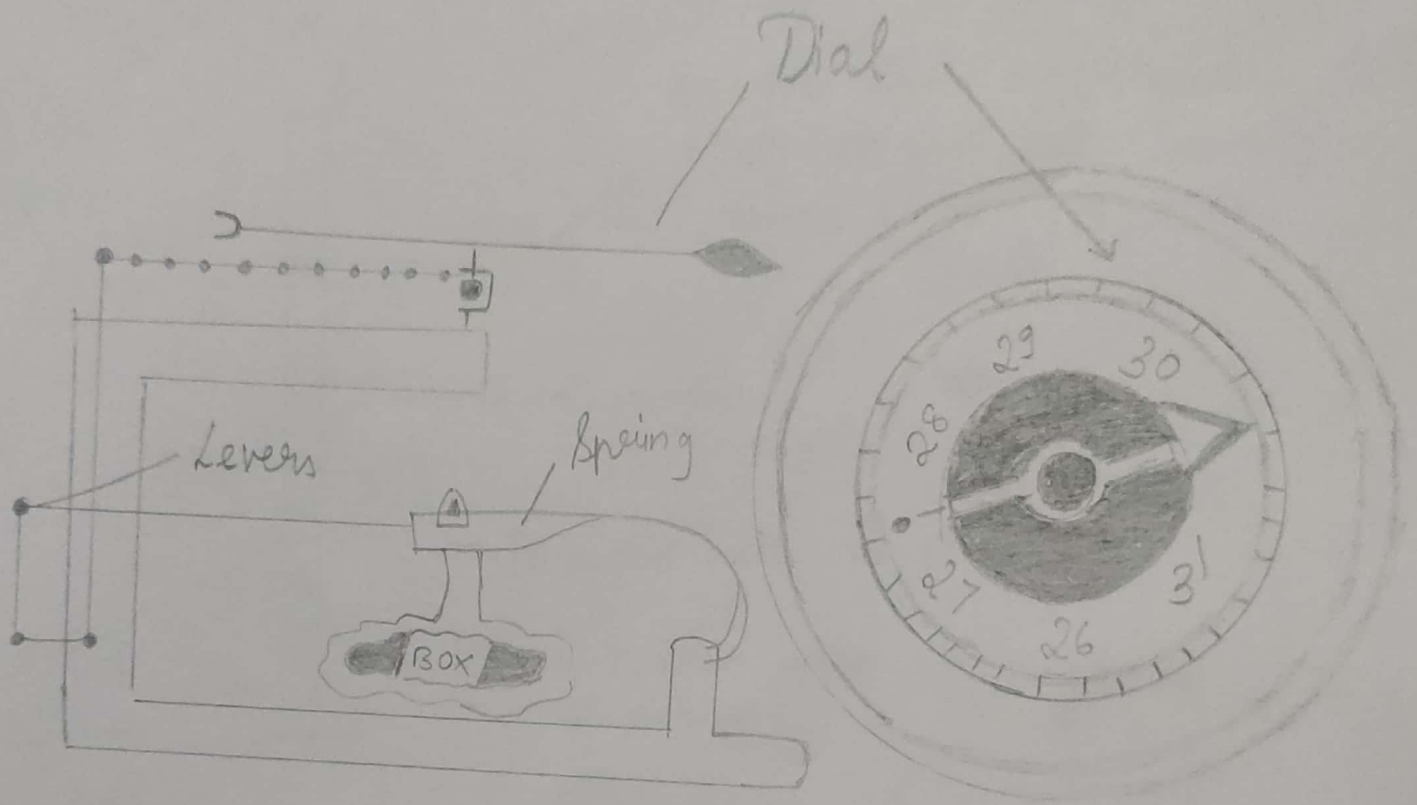
Six's thermometer is used where one wants to know the maximum or minimum temperature during a day. It indicates current temperature along with the highest and lowest temperature since it was last set. It is used to record extreme temperature at a location as meteorology, horticulture etc.

