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# **CARDINAL POINTS & TYPES OF NORTH**

# **LESSON PLAN MR 1**

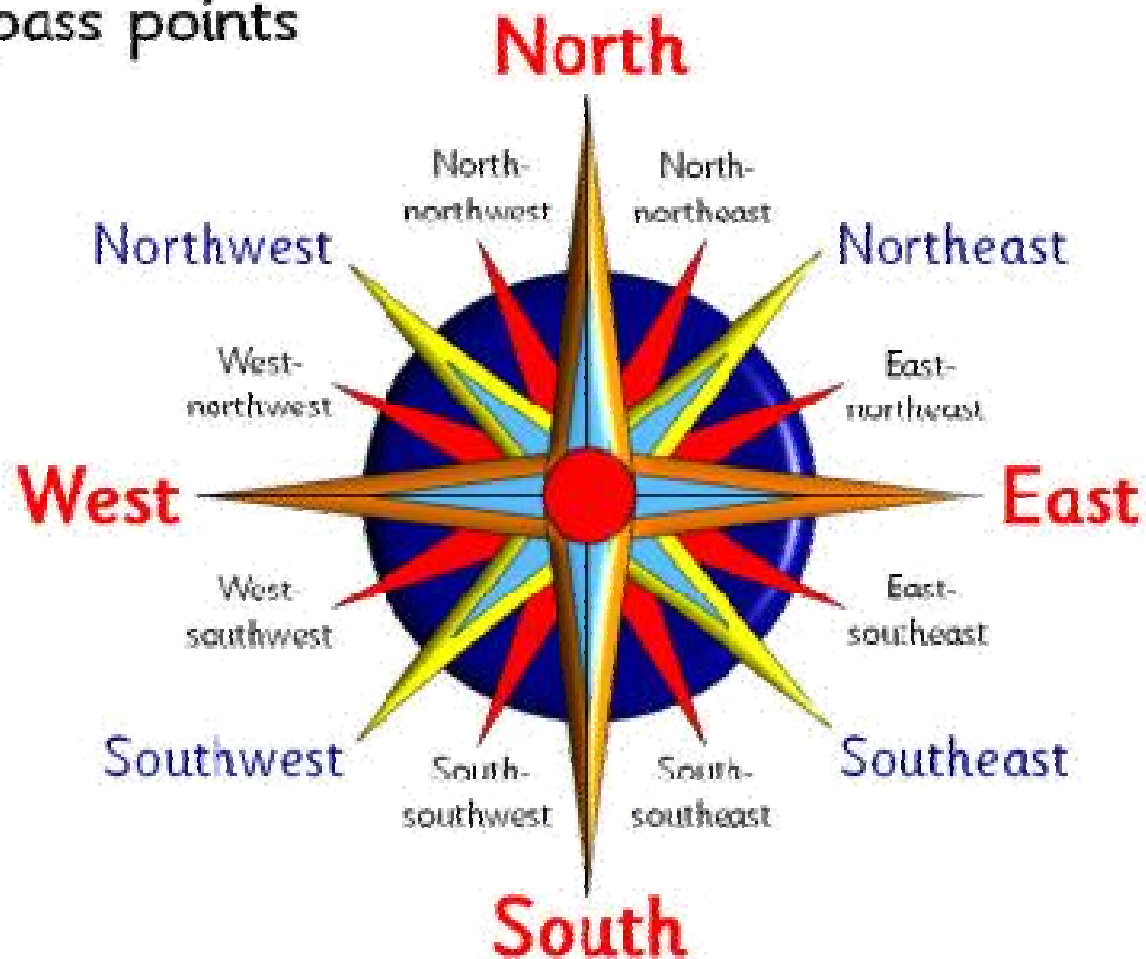
## **(Part 5)**

## **CARDINAL POINTS AND TYPES OF NORTH**

### **Cardinal points**

North, South, East and West are known as the cardinal points. If the North point is taken as zero degree, East will be 90 degrees, South will be 180 degrees, and the West point forms an angle of 270 degrees. In addition to four cardinal points and four intermediate four major directions, there are eight minor directions.

Compass points



**The names and degrees are as under**

- North North East – 22 ½ degrees
- East North East – 67 ½ degrees
- East South East – 112 ½ degrees
- South South East – 157 ½ degrees
- South South West – 202 ½ degrees
- West South West – 247 ½ degrees
- West North West – 292 ½ degrees
- North North West – 337 ½ degrees

## TYPES OF NORTH

There are three types of North

(a) True North

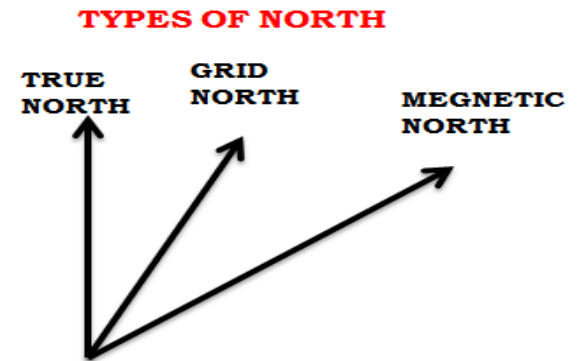
The direction of North Pole from the observer.

