

GEOGRAPHY NOTES FOR 7TH CLASS (FOR ISLAMABAD)

fish are consumers. Students will name some decomposers.

Ans: Fungi and bacteria

Learning Activity (2)

Identify 5 advantages and 5 disadvantages of living in a floodplain.

Ans: **Advantages of living in a flood plain**

1. Floodplains have plenty of water during flooding and the land becomes fertile.
2. Crops grow well.
3. Greenery is everywhere. Plants grow well.
4. Temperature is moderate.
5. Atmosphere and weather remain attractive.
6. Flood plains are produced.

Disadvantages of living in a flood plain

1. There is heavy rainfall. Economical loss is caused to the residents.
2. The river overflows, its banks. This flooding cause destruction.
3. Human and animal lives are damaged.
4. Crops are damaged by floods.
5. Flooding deposits sand, silt and clay.



Unit # 2

Water Sources and Management

Exercise

1. Choose the Correct Option:

1. The biggest sources of water on the earth are _____
a. springs b. Waterfalls
c. Seas d. Oceans

Correct answer: d. Oceans

2. Which one of the following is subsurface sources of the water?
a. Rivers b. Lakes
c. Aquifers d. Glaciers

Correct answer: c. Aquifers

3. The most important sources of water for agriculture in arid regions is _____
a. Springs b. Sea water
c. Glaciers d. Rainfall

Correct answer: d. Rainfall

4. Sewage waste can be used for _____ due to it's high organic content and plant nutrients.
a. drinking b. bathing
c. washing d. irrigation

Correct answer: d. irrigation

5. The river _____ is the main resources of water in Pakistan.

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- a. Hub b. Indus
c. Chenab d. Kabul

Correct answer: b. Indus

6. Rivers contain _____ of all the water on the planet.

- a. 2% b. 0.0002%
c. 0.02% d. 12%

Correct answer: b. 0.0002%

7. Approximate droplet size of the drizzle is _____

- a. 0.5 to 5 mm
b. 5 mm
c. 6 mm
d. less than 0.5 mm

Correct answer: d. less than 0.5 mm

8. Which one of the following is the largest dam?

- a. Hub dam b. Mangla dam
c. Rawal dam
d. Khanpur dam

Correct answer: b. Mangla dam

9. Manchar lake is a famous large freshwater lake in _____ province.

- a. Punjab b. Sindh
c. Balochistan
d. Khyber Pakhtunkhwa

Correct answer: b. Sindh

10. All forms of water that fall from the clouds is called _____

- a. Water vapour
b. winds

- c. Precipitation

- d. Humidity

Correct answer: c. Precipitation

2. Give Brief Answers to the Following Questions:

1. Describe four ways to solve the shortage of water in Pakistan.

Ans: Ways to solve the shortage of water in Pakistan

- i. **Implementation of city planning**

Implementation of city planning to make sure the proper access to water for domestic use.

- ii. **Reduction of deforestation**

Reduction of deforestation in order to increase groundwater recharge.

- iii. **Use of better irrigation water management strategies**

Use of better irrigation water management strategies to make good and efficient use of water for agricultural purposes.

- iv. **Ensure equitable water distribution**

Ensure equitable water distribution between the agricultural and domestic sectors.

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v. Treatment of urban sewage water

Treatment of urban sewage water to convert it into water fit for human consumption.

2. Name two solid and two liquid forms of precipitation.

Ans: Types of Precipitation

i. Drizzle: It is a liquid form of precipitation consisting of very small drops of water. The approximate droplet size of the drizzle is less than 0.5 mm.



Drizzle

ii. Rain: Rainfall is the most common form of precipitation. It consists of drops of liquid water. The approximate droplet size of the rain is 0.5 to 5 mm.



Rain

iii. Snow: Snow is the solid form of the precipitation such as ice crystals, small pellets, or flakes.

