

# 4. Our Changing Earth -2

## Worksheet 1

**A** Answer the following questions:

1. How do exogenic forces work to create landforms?

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2. Why are rivers considered an agent of gradation?

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3. What is a delta?

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4. Define the following, explaining how they are formed:

(a) Ox-bow lake: \_\_\_\_\_

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(b) Tarns: \_\_\_\_\_

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(c) Mushroom rocks: \_\_\_\_\_

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(d) Sea arch: \_\_\_\_\_

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## ANSWERS TO WORKSHEET I



- A. 1. Exogenic forces derive their energy from the Sun and act on the surface of the Earth through processes like weathering, mass wasting, erosion, transportation, deposition, etc.
2. Rivers originate in hilly areas and move through the plains till they join the sea. The force of their flow due to the steepness of the slope and the slowing down of the speed in the plains causes them to carry sediment from the higher to the lower regions. The flow of water thus causes erosion and the varying speed causes deposition. Thus, rivers become an agent of gradation.
3. When a river approaches the sea, its speed reduces and it cannot transport sediments easily. This causes heavy deposition on the river bed and the river divides into many distributaries. This results in a triangular-shaped formation called a delta.
4. (a) When a river meanders over a plain, it forms loops, some of which get cut off from the main river. These are called ox-bow lakes.
- (b) When a glacier erodes a mountain landscape, it exposes the solid rock below, scooping out armchair-shaped depressions. The lakes that form when these fill up with melted snow or ice are called tarns.
- (c) Wind erodes the lower portion of projecting rocks in the desert, creating a narrow neck below while the top portion remains wide. This gives rocks a mushroom-like shape, so they are called mushroom rocks.
- (d) Sea waves hitting rock masses in coastal areas break them, entering cracks and joints and scooping out the soft parts of the rock first, forming caves. When cavities are enlarged due to sea waves hitting both sides, a passage is created with only the roof remaining. This forms a sea arch.

# Worksheet 2

(A) Write the names of the landforms shown in the pictures and state which agent of gradation creates it:



1. \_\_\_\_\_



2. \_\_\_\_\_



3. \_\_\_\_\_

(B) Draw the three stages of a river.

## ANSWERS TO WORKSHEET 2

A. 1. Stack; Sea waves 2. Sand dune; wind 3. U-shaped valley; glacier

B.

