WORLD GEOGRAPHY
Grade 7
Answer Keys

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Geography

Class Seven

Unit 1 Plains and Rivers

1 Choose the correct option:

i. **A mountain differs in height and area from:**

a forest | b plain | c plateau | d hill

ii. **Plains are divided into major types:**

a two | b three | c four | d five

iii. **The concepts of Peneplains was given in:**

a 1857 | b 1869 | c 1883 | d 1889

iv. **Deserts have soil like rocky and:**

a allusion | b lava | c sandy | d loess

v. **The Indus plain is the best example of a:**

a desert plain | b glaciated plain | c depositional plain | d karst plain

vi. **A generally flat area of land located next to a river or stream is:**

a pediment plain | b flood plain | c deltaic plain | d desert plain

vii. **Oxbow lake is a feature made by:**

a river | b glacier | c wind | d water

viii. **A river system is also known as a drainage basin or:**

a water shed | b waterfall | c estuary | d meander

ix **The point from where a river starts to flow is called:**

a origin | b source | c mouth | d watershed

x **Earth materials are away through:**

a erosion | b deposition | c transportation | d weathering

Give the short answers to the following questions:

Define a mountain.

A large natural elevation of the earth's surface.

How many types may a plain divide?

Two types: Erosional plains and depositional plains.

What are erosional plains?

Erosional plains are landforms created by the erosion of soil and rocks by water, wind, or ice.

Name the different types of depositional plains.

River Plain, Piedmont Alluvial Fan, Floodplain, Deltaic Plain, Glaciated Plain, Lacustrine Plain, Loess Plains, Coastal Plain

How does a Piedmont plain form?

A Piedmont plain form when sediment is deposited at the base of a mountain range.

Define a deltaic plain.

A deltaic plain is a low-lying area near the mouth of a river where sediment is deposited.

What does the river system mean?

A river system refers to all the interconnected streams and rivers in a particular area that drain into a larger body of water.

Into how many stages may a river divide?

Three stages: youth, middle, and lower stages.

What are meanders?

Meanders are bends or curves in a river.

How was an oxbow lake formed?

An oxbow lake is formed when a meander of a river is cut off from the main flow of water.

Describe the lower stage of a river briefly

A wide and flat valley, slow-moving water, and a large amount of sediment deposition characterize the lower stage of a river.

Write the answers in detail to the following questions:

Define a plain and describe the erosional plains.

A plain is a large, flat, and generally low-lying area of land that is characterized by little to no variation in elevation. Plains are often formed by sedimentation, tectonic uplift, or the erosion of previously existing landforms.

Erosional plains are a type of plain that are created by the erosion of soil and rocks by water, wind, or ice. They are typically found in areas where the land is relatively flat, and the underlying rock is easily eroded.

One example of an erosional plain is a badland. Badlands are characterized by steep, rugged terrain, and are often found in arid regions with little vegetation. The soft sedimentary rock that makes up the badlands is easily eroded by wind and water, which has resulted in the formation of deep gullies, canyons, and other erosional features.

Another type of erosional plain is a peneplain. Peneplains are old, low-relief landscapes that have been eroded to near-flatness. They are typically found in areas of low relief and gentle topography, and are often created by long-term, gradual erosion by rivers and other surface processes.

Erosional plains are important geological features, as they often provide valuable insights into the geologic history of an area. They also provide important habitats for a variety of plant and animal species, and are often used for agriculture and other forms of human activity.

In how many stages can river action be divided? Explain any one of them.

River action can be divided into three stages: youth, middle, and lower age.

During the youth stage, a river is typically characterized by its steep gradient, fast-moving water, and a narrow channel. The river is also actively eroding the landscape around it, as it has a high amount of energy that allows it to transport large amounts of sediment downstream. As the river erodes the landscape, it creates a V-shaped valley that is often characterized by rapids, waterfalls, and other erosional features.

One example of a river in its youth stage is the Colorado River, which flows through the Grand Canyon in Arizona, USA. The Colorado River is characterized by its fast-moving water, steep gradient, and narrow channel, which has been eroded over millions of years by the force of the water. The river has also created a number of erosional features, such as rapids, waterfalls, and steep cliffs that are characteristic of a young, actively eroding river.

