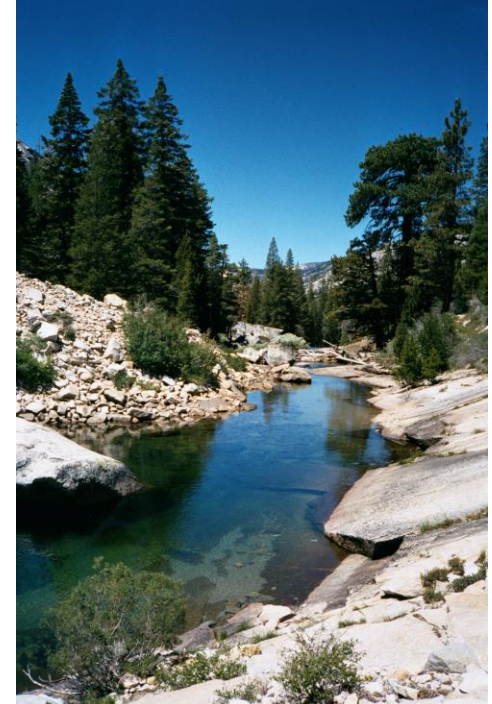
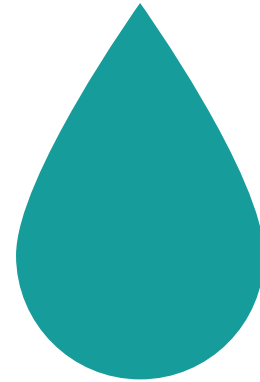


TOPIC - CH. 3: DRAINAGE

- SUBJECT: GEOGRAPHY
- CLASS IX



Important terms: Drainage, Drainage Basin and water divide.

- Drainage -The term drainage describes the river system of an area. A river along with its tributaries is called a river system.
- Drainage basin-The small streams flowing from different directions come together to form the main river, which ultimately drains into a large water body such as a lake or a sea or an ocean. The area drained by a single river system is called a drainage basin.
- Any elevated area, such as a mountain or an upland, separates two drainage basins. Such an upland is known as a water divide. Ambala is located on the water divide between the Indus and the Ganga River systems.



The two major groups of the Indian rivers

- The drainage systems of India are mainly controlled by the broad relief features of the subcontinent. Accordingly, the Indian rivers are divided into two major groups:
- the Himalayan rivers; and
- the Peninsular rivers.



The Himalayan and the Peninsular rivers are different from each other in many ways.