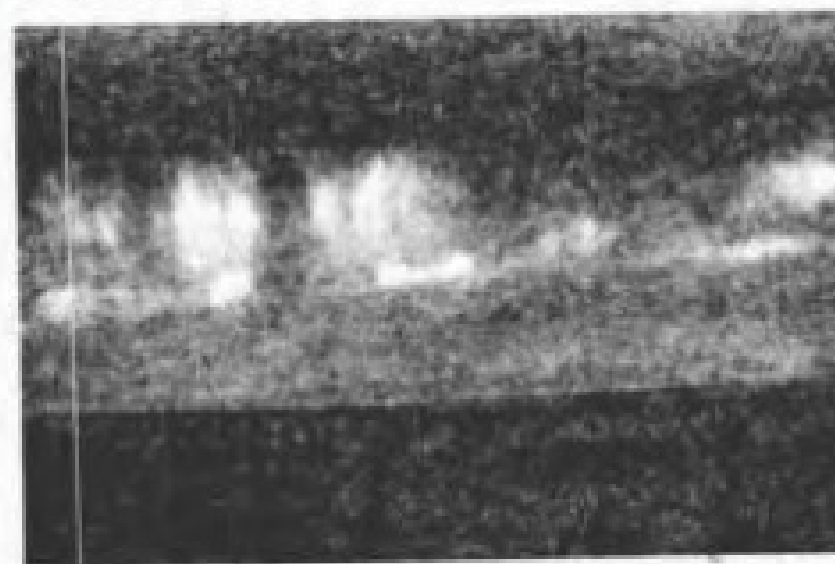


Snow

iv. Sleet: When the precipitation is in the form of a mixture of rain and snow, it is referred to as sleet.

v. Hail: This is the solid form of precipitation; it consists of hard rounded pellets or irregular lumps of ice. Hailstones are usually composed of roughly concentric layers of ice.

vi. Virga: Virga is the form of precipitation, that evaporates before reaching the surface. Virga forms only streaks of rain.



Virga

3. How is biogas prepared and what is its main disadvantage?

Ans: Biogas as a Resource of Energy

1. Biological treatment of sewage can produce useful gases such as

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biogas that can be used as energy sources.

2. The method used for this purpose is called "anaerobic digestion" and the equipment used for this purpose is called "anaerobic digester".

3. Sewage is pumped into anaerobic digestion tanks where anaerobic bacteria break it down in the absence of oxygen. One of the main by-products of this process is biogas, which is then collected from the anaerobic digestion tanks with the help of equipment called biogas recovery units.

4. The main disadvantage of biogas is that when it used a fuel, methane gas is released into the atmosphere and since it is one of the most potent greenhouse gas, it can greatly contribute to global warming.

4. **What is the water cycle? How does it work?**

Ans: **Water Cycle**

Water cycle, powered by solar heat energy is constantly transforming and transporting water around the Earth, to maintain its water supply of the Earth.

High earth surface temperatures cause evaporation from surface water sources like oceans, seas, rivers and lakes. The resulting water vapour rises in the atmosphere alongwith the air, until it encounters cooler temperatures. These cooler temperatures cause the transformation of water vapour into clouds due to the process of

condensation. Clouds result in precipitation in the form of rain, snow and hail. This precipitation adds water back into the oceans, lakes, rivers, and groundwater reserves.

5. **Name four main water sources of Pakistan.**

Ans: **Water resources in Pakistan**

- | | |
|---------------|----------|
| i. Rivers | ii. Rain |
| iii. Glaciers | iv. Dams |
| v. Lakes | |

3. **Give Detailed Answers to the Following Questions:**

1. **Explain the reasons for the scarcity of drinking water in cities.**

Ans: **The scarcity of drinking water in cities**

The rapid urbanization that has been taking place in developing countries for the past few decades has created many problems for the people living in cities.

