

## CHAPTER – 14 WATER – MODULE 1 -HANDOUT

### WHAT IS WATER?

- A SUBSTANCE COMPOSED OF TWO ELEMENTS HYDROGEN AND OXYGEN.
- FORMS THE BASIC BUILDING BLOCK OF ALL LIFE ON EARTH.
- MOST PLENTIFUL NATURAL RESOURCE ON OUR EARTH.

### PROPERTIES OF WATER

- COLOURLESS
- ODOURLESS
- TASTELESS
- CAN TAKE THE SHAPE OF ANY CONTAINER
- EXISTS IN ALL THE THREE FORMS NAMELY SOLID LIQUID AND GAS

### WHY DO WE REQUIRE WATER?

- EVERY DAY ACTIVITIES REQUIRE WATER
- DRINKING
- BRUSHING
- TAKING BATH
- WASHING UTENSILS
- WASHING CLOTHES
- CLEANING FLOORS
- WASHING VEHICLES
- HYGENIC PURPOSES

### DOES WATER HAVE OTHER REQUIREMENTS?

- ALL CROP PLANTS WHERE WE GET OUR FOOD
- FROM LIKE CEREALS PULSES VEGETABLES AND
- FRUITS REQUIRE WATER
- PLANTS WHICH GIVE FIBRES LIKE COTTON AND
- JUTE NEED WATER
- ALL INDUSTRIES AND FACTORIES REQUIRE WATER FOR PRODUCTION OF ALL THINGS

### IMPORTANCE OF WATER IN OUR BODY

- DISSOLVES A LARGE NUMBER OF SUBSTANCES
- ESSENTIAL FOR DIGESTION , ABSORPTION OF
- NUTRIENTS AND EXCRETION
- USEFUL TO REGULATE THE BODY TEMPERATURE