The Himalayan rivers

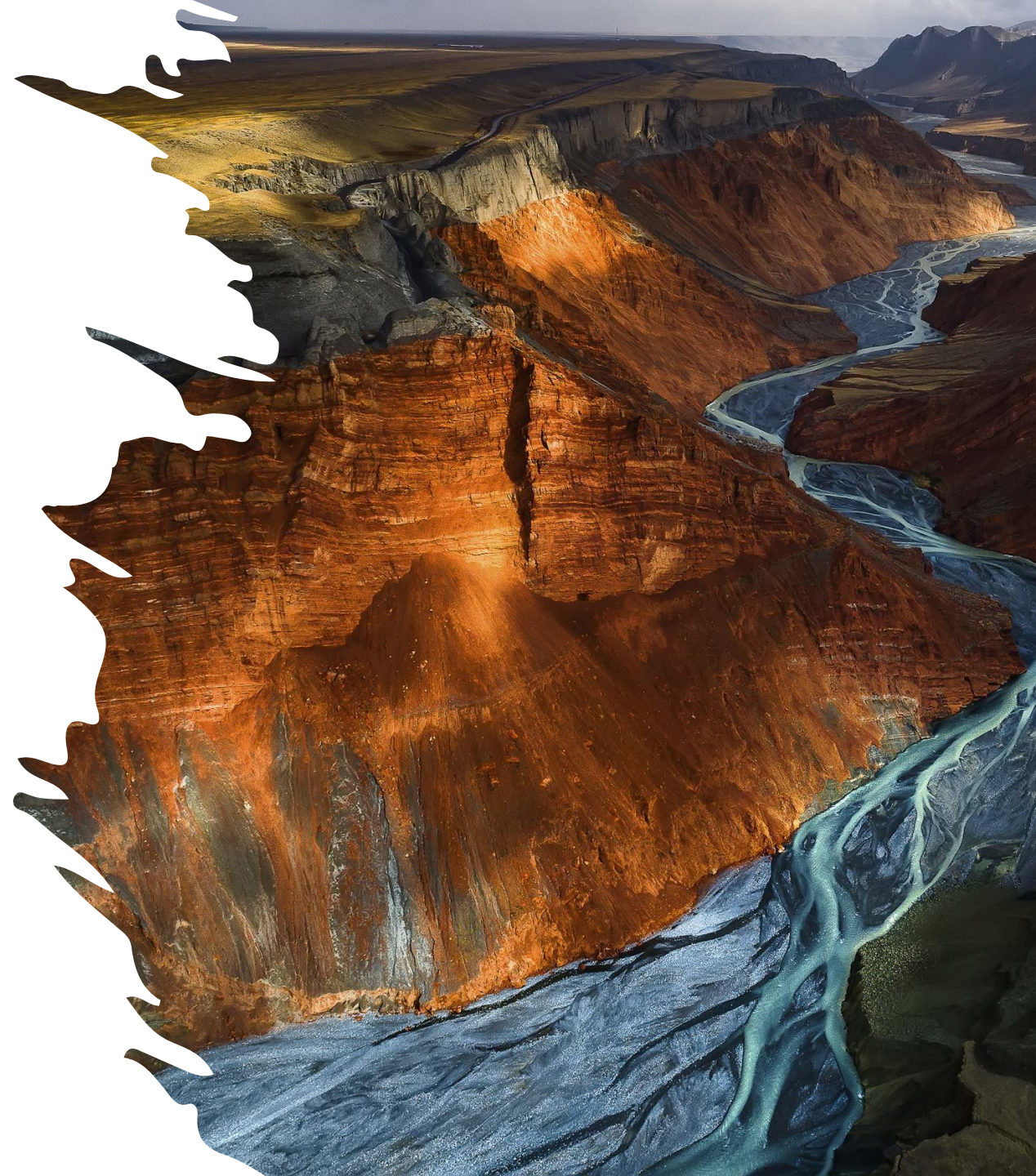
- 1 The Himalayan rivers originate from the Himalayas regions.
- 2 Most of the Himalayan rivers are perennial. It means that they have water throughout the year. These rivers receive water from rain as well as from melted snow from the lofty mountains.
- 3 The Himalayan rivers have long courses from their source to the sea.
- 4 The two major Himalayan rivers, the Indus and the Brahmaputra originate from the north of the mountain ranges.
- 5 For e.g. the Ganga, the Indus and the Brahmaputra

The Peninsular rivers

- 1 The Peninsular rivers originate from Peninsular part of India.
- 2 A large number of the Peninsular rivers are seasonal, as their flow is dependent on rainfall. During the dry season, even the large rivers have reduced flow of water in their channels.
- 3 The Peninsular rivers have shorter and shallower courses as compared to their Himalayan counterparts.
- 4 Most of the rivers of peninsular India originate in the Western Ghats and flow towards the Bay of Bengal.
- 5 For e.g. the Mahanadi, the Godavari, the Krishna and the Kaveri

The Indus River

- The river Indus rises in Tibet, near Lake Mansarowar.
- The Satluj, the Beas, the Ravi, the Chenab and the Jhelum join together to enter the Indus near Mithankot in Pakistan.
- The Indus flows southwards in Pakistan and drain into Arabian Sea.
- With a total length of 2900 km, the Indus is one of the longest rivers of the world.
- A little over a third of the Indus basin is located in India Ladakh, Jammu and Kashmir, Himachal Pradesh and Punjab and the rest is in Pakistan.



The Ganga River

- The headwaters of the Ganga, called the 'Bhagirathi' is fed by the Gangotri Glacier and joined by the Alaknanda at Devaprayag in Uttarakhand.
- The Ganga is joined by many tributaries, such as the Yamuna, the Ghaghara, the Gandak and the Kosi, the Ghaghara, the Gandak and the Kosi.
- The length of the Ganga is over 2500 km.
- It flows through Uttarakhand, Bihar, UP and West Bengal.