MERCURY BAROMETER



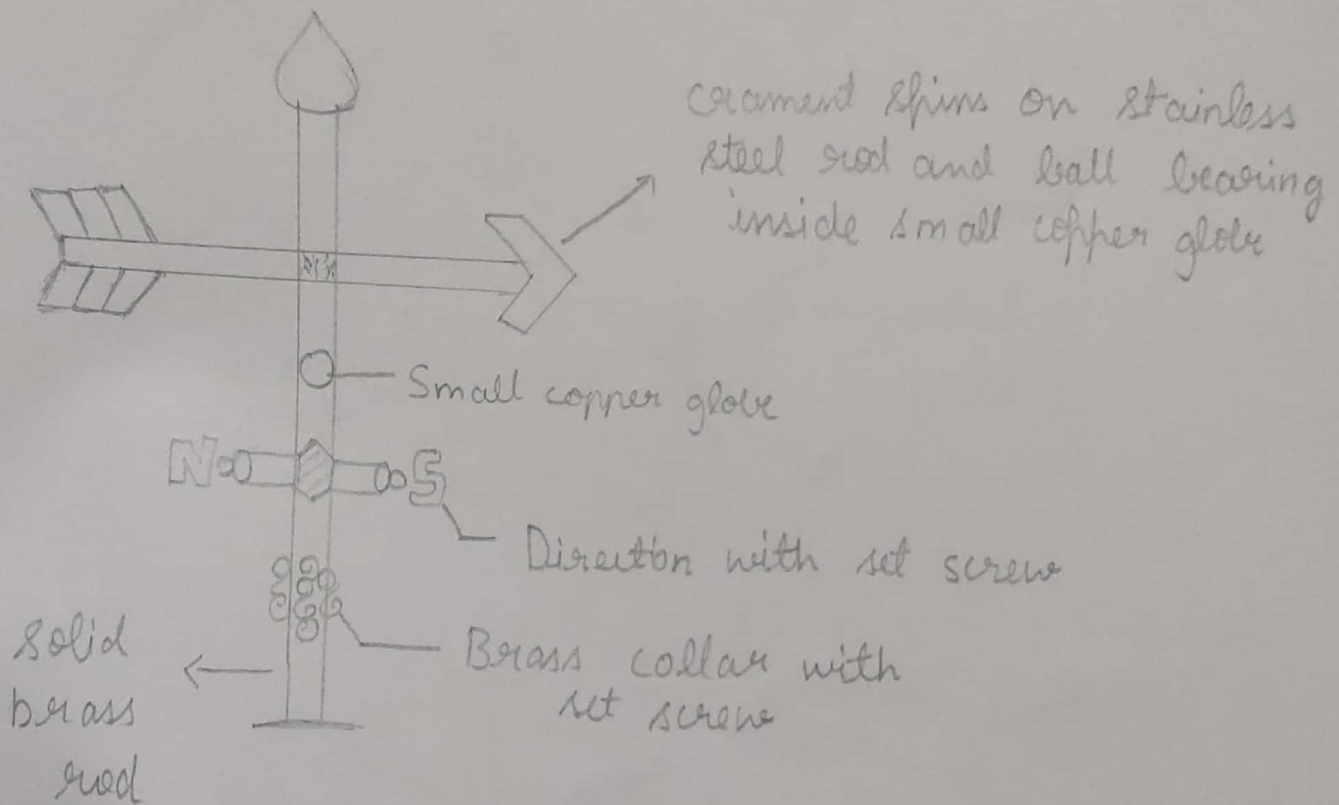
Barometer device is used to measure atmospheric pressure. Because atmospheric pressure changes with distance above or below sea level, a barometer can also be used to measure altitude. There are two main types of barometer: mercury and aneroid.