### SOURCES OF WATER

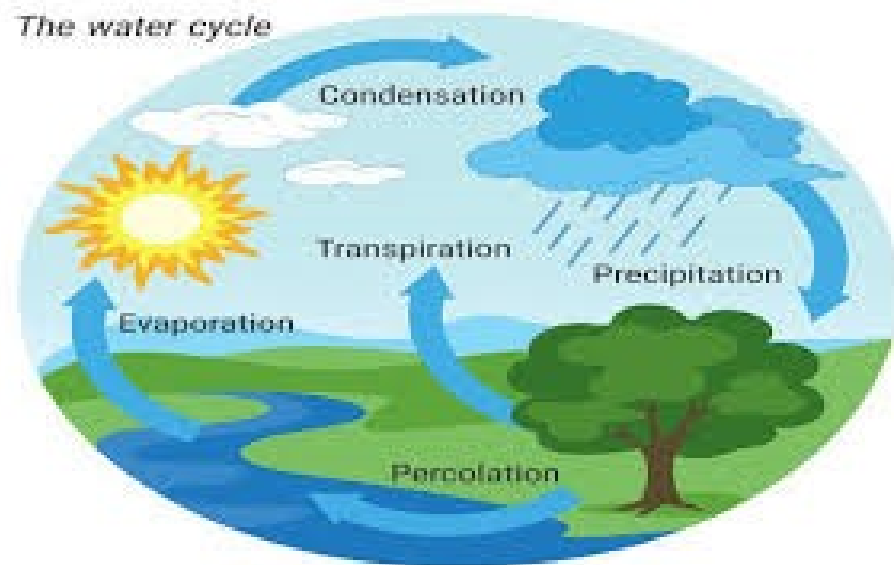
- LAKES
- PONDS
- RIVERS
- WELLS

### OCEANS

- TWO THIRDS COVERED WITH OCEANS.
- IS NOT USABLE WATER
- UNFIT FOR DRINKING

- CONTAINS LOTS OF SALT DISSOLVED IN IT.
- PLAYS AN IMPORTANT ROLE IN SUPPLYING THE WATER WE USE THROUGH WATER CYCLE

## WATER CYCLE

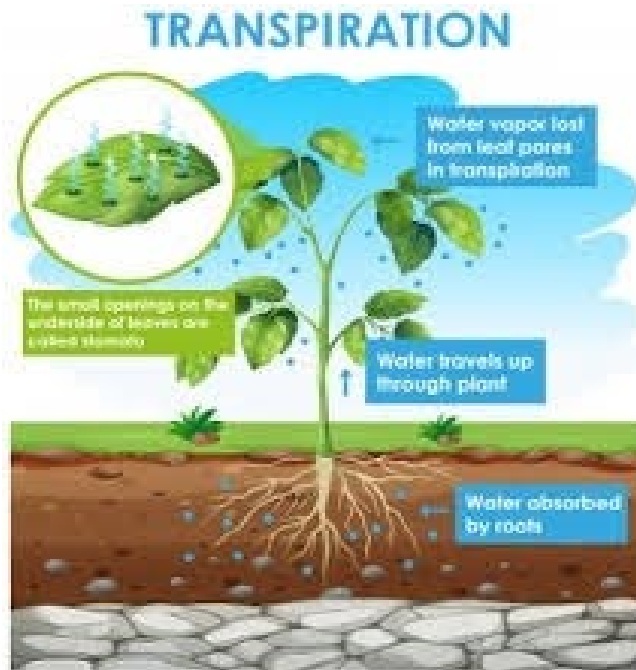


- IT CONSISTS OF FOUR STEPS
- EVAPORATION
- CONDENSATION
- PRECIPITATION
- INFILTRATION

## EVAPORATION ACTIVITY

- TAKE TWO PLATES AND POUR EQUAL AMOUNT OF WATER IN IT
- KEEP ONE IN DIRECT SUNLIGHT AND OTHER IN
- SHADE
- OBSERVE AFTER EVERY 15 TO 20 MINUTES.

- CHANGING OF WATER INTO WATER VAPOUR IS CALLED EVAPORATION
- WATER IN OCEANS, RIVERS LAKES AND PONDS EVAPORATE QUICKLY DUE TO SUNLIGHT FALLING DIRECTLY ON THEM.
- WATER IN OTHER PLACES WITHOUT DIRECT SUNLIGHT ALSO TURN TO VAPOUR BUT AT A SLOWER RATE.
- TRANSPIRATION



## CONDENSATION

- ACTIVITY
- TAKE A GLASS FILLED WITH WATER
- ADD SOME ICE CUBES TO IT
- WHAT DO YOU SEE ON THE OUTSIDE OF THE GLASS?
- WATER DROPS BEGIN TO APPEAR ON THE OUTER SURFACE OF THE GLASS.

## FORMATION OF CLOUDS

- AT HIGH ALTITUDES TEMPERATURE BECOMES
- COOL
- AT SUCH GREAT HEIGHTS WATER VAPOUR
- CONDENSES TO FORM TINY WATER DROPLETS CALLED CLOUDS
- THEY REMAIN FLOATING IN AIR AND APPEAR TO US AS CLOUDS.

## PRECIPITATION

- MANY DROPLETS OF WATER COME TOGETHER
- TO FORM LARGE DROPS OF WATER
- THEY BECOME HEAVY AND HENCE CANNOT FLOAT.
- THEY FALL DOWN FROM THE CLOUD
- THESE FALLING WATER DROPLETS ARE CALLED RAIN
- UNDER SPECIAL CONDITIONS IT MAY FALL AS SNOW , HAIL OR SLEET.

## INFILTRATION

- MOST OF RAIN WATER GOES BACK TO OCEANS.
- SNOW FALLING ON MOUNTAINS MELT AND FORM RIVERS WHICH FINALLY JOIN THE OCEANS.
- RAIN WATER FILLS UP LAKES AND PONDS.
- REMAINING WATER SEEPS INTO THE GROUND.
- THIS IS CALLED INFILTRATION OR PERCOLATION.
- THIS IS CALLED GROUND WATER AND CAN BE USED THROUGH A WELL, HANDPUMP ETC