As a river enters its middle stage, its gradient begins to level out, and its channel begins to widen. The river also begins to deposit sediment along its banks, creating a floodplain that is often characterized by meanders and oxbow lakes. During this stage, the river is still actively eroding the landscape around it, but at a slower rate than during its youth stage.

An example of a river in its middle stage is the Mississippi River, which flows through the central United States. The Mississippi River is characterized by its wide channel, low gradient, and the presence of a floodplain that has been created by the deposition of sediment over thousands of years. The river is still actively eroding the landscape around it, but at a slower rate than during its youth stage.

In the lower stage, a river is characterized by a low gradient, slow-moving water, and a wide and flat valley. The river is also depositing large amounts of sediment along its banks, and may create deltaic plains near its mouth. During this stage, the river is no longer actively eroding the landscape around it, but is instead depositing sediment and shaping the surrounding landscape through its interactions with other natural processes.

An example of a river in its lower stage is the Nile River, which flows through Egypt. The Nile River is characterized by its wide and flat valley, slow-moving water, and the presence of a deltaic plain near its mouth that has been created by the deposition of sediment over thousands of years. The river is no longer actively eroding the landscape around it, but is instead depositing sediment and shaping the surrounding landscape through its interactions with other natural processes.

What is a river? Describe the work of a river.

A river is a large, natural stream of flowing water that moves from higher elevations to lower elevations, typically emptying into a larger body of water, such as a lake or an ocean. Rivers are an essential part of the earth's hydrologic cycle, as they play a critical role in the transport of water and nutrients throughout the landscape.

Rivers work by continuously transporting water, sediment, and other materials downstream, shaping the landscape through the process of erosion and deposition. Erosion occurs when flowing water picks up and carries away sediment, rocks, and other materials from the riverbed and banks. The materials are transported downstream by the force of the water, and can be deposited when the water slows down or loses its energy. Deposition occurs when sediment and other materials are dropped by the river onto the surrounding landscape, building up over time to create new landforms.

Rivers also play a crucial role in shaping the landscape through the process of weathering. Weathering occurs when rock is broken down into smaller particles by the forces of wind,

water, and other natural processes. This broken-down rock is then transported downstream by the river, where it can be deposited or eroded further.

Over time, rivers can create a wide range of landforms, including canyons, valleys, floodplains, deltas, and meanders. Rivers also play an important role in creating habitats for a variety of plant and animal species, and can support a range of human activities, such as transportation, agriculture, and hydroelectric power generation.

However, rivers can also pose a significant threat to human populations when they flood, as floodwaters can cause widespread damage to infrastructure, homes, and other property. In order to mitigate the risks associated with flooding, many regions have implemented a range of management strategies, such as building dams and levees, and implementing flood warning systems.

Mention and explains the features made by a river in its middle stage.

A river in its middle stage, also known as its maturity stage, is characterized by a number of distinctive features that have been shaped by the river's erosive and depositional processes over time. Some of the key features of a river in its middle stage include:

Wider and shallower channel: As a river moves downstream and enters its middle stage, it typically begins to widen and deepen its channel, creating a wider and shallower channel than in its youth stage. This is due to the fact that the river is no longer moving at the same velocity as it was in its youth stage, and has less energy to erode the surrounding landscape.

Floodplains: A river in its middle stage often creates a wide, flat floodplain along its banks, where sediment is deposited during floods. This floodplain is usually much wider than the river channel itself, and is characterized by rich soils that are ideal for farming and other agricultural activities.

Meanders: A meander is a winding curve or bend in a river channel that is caused by the river's erosive processes. Meanders are a common feature of rivers in their middle stage, as the river moves back and forth across its floodplain, eroding material on the outer banks and depositing it on the inner banks.

Oxbow lakes: An oxbow lake is a U-shaped body of water that forms when a meander in a river becomes cut off from the main channel. Over time, sediment is deposited at the narrow point of the meander, eventually blocking off the loop of the meander from the main channel and creating an oxbow lake.

Terraces: As a river erodes its banks and creates a wider channel, it may also leave behind steep-sided terraces or bluffs along the edges of its floodplain. These terraces can be several meters high, and are often visible along the banks of a river in its middle stage.

