

# CHAPTER 1

## MAPS AND DIRECTIONS

### CONTENT

**Map** – A drawing of the whole earth or a part of it on a flat surface.

**Direction** – Direction is defined as the path that something takes, the path that must be taken to reach a specific place, the way in which something is starting to develop or the way you are facing.

### KEY TERMS:

**Atlas** A collection of different types of maps in the form of a book.

**Cardinal directions** The four principal directions - north, south, east and west.

**Fold** A bending of the earth's crust due to large scale earth movements.

**Globe** An object representing the spherical shape of the earth with a map of the world on its surface, usually on a stand so that it can be rotated.

**Sketch** A rough drawing showing the relative locations of a few chosen features in an area  
**Trough:** The dip of a fold.

Plans are drawn to scale and are very similar to maps. While a map shows a large area, a plan is normally drawn for a small area or a building.

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

Map scales are given in three different ways: verbal or statement.

## BOOK EXERCISES

### A. Explain the differences between each of the following pairs.

#### 1. An aerial photograph and a plan.

**Aerial photograph:** Photographs of the Earth is a part of it taken from a camera mounted on an aircraft or an artificial satellite.

**Plan:** A drawing that shows the horizontal section of a small area or building accurately.

#### 2. A globe and an atlas.

**Globe:** An object representing the spherical shape of the earth with a map of the world on its surface, usually on a stand so that it can be rotated.

**Atlas:** A collection of different types of maps in the form of a book.

#### 3. A sketch and a map.

**Sketch :** A rough drawing showing the relative location of a few chosen features in an area.

**Map:** A drawing of the whole earth or a part of it on a flat surface.

### B. Answer the following questions in brief.

#### 1. Define an atlas.

A collection of different types of maps in the form of a book is called an atlas.

#### 2. What do you understand by topographic maps?

Topographic maps (topos = place , graphy to describe )which give detailed information about local landforms , streams, rivers, canals,roads , building, structures, railways, tracks and other features of smaller areas.

#### 3. Which map would be most useful to army personnel when constructing a Bridge during a war?

Topographic maps are most useful to army personal when constructing a bridge during a war.

**4. How will you show the location of your house to a friend who is visiting You for the first time?**

I will show the location of my house to a friend by sketch at the first time.

**5. Differentiate between a plan and a sketch.**

Plan: A drawing that shows the horizontal section of a small area or building accurately.

Sketch: A rough drawing showing relative locations of a few chosen features in an area.

**EXTRA QUESTIONS:**

1. What are the advantages and disadvantages of using maps?

Advantages : They are easy to carry.

The curved surface of the earth cannot be represented accurately on a flat surface.

Disadvantages : They are in distort shape, size, distance, and direction.

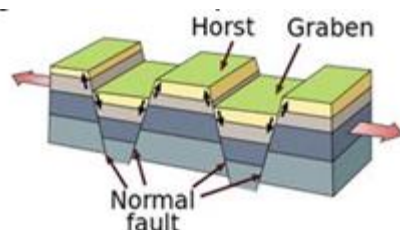
2. What is meant by anticline and syncline?

Anticlines are folds in which each half of the fold dips away from the crest.

Synclines are folds in which each half of the fold dips toward the trough of the fold.

3. Define Block Mountains formed due to sinking of the adjacent land with the help of diagram.

They are formed when large areas of land are broken and displaced vertically. The uplifted terms are known as horsts and the lowered ones are called graben. The Rhine valley and the Vosges mountains are examples of block mountains.



**OBJECTIVE TYPE QUESTIONS:**

**I. CHOOSE THE CORRECT ANSWERS :**

1. Which of these is shown in a thematic map?

a) Mountains. b) Rivers c) climate d) State capital.

**ANSWER :-** c) climate

2. A \_\_\_\_\_ is a three dimensional model.

a) Plan b) Globe c) Map d) Political.

**ANSWER :-** b) Globe

3. What are pictures taken from space called?

a) Map b) Aerial photographs c) Graphs d) Plans

**ANSWER :-** b) Aerial photographs

4. Which map shows a lot of details?

a) Political map b) Large Scale map c) Globe

**ANSWER :-** a) Political map

5. A person who draws maps is called a \_\_\_\_\_.

a) Doctor b) Policeman c) Cartographer. d) Pilot

**ANSWER :-** c) Cartographer

6. \_\_\_\_\_ map shows countries and states.

a) Aerial photography b) Plan c) Political

**ANSWER :-** c) Political

7. A map that does not show too much detail is called.

a) Political map b) Sketch c) Small scale map d) Globe.