One of these problems is the scarcity of water. Most the larger cities in the developing world are facing this problem. The main reasons behind this problem are:

- (i) Climate change is causing decreased rainfall across many regions of the world and a reduction in rainfall means a reduction in the freshwater resources available for drinking.
- (ii) The ground surface of urban areas is invariably covered with

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concrete buildings and asphalt roads. This leaves very little bare ground to absorb rainwater, and without much rainwater absorption/ seepage it becomes very difficult to recharge groundwater. When groundwater is not recharged, the water table begins to fall and people have a hard time accessing it for domestic use.

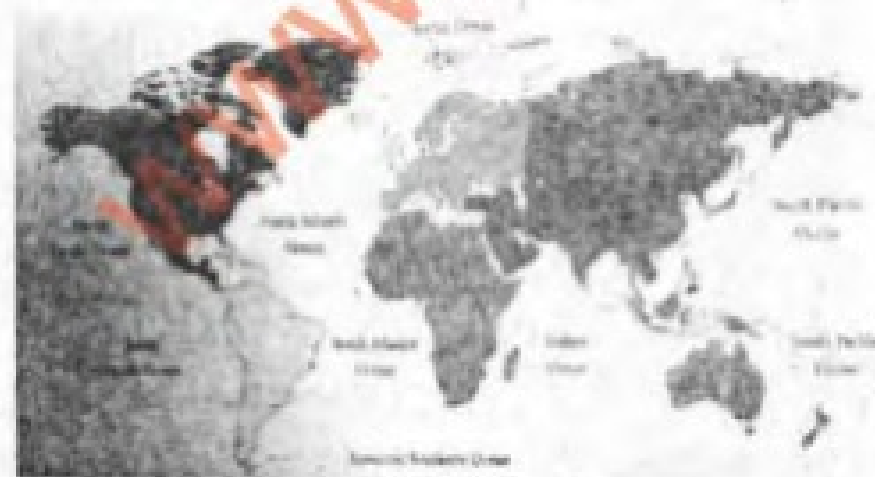
- (iii) Lack of proper city planning is also a cause of water scarcity in cities. In Pakistan, most of the existing cities are unplanned and their rapidly expanding population does not have access to water for domestic use.

2. Briefly explain the water sources of the world.

Ans: **Water sources of the world**

i. Oceans

Oceans are the biggest source of water on the Earth. The five oceans of the world i.e. Pacific Ocean, the Atlantic Ocean, the Indian Ocean, the Arctic Ocean and the Southern/ Antarctic Ocean, contain approximately 97% of all the water on the planet.



World oceans

ii. Lakes

Lakes are sources of surface-water. Water from precipitation or rivers accumulates in depressions on the Earth's surface to form lakes. Sometimes, lakes form in areas where groundwater seeps up to the surface to form a lake. This activity takes place in areas where the water table lies at less depth. Lakes contain 0.008% of all the water on the planet.



Lakes

iii. Rivers

Rivers or streams are the natural pathways of rainwater and melted flowing across the surface of the Earth from higher to lower elevations. They discharge their water into oceans, seas and lakes. Rivers contain 0.0002% of all the water on the planet.



River Nile

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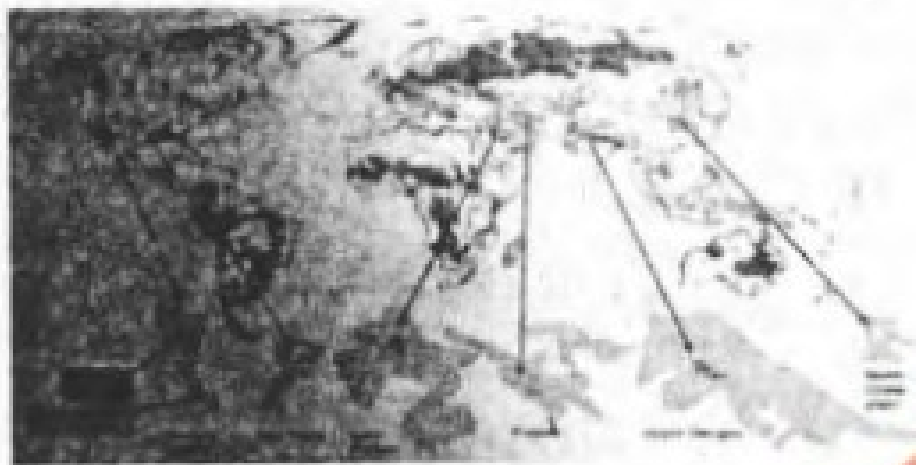
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River Indus