(b) Grid North

North as per the Grid on map.

(c) Magnetic North

It is the point to which a magnetic needle points When freely suspended.



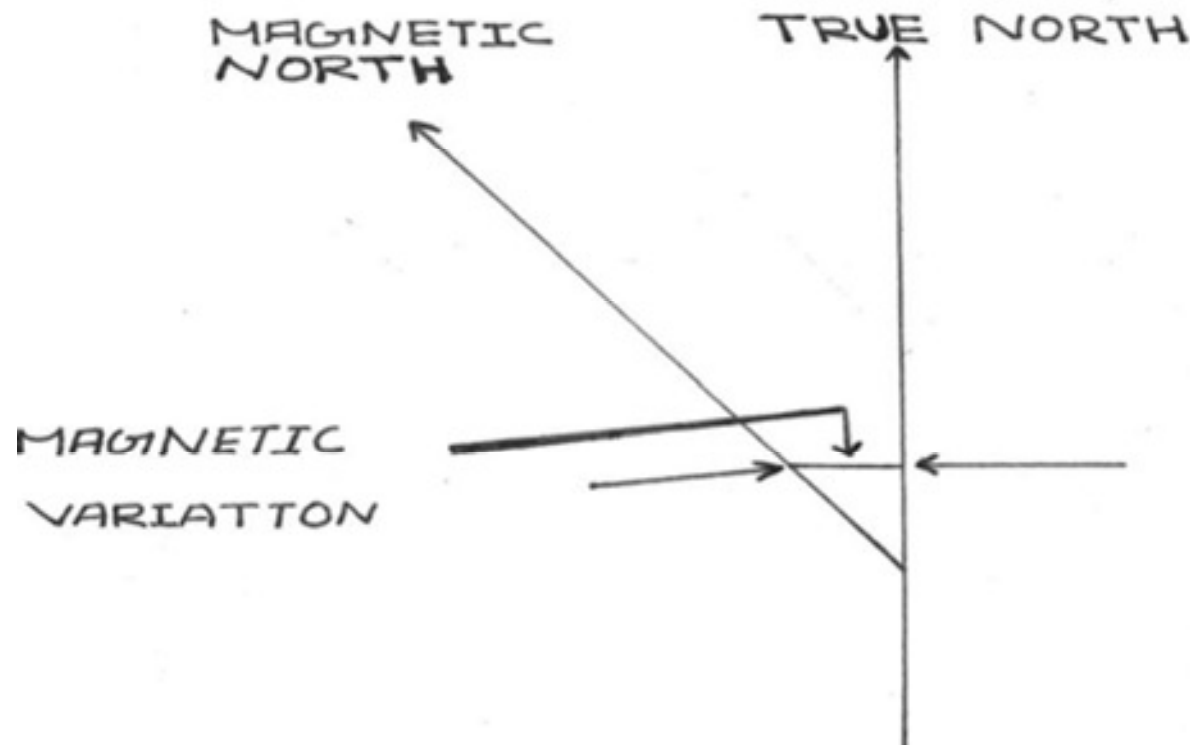
## **MAGNETIC VARIATION & GRID CONVERGENCE**

### **True North is Constant**

Magnetic North is the point to which the compass needle points. The needle does not point directly to True North, but a little West or East of True North. The point towards which the needle swings is known as Magnetic North and the difference between True North and Magnetic North is called Magnetic Variation. The amount of the Magnetic Variation depends upon two factors, time and place.



## Magnetic Variation



## Magnetic Variation

**Time.** The Variation is not constant but is, gradually changing and even the change each year is not constant but the difference being negligible it is taken to be constant. On the top margin of a map will be found a statement giving the Magnetic Variation. To bring this up-to-date, the year of issue of the map must be noted and for every year that has passed since then the applicable change annually subtracted or added from the figure given as applicable.

## Place

The amount of the Magnetic Variation also changes in different parts of the world and indeed in different parts of the country.

## Grid Convergence

The angular difference between Grid and True North is called the Angle of Convergence or the Grid Convergence.

**Conclusion:** Knowledge about Cardinal points and types of North is the first step towards learning map reading. This knowledge is necessary not only with respect to maintaining direction during navigation; but also comes handy in our other daily activities. A good navigator has the ability to quickly orient himself as per the cardinal directions almost naturally; this helps in getting a sense of direction and helps to find out our own position subsequently.

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**THANK YOU**



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