**ANSWER :-** b) Sketch

**II. MATCH THE FOLLOWING:**

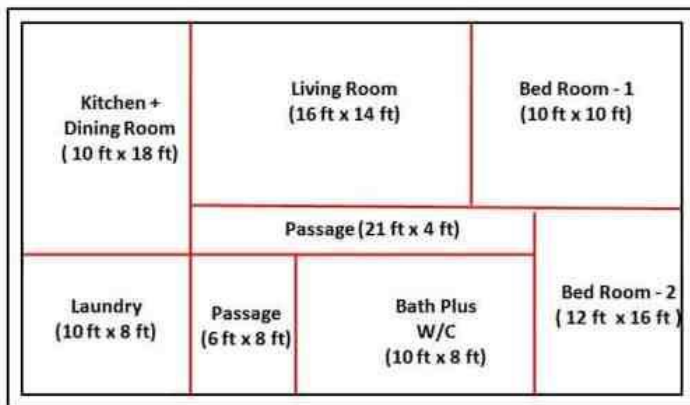
1	Atlas	Shows countries and cities	<b>5</b>
2	Globe	Shows small area like a school	<b>4</b>
3	Political map	Shows Rivers and Mountains	<b>3</b>
4	Plan	Collection of maps on paper	<b>2</b>
5	Physical map	Three dimensional shape	<b>1</b>

**WORKSHEET**

**Draw a plan of your house clearly showing the position of each room in relation to the others. On the plan, mark clearly the positions of doors, windows, and furniture.**



Example:-



## WORKSHEET

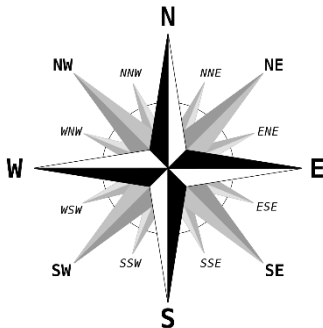
### C. PICTURE STUDY.

1. This is a photograph of the Earth at night.



- a) Do you know how this type of picture is taken?  
Yes, it is taken by satellite photography.
- b) What is used for to capture this picture?  
Drone cameras, Satellite cameras.

2. This tool is used to identify the direction?



A) What is the name of this tool? **ANSWER:-** Compass

B) Where is this tool mainly used? **ANSWER:-** Navigation and deep jungle.

## CHAPTER - 2

### THE ELEMENTS OF A MAP

#### INTRODUCTION:

In this chapter you will learn about the various elements of a map that are essential for understanding maps properly.

#### CONTENT

Map Elements There are five basic elements of a map. The main elements of maps are

- Title** – Inform us about the topic i.e., what the map shows
- North Line** – helps to find directions with respect to the North.
- Scale** – helps in calculating the distance between two places on the map.
- Legend or Key** – explains signs, symbols and colors used in map

Grid System – helps in locating places using latitudes and longitudes

- Measuring directions
- Map scale
- Measuring distances
- Conventional signs and symbols

Heat zones on Earth

- Torrid Zone.
- Temperate zone.
- Frigid Zone.

## **BOOK EXERCISES:**

### **D. ANSWER THE FOLLOWING QUESTIONS IN BRIEF.**

#### **1. What are the cardinal directions?**

Cardinal directions are the four principal directions – North, south , east and west.

#### **2. What is meant by the scale of a map?**

The scale of the map is the ratio between the actual distance on the ground and the distance shown on the map.

#### **3. Which three ways are used to represent the scale of a map?**

There are three primary ways to indicate scale on a map:

- Representative fraction
- Verbal scale
- Graphic scale bar.

#### **4. Convert the statement 1 cm = 100 km into an R.F. scale.**

1 km = 1000 m,                                      1 m = 100 cm

100 km =  $100 \times 1000 \times 100 = 1,00,00,000$  cm

Since RF = Distance on the map in cm

RF<sub>scale</sub> =  $1 / 1,00,00,000 = 1:100,00,$

#### **5. What method would you use to measure the length of a river?**

Twine method is used to measure the length of the river.

#### **6. What is a legend or key?**

Legend or key explains sign,symbols and colours used in the map.