iv. Aquifers

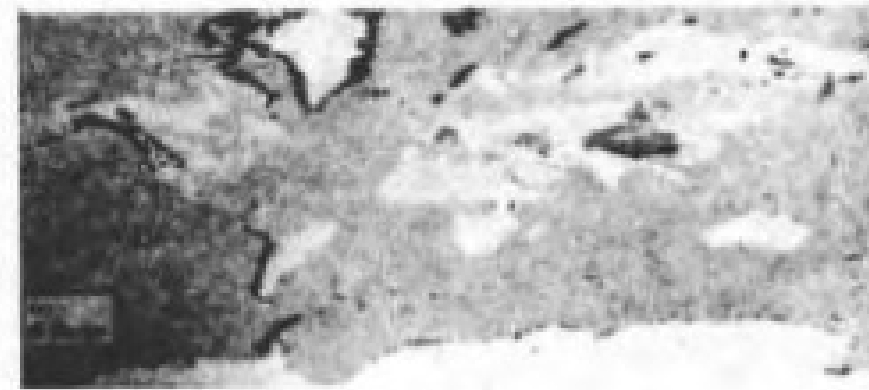
Aquifers are subsurface sources of water. Aquifers contain 0.9% of all the water on the planet.



Aquifers

v. Glaciers and Ice Caps

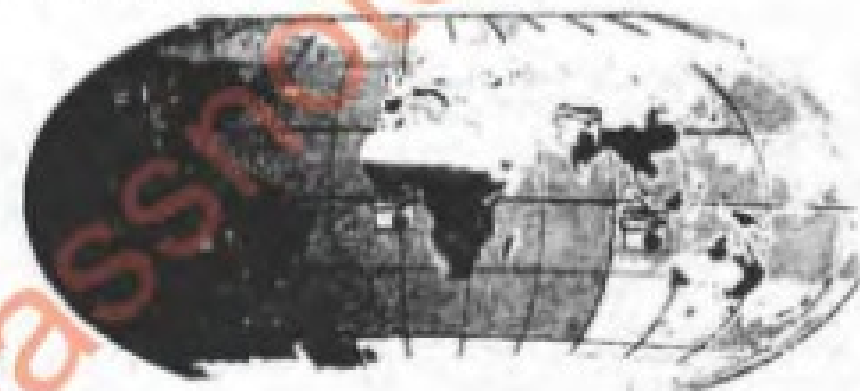
Glaciers and ice caps are fresh water sources in frozen form. They are formed when snow accumulates over land areas for a long period of time. They are found in regions of high elevation and areas close to the North and South poles, and they store more than a third of the earth's fresh water. Glaciers and ice caps contain about 2% of all the water on the planet.



Glaciers

vi. Rainfall

Rainfall is one of the most important sources of water for agriculture in arid region. It is seasonal in nature. Two-thirds of all rain falls along the equator while the rest of the world gets only one third.



Major rainfall areas are shown in black and sky blue colours

vii. Springs

Springs are naturally occurring freshwater sources found in those places where the water table is located close to the earth's surface. They obtain their water either from aquifers or from underground streams. Springs located in regions of volcanoes have hot water, while springs found in areas where no volcanic activity takes place to produce cold water.