Overall, a river in its middle stage is characterized by a wide and shallow channel, a flat floodplain, meanders, oxbow lakes, and terraces. These features are the result of the river's ongoing erosive and depositional processes, and play an important role in shaping the surrounding landscape and providing habitats for a range of plant and animal species.

Describe the importance of the river in human life.

Rivers are an integral part of human life and have played a significant role in the development of human civilizations throughout history. Here are some of the ways in which rivers are important to human life:

Transportation: Rivers have been used for transportation for thousands of years, providing an efficient and cost-effective means of moving goods and people across long distances. Rivers have been used to transport goods such as food, timber, minerals, and other resources, as well as people, making trade and commerce possible across large regions.

Agriculture: Rivers are essential for agriculture, providing the water needed to irrigate crops and sustain livestock. The fertile soils found along river banks also make them ideal for farming, allowing crops to grow quickly and abundantly.

Drinking water: Rivers are a primary source of fresh water for human consumption, providing water for drinking, cooking, and another household uses. In many parts of the world, rivers are the only source of clean water for people living in rural areas.

Energy production: Rivers are a source of hydroelectric power, which is a clean and renewable source of energy. Hydroelectric power plants generate electricity by harnessing the power of falling water to turn turbines, providing a sustainable source of energy for homes and businesses.

Industry: Rivers have been an important source of power for industries such as manufacturing and textiles, where water power was used to drive machinery and power production facilities.

Recreation and tourism: Rivers provide a range of recreational opportunities, including fishing, boating, swimming, and other water-based activities. Many people also enjoy hiking and camping along river banks, providing opportunities for outdoor recreation and tourism.

Overall, rivers are essential to human life and have played a critical role in the development and prosperity of human civilizations throughout history. Today, rivers continue to be an important resource for human societies, providing water, energy, transportation, and other vital services that are essential for modern life.

UNIT 2

WATER SOURCES AND MANAGEMENT

1 Choose the correct option:

i. About 71% of the Earth's surface is covered by:

a land | b Water | c Forests | d Deserts

ii. Fresh water is only of total water is:

a 15% | b 2.5% | c 3.5% | d 4.5%

iii. Percentage of the fresh water on the Earth is :

a 10% | b 3% | c 7% | d 5%

iv. Water starts to freeze at zero degrees:

a Celsius | b Fahrenheit | c Heat | d Cold

v. Large, natural stream of flowing water is known as:

a Stream | b Waterfall | c River | d Canal

vi. The length of the Indus River is:

a 2430 km | b 2900 km | c 3180 km | d 3375 km

vii. Mancher is the largest lakes in:

a Asia | b China | c India | d Pakistan

viii. Water cycle is also known as:

a Water Shed | b Stream | c Hydrological cycle | d Watershed

ix Sewage water may maintain and enhance soil:

a Fertility | b Texture | c Colour | d Nutrition

x The power chemical which used to purify water is:

a Chlorine | b Lime | c Sulpher | d Caustic Soda

Give the short answers to the following questions:

Why is the Earth known as the Blue Planet?
The Earth is known as the Blue Planet because about 71% of its surface is covered by water, giving it a blue appearance from space.
What are the major sources of fresh water?
The major sources of fresh water are lakes, rivers, rainfall and groundwater.
What does saturated zone mean?
The saturated zone is the underground area where all the pores and spaces between rock or sediment particles are filled with water.
What do you mean by frozen water?
Frozen water is water froze in a solid state, such as ice.
Define a River.
A river is a natural flowing watercourse, usually freshwater, that flows towards an ocean, sea, lake, or another river.
Name the western tributaries of the Indus River.
The western tributaries of the Indus River are the Kabul River, Gomal River, Tochi River and the Kurram River.
Name the sources of fresh water in Pakistan.
The sources of fresh water in Pakistan are rivers, lakes, glaciers, and groundwater.
Why do most of the areas in Pakistan are arid and semi-arid?
Most of the areas in Pakistan are arid and semi-arid because of the country's location in the subtropical region and its low average rainfall.
Write the name any five forms of precipitation.
Rain, snow, sleet, hail, Glaze or Freezing Rain, Sun Shower, Snow Grains, Diamond Dust, Ice Crystal and drizzle are ten forms of precipitation.
What is sleet?
Sleet is a type of frozen precipitation that consists of small, transparent or translucent balls of ice.
What do you mean by Cyclonic precipitation?
Cyclonic precipitation is precipitation that is associated with a cyclone or low-pressure system, typically bringing heavy rain or snow.
How do clouds form?
Clouds form when warm, moist air rises and cools, causing the water vapor in the air to condense into tiny droplets or ice crystals. These droplets or crystals then group together to form clouds.