The Brahmaputra River System

- The Brahmaputra rises in Tibet east of Mansarowar lake very close to the sources of the Indus and the Satluj.
- It flows eastwards parallel to the Himalayas and drain into Bay of Bengal.
- It is joined by many tributaries Such as the Dibang, the Dihang, the Lohit.
- It flows through Arunachal Pradesh And Assam.
- The Brahmaputra has a braided channel in its entire length in Assam and forms many riverine islands.



Compare the east flowing and the west flowing rivers of the Peninsular plateau.

East flowing rivers		West flowing rivers	
1	The Mahanadi, the Godavari, the Krishna and the Kaveri are east flowing rivers.	1	The Narmada and the Tapi are west flowing rivers.
2	These rivers flow eastwards and drain into the Bay of Bengal.	2	These rivers flow westwards and drain into the Arabian Sea.
3	These rivers make deltas at their mouths.	3	These rivers make estuaries.

Name of river	Origin	Tributaries	Length	States it flows through	Where it drains into
The Narmada	Amarkantak hills in Madhya Pradesh	The Tawa, the Barna, the Kolar, the Ganjal	1300 km.	Madhya Pradesh and Gujarat	Arabian sea
The Tapi	Satpura ranges, in the Betul district of Madhya Pradesh	Vaki, Aner, Arunawati, and Gomai	700 km.	Madhya Pradesh, Gujarat and Maharashtra	Arabian sea
The Godavari (the Dakshin Ganga)	Western Ghats in the Nasik District of Maharashtra	The Purna, the Wardha, the Pranhita, the Manjra, the Wainganga and the Penganga	1500 km	Maharashtra, Madhya Pradesh, Odisha and Andhra Pradesh	Bay of Bengal
The Mahanadi	Highlands of Chhattisgarh	the Seonath, the Jonk	860 km	Maharashtra, Chhattisgarh, Jharkhand, and Odisha	Bay of Bengal
The Krishna	Near Mahabaleshwar	The Tungabhadra, the Koyana, the Ghatprabha, the Musi and the Bhima	1400 km	Maharashtra, Karnataka and Andhra Pradesh	Bay of Bengal
The Kaveri	Brahmagiri range of the Western Ghats	Amravati, Bhavani, Hemavati and Kabini	760 km.	Karnataka, Kerala and Tamil Nadu	Bay of Bengal

Why are rivers important for the country's economy?



River is very beneficial for agricultural purpose and generating hydro-electricity.



It provides fisheries, inland channels for transport.



They also help develop tourism and provide recreation.

Lakes are of great value to human beings. Justify.

A lake helps to regulate the flow of a river.

During heavy rains, it prevents flooding and during the dry season, it helps to maintain an even flow of water. Lakes can also be used for developing hydel power.

They moderate the climate of the surroundings; maintain the aquatic ecosystem, enhance natural beauty, help develop tourism and provide recreation.

Lakes like the Sambhar Lake provide edible salt.

They attract tourists for e.g. the valley of Kashmir and the famous Dal Lake, the house boats and shikaras, which attract thousands of tourists every year. Similarly, some other tourist spot near a lake and enjoyed boating, swimming and other water games.

The growing domestic, municipal, industrial and agricultural demand for water from rivers naturally affects the quality of water. Explain.

- The growing domestic, municipal, industrial and agricultural demand for water from rivers naturally affects the quality of water. As a result, more and more water is being drained out of the rivers reducing their volume.
- On the other hand, a heavy load of untreated sewage and industrial effluents are emptied into the rivers.
- This affects not only the quality of water but also the self-cleansing capacity of the river. For example, given the adequate streamflow, the Ganga water is able to dilute and assimilate pollution loads within 20 km of large cities. But the increasing urbanisation and industrialisation do not allow it to happen and the pollution level of many rivers has been rising.



Concern over rising pollution in our rivers led to the launching of various action plans to clean the rivers. Discuss in detail “National River Conservation Plan (NRCP)”.

1

National River Conservation Plan (NRCP)
The river cleaning programme in the country was initiated with the launching of the Ganga Action Plan (GAP) in 1985.

2

The Ganga Action Plan was expanded to cover other rivers under the National River Conservation Plan (NRCP) in the year 1995.

3

The objective of the NRCP is to improve the water quality of the rivers, which are major water sources in the country, through the implementation of pollution abatement work.



THANK YOU