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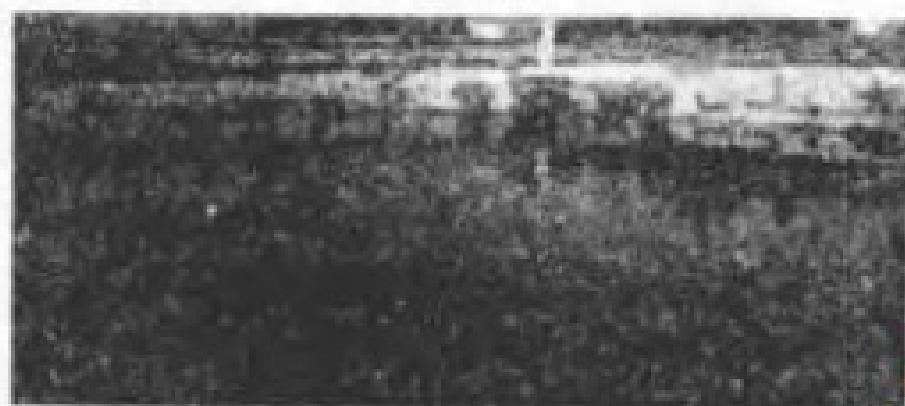
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A spring

viii. Ponds

Ponds are surface water sources that are mostly smaller than lakes. Some ponds occur naturally while others are man-made. The main source of water for naturally occurring ponds is rainfall. Pond water is often used for irrigation, fishing and landscaping.



A pond

3. **What are different water purification methods? Describe two of them.**

Ans: **Water purification methods**

Sewage, chemicals, hydrocarbons, bacteria, viruses and fertilizers, can contaminate water. To make contaminated water fit for human consumption, these harmful ingredients must be removed from the water with the help of purifying processes.

Following are some of the common water purification methods.

i. Distillation

Distillation is a filtration method that has been used for a long time. This process starts by heating water in a container until it reaches boiling point. The water vapors that rise upward during this process are cooled and condensed from the original container. Through condensation, the water vapours become liquid water and are collected as purified water and the heavier contaminants stay behind in the original container.

ii. Reverse Osmosis

Reverse osmosis is a purification process that utilizes a semi-permeable membrane. Pumps are used to push the impure water into the membrane that blocks most of the impurities while letting purified water go through to the other side.

iii. Activated Carbon

Carbon filtration is commonly used in many home-based water filtration plants. The activated carbon used in this process is a very porous form of carbon. It acts like a sponge with a large internal surface area. Therefore, this process can trap a variety of impurities. Activated carbon filtration is an excellent purification method for removing impurities like chlorine-based chemicals, some types of pesticides and industrial solvents.

iv. Ultraviolet Disinfection

Ultraviolet filtration disinfects micro-organisms from water. During this process, water passes through a chamber fitted with an Ultra Violet light source, that is usually a UV lamp or bulb. The

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UV light from this lamp or bulb kills off any bacteria, parasites and viruses present in the water.

Learning Activity

Types of sewage management methods

There are four common ways to waste water.

1. Physical water treatment.
2. Biological water treatment.
3. Chemical treatment.
4. Sludge treatment.
5. Sand filtration is also used.



Unit # 3

Settlements and Land Use

Exercise

1. Choose the Correct Option:

1. The smallest form of human settlement is _____

- a. hamlet b. village
c. town d. Farmstead

Correct answer: a. hamlet

2. Islamabad is an example of a _____ city.

- a. religious b. ancient
c. administrative
d. industrial

Correct answer: c. administrative

3. Karachi can be classified as a _____

- a. city b. megalopolis
c. town d. hamlet

Correct answer: b. megalopolis

4. Which of the following activity dominate in the rural settlements?

- a. Agricultural
b. Industrial
c. Educational
d. Recreational

Correct answer: a. Agricultural

5. The city of Makkah is an example of:

- a. industrial town
b. administrative city
c. religious city
d. educational city

Correct answer: c. religious city

6. Which is the correct order of the settlement pyramid?

- a. Hamlet, village, town, city, metropolis
b. Village, hamlet, town, city, metropolis
c. Town, hamlet, village, city, metropolis
d. City, village, town, hamlet, metropolis

Correct answer: a. Hamlet, village, town, city, metropolis