Write the answers in detail to the following questions:

Mention and describe the major sources of Fresh water in the World.

Fresh water is a critical resource for life on Earth. While nearly 71% of the Earth's surface is covered in water, only about 3% of that water is freshwater, and most of that is inaccessible or unusable. Here are the major sources of fresh water in the world:

Surface water: Surface water refers to water that is found in rivers, lakes, and reservoirs. This is the most accessible source of fresh water for human use. However, surface water is also susceptible to pollution and contamination, which can make it unsafe to drink.

Groundwater: Groundwater is the water that is found underground in aquifers. It is the largest source of freshwater on the planet and provides drinking water for billions of people. However, over-pumping and contamination of aquifers can cause groundwater depletion and pollution.

Glaciers and ice caps: Glaciers and ice caps are found in polar regions and on mountaintops. They are the largest reservoirs of fresh water on Earth, containing about 68% of the world's freshwater. However, as the climate warms, these glaciers and ice caps are melting, which could lead to water shortages in some regions.

Atmospheric water: Atmospheric water is the water that is found in the air in the form of water vapor. It is an important source of fresh water in arid regions, where rainfall is rare. However, collecting atmospheric water requires specialized equipment and can be energy-intensive.

Desalinated water: Desalinated water is seawater that has been treated to remove the salt and other minerals. Desalination is a costly process, but it can be an important source of fresh water in regions where other sources are scarce.

Wetlands: Wetlands are important sources of fresh water and are found in many regions around the world. They act as natural water filters, removing pollutants and contaminants from water before it enters rivers or aquifers.

In conclusion, fresh water is a finite and critical resource, and it is important to protect and manage these sources effectively to ensure their sustainability for future generations.

Describe any two sources of Fresh water in Pakistan.

Pakistan is an agrarian country that heavily relies on freshwater resources for irrigation, drinking water, and industrial use. Here are two major sources of fresh water in Pakistan:

Rivers: Rivers are the most important source of freshwater in Pakistan. The country is home to several large rivers, including the Indus, Jhelum, Chenab, Ravi, and Sutlej rivers. These rivers originate from the Himalayas and flow through the country before emptying into the Arabian Sea. The Indus River alone provides water to more than 90% of the country's irrigated land. The rivers in Pakistan are fed by glacial meltwater and monsoon rains, making them particularly important for agriculture.

Groundwater: Groundwater is another important source of fresh water in Pakistan. The country has large aquifers that contain significant amounts of freshwater. Groundwater is particularly important in areas where surface water is scarce, such as Balochistan and parts of Sindh. However, over-pumping and contamination of aquifers have led to groundwater depletion and pollution in some regions. This has resulted in the need for sustainable groundwater management practices to ensure that this resource remains available for future generations.

In conclusion, rivers and groundwater are the two main sources of fresh water in Pakistan. It is important to manage and conserve these resources to ensure their sustainability for future generations. This can be achieved through the implementation of effective water management practices, such as reducing water wastage, promoting sustainable agriculture, and increasing awareness about the importance of water conservation.

Name and define six forms of precipitation.

Precipitation is any form of water that falls from the atmosphere and reaches the ground. Here are six common forms of precipitation and their definitions:

Rain: Rain is the most common form of precipitation. It is water droplets that fall from the atmosphere in the form of liquid. Rain occurs when the temperature is above freezing point and the atmosphere is saturated with water vapor.

Snow: Snow is a type of precipitation that occurs when the temperature in the atmosphere is below freezing point. It is formed by water droplets that freeze into ice crystals before falling to the ground. Snow can accumulate and form snowdrifts.

Sleet: Sleet is a type of precipitation that occurs when rain falls through a layer of cold air and freezes into ice pellets before reaching the ground. Sleet is often mistaken for hail, but it is different because it is formed by freezing raindrops rather than frozen water droplets.