ANEROID BAROMETER



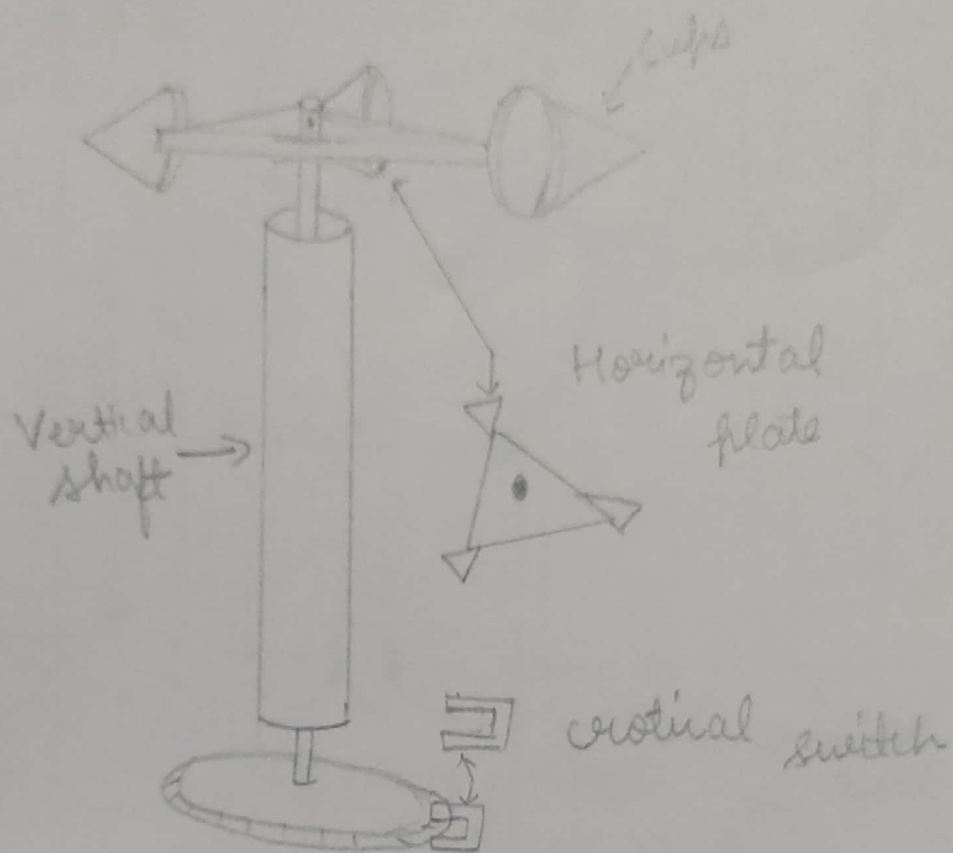
Aneroid barometers primarily measures whether pressure is rising or falling. This type of barometer can announce whether a high or low pressure system is coming or whether it is becoming more intense.

WIND VANE



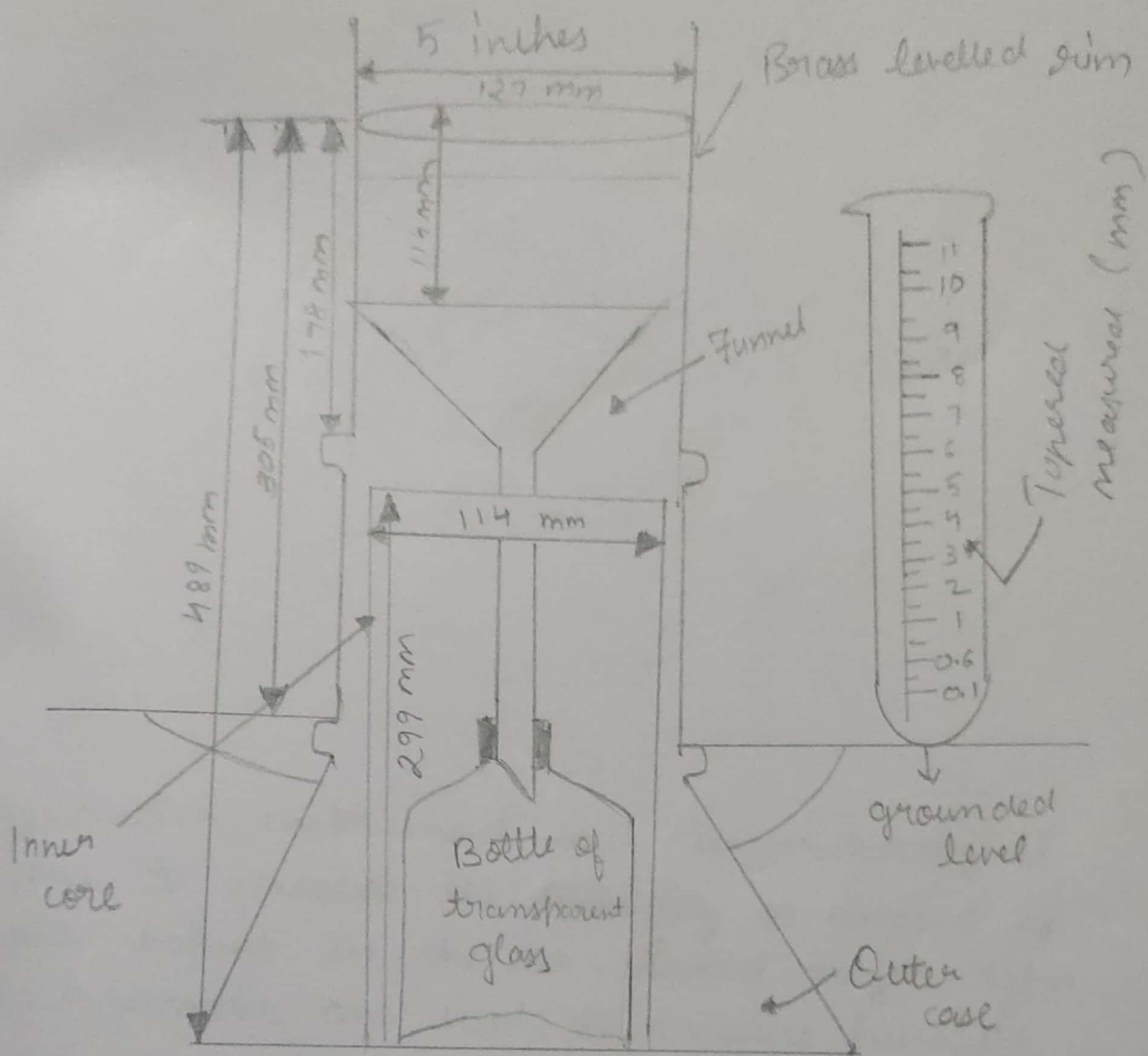
A weather vane, wind vane or weather sock is an instrument used for showing the direction of the wind. It is typically used as an architectural ornament to the highest part of building.

