Rivers: Features of Erosion and Deposition: Meanders and ox-bow lakes

These features are found in the middle course of the river

A meander is a bend in a river. It is asymmetrical in cross-section. It is deeper on the outer bend (due to greater erosion) and shallower on the inside bend (an area of deposition)

In the early stages of meander formation, water flows slowly over shallow areas (riffles) and faster through deeper sections (pools).

This sets in motion helicoidal flow, that corkscrews