Hail: Hail is a type of precipitation that occurs during thunderstorms when strong updrafts carry raindrops high into the atmosphere, where they freeze into ice pellets. Hailstones can range in size from small pellets to large stones the size of baseballs or even larger.

sun shower: A sun shower occurs when rain falls while the sun shines. A sun shower occurs when a single rain cloud crosses the Earth's surface, allowing the sun's rays to flow through. A rainbow usually accompanies it.

Drizzle: It is a fine sprinkle of tiny water droplets. The tiny drops that form a drizzle appear floating in the air.

In conclusion, precipitation comes in many forms, including rain, snow, sleet, freezing rain, hail, and graupel. Understanding these forms of precipitation can help us to prepare for and cope with different weather conditions.

What is Bio-Mass? Describe its advantage.

Biomass refers to any organic matter that is used as fuel. This can include plant-based materials, such as wood chips, crop residues, and grasses, as well as animal waste and byproducts. Biomass can be converted into energy through a variety of processes, including combustion, gasification, and anaerobic digestion.

One of the primary advantages of biomass is that it is a renewable energy source. Unlike fossil fuels, which are finite resources that are becoming increasingly scarce and expensive, biomass can be continually replenished through the use of sustainable forestry practices, agricultural waste management, and animal husbandry practices.

Another advantage of biomass is that it is a carbon-neutral source of energy. When biomass is burned or converted into energy, it releases carbon dioxide and other greenhouse gases into the atmosphere. However, because the organic matter used to create biomass originally absorbed carbon dioxide from the atmosphere through photosynthesis, the net effect of biomass use on atmospheric carbon dioxide levels is neutral. This makes biomass a potentially important tool for reducing greenhouse gas emissions and mitigating climate change.

Biomass also has the potential to reduce waste and provide economic benefits to rural communities. By using waste materials such as crop residues and animal waste to produce energy, biomass facilities can help reduce the amount of waste that would otherwise need to be disposed of in landfills. Additionally, the use of biomass as a fuel source can provide economic opportunities for farmers and rural communities, by creating jobs and promoting local energy production.

Finally, biomass is a versatile source of energy that can be used in a variety of applications, including electricity generation, heating, and transportation. This makes it a potentially important component of a diversified and sustainable energy portfolio.

In conclusion, biomass is a renewable, carbon-neutral, and versatile source of energy that has the potential to provide important environmental, economic, and social benefits. As technologies for producing and using biomass continue to develop and improve, biomass may play an increasingly important role in meeting the world's growing energy needs while reducing greenhouse gas emissions and promoting sustainable development.

Explain the different methods to purify water.

Water purification is the process of removing unwanted contaminants from water to make it safe for consumption. There are various methods used for purifying water, including:

Boiling: Boiling water is one of the oldest and simplest methods of purifying water. Boiling kills most types of bacteria and viruses, as well as other microorganisms, but it does not remove chemical contaminants.

Filtration: Filtration involves passing water through a physical barrier, such as sand, charcoal, or a membrane, to remove impurities. There are various types of filtration systems available, including activated carbon filters, reverse osmosis filters, and ceramic filters.

Distillation: Distillation involves heating water until it turns into steam, which is then condensed back into liquid form. This process removes most types of impurities, including bacteria, viruses, and chemicals.

Chlorination: Chlorination involves adding chlorine to water to kill bacteria and viruses. Chlorine is an effective disinfectant and is commonly used to treat municipal water supplies.

Ultraviolet (UV) radiation: UV radiation can be used to kill bacteria and viruses in water. UV systems use special lamps to emit high-energy UV light, which destroys the DNA of microorganisms, rendering them harmless.

Ozonation: Ozonation involves adding ozone to water to disinfect it. Ozone is a powerful oxidizing agent that can kill bacteria and viruses, as well as remove chemical contaminants.

Chemical coagulation and flocculation: Chemical coagulation and flocculation involves adding chemicals, such as aluminum sulfate or ferric chloride, to water to form flocs, which are clumps of impurities that can be easily removed through sedimentation and filtration.

In conclusion, there are various methods used for purifying water, each with its own advantages and disadvantages. The choice of method will depend on the type and level of contaminants present in the water, as well as the availability of resources and infrastructure. A combination of different methods may be required to achieve the desired level of water purity for specific applications.