#### **7. What are conventional signs and symbols?**

Conventional signs ans symbols are internationally recongonised sign and symbols used to show natural and man made features on maps.



**8. Name the features that are shown in blue, green, and brown colors on a map.**

Blue:- water bodies such as oceans, seas, bays, gulfs, lakes, rivers, streams.

Green:- Lowlands or plains, both coastal and those built by rivers.

Brown :- Hills, mountains, plateau.

**9. Name the line of latitude that divides the earth into the northern and southern hemispheres.**

Equator divides the Earth into northern and southern hemisphere.

**10. What are the latitudinal and longitudinal extents of India? Use your atlas to find the answer.**

India lies to the north of the equator between  $6^{\circ} 44'$  and  $35^{\circ} 30'$  north latitude and  $68^{\circ} 7'$  and  $97^{\circ} 25'$  east longitude.

**E. ANSWER THE FOLLOWING QUESTIONS IN ONE OR TWO PARAGRAPHS.**

**1. What are the five different elements of a map? Explain them briefly?**

There are five different elements of a map that can explain it briefly

- Title
- Grid
- Legend
- Scale
- Compass

**2. Explain the functions of the north line and legend on a map.**

- The direction on a map is measured with the help of the north line.
- All maps have a key or a legend that explains the colours, signs and symbols used in them.
- The equator  $0^{\circ}$  latitude divides the earth into the hemispheres - the northern and the southern hemispheres.
- All lines of latitude are measured from the equator.

**3. What is the difference between the cardinal directions and the intermediate directions? Draw a diagram to show the intermediate directions.**

The four main points of a compass north, south, east, and west are the cardinal directions. They are also known by their first letters: N,S,E, and W. The directions on the compass that are in between the cardinal points are called northeast, southeast, southwest, and northwest. These are called intermediate directions.



**4. Describe any two ways of representing a map scale.**

Verbal or statement scale :- This scale is started in words. The units are Usually mentioned in this type of scale. For example 1 cm = 6 km or 1 cm to 6 km.

Graphical or Linear scales : This scale consists of a straight line which is divided into lengths that represent given distances on the earth's surface.

**5. Why is the key or legend an important element of a map?**

Legend or keys is an important features of a map, because it explains the colours, signs and symbols used in the map .

**6. Explain why colors are used in maps?**

Colours play a significant role in maps , they make maps attractive to look at and easy to understand and interrupt.

**7. What are lines of latitude? Give examples?**

Latitudes are the East and west horizontal lines. The important latitudes are :

Equator -  $0^{\circ}$

Tropic of cancer -  $23\frac{1}{2}^{\circ}$  N

Tropic of Capricorn -  $23\frac{1}{2}^{\circ}$  S

The Arctic Circle -  $66.5^{\circ}$  North

The Antarctic Circle -  $66.5^{\circ}$  South.

## 8. What is the grid system? Why is it important?

The grid system helps align page elements based on sequenced columns and rows. We use this column-based structure to place text, images, and functions in a consistent way throughout the design. Every element has its place that we can see instantly and reproduce elsewhere.

### EXTRA QUESTIONS:

#### 1) Name the two most important lines of longitude?

1. Prime Meridian = Longitude  $0^\circ$  (Greenwich Meridian). 2. International Date Line (Longitude  $180^\circ$ ).

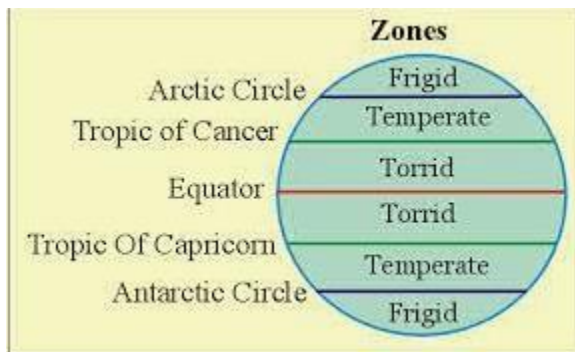
#### 2) What is the important part of map work? Mention its methods.

Measuring distance is the important part of map work.

Measuring along curved lines

Measuring along straight line

#### 3) Draw the major zones of the globe.



## WORKSHEET

### OBJECTIVE TYPE QUESTION:

#### I. CHOOSE THE CORRECT ANSWER:

1. For what purpose magnetic compass is used ?

- a) For measuring distance.
- b) For showing symbols
- c) For finding the directions.