ANEMOMETER



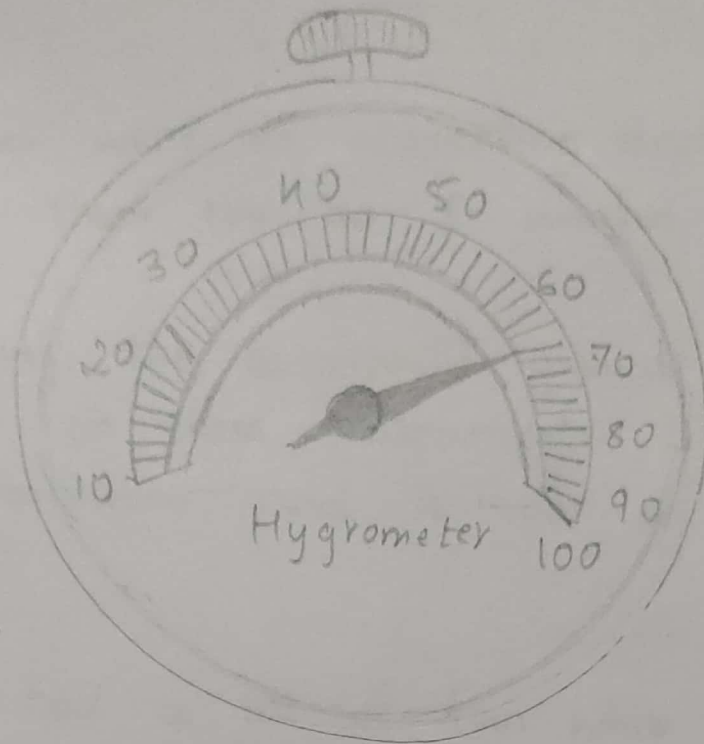
An anemometer is an instrument that measures wind, speed and wind pressure. Anemometers are important tools for meteorologists who study weather patterns. They are also important to the work of physicists who study the way air moves.

RAIN GAUGE



A rain gauge (also known as an udometer, pluviometer, or an ombrometer) is an instrument used by meteorologist and hydrologists to gather and measure the amount of liquid precipitation over an area in a predefined period line.

HYGROMETER



Hygrometer, instrument used in meteorological science to measure the humidity or amount of water vapour in the air. Several major types of hygrometer are used to measure humidity.