**ANSWER :-** c) For finding the directions.

2. Yellow colour is used for showing \_\_\_\_\_

- a) Plateaus. b) Water bodies. c) Mountains. d) Plants.

**ANSWER :-** d) Plants

3. What is Physical map ?

- a) Showing natural features of the Earth.
- b) Showing cities , towns and villages with boundaries.
- c) Showing rainfall , Distribution of forests etc.
- d) None of the above .

**ANSWER :-** a) Showing natural features of the Earth.

4. The maps showing distribution of crops are \_\_\_\_\_.

- a) Small scale b) Physical. c) Thematic. d) Political

**ANSWER :-** c) Thematic

5. Which of the following is not an intermediate direction?

- a) North- South b) South – east c) North – east d) North – west

**ANSWER :-** c) North – east

## II. Complete the statement :

1. A map showing boundaries of countries is known as a **ANSWER :- Political maps**.
2. The four cardinal directions are **ANSWER :- North, east, south, and west**
3. A book of maps is called **ANSWER :- Atlas**
4. How are maps more helpful than a globe?(write any one point) **ANSWER :- A globe can be useful when we want to study the earth as a whole.**
5. What are the various components of a map? **ANSWER :- Distance, direction and symbol.**

**D. Look closely at the political map of India in your atlas and make a note of your observations and calculations in your notebook.**



### 1) What is the scale of the map?

A scale is the ratio between the distance on a map and the actual distance on the ground.

**2) Calculate the N-S and E-W extents of India.**

The east-west extent of India is 2933 & north-south is 3214.

**3) Using the scale, calculate the distance between Delhi and Kolkata, Chennai and Thiruvananthapuram, and Mumbai and Panaji in kilometers.**

1 cm = 61 km Delhi and Kolkata

24 cm =  $24 \times 61 = 1464$  km Chennai and Thiruvananthapuram

10.3 cm = 628 km appropriate Mumbai and Panaji 6.50 cm = 6.5 ...

**E. PICTURE STUDY**

**Study the diagram alongside and fill in the blanks with appropriate directions:**

Example: A lies to the north-west of B.

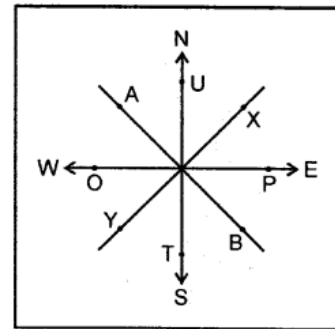
T lies to the SOUTH of U.

P lies to the EAST of O.

O lies to the WEST of P .

Y lies to the SOUTH WEST of X.

U lies to the NORTH of T.

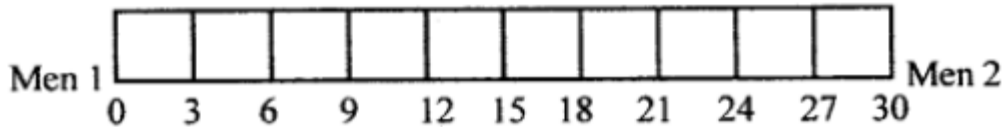


# WORKSHEET

## PRACTICAL WORK

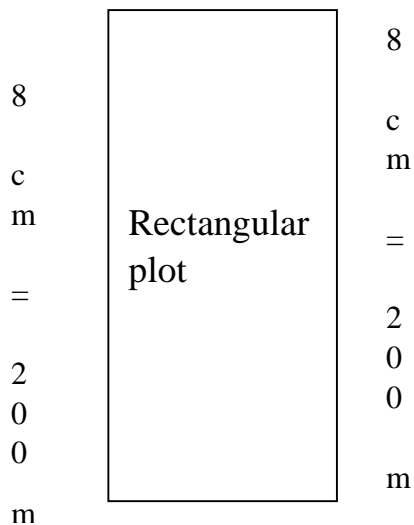
1. Draw a linear scale to show two men standing 30 m apart. Use the scale 1 cm = 3m.

Use the scale 1 cm = 3m.



2. A rectangular plot of length 200 m and width 125 m was bought by a businessman to set up a cosmetic factory. Draw this plot reduced to size using the scale 1cm = 25m. Show your work in class.

$$5 \text{ cm} = 125 \text{ m}$$



$$5 \text{ cm} = 125 \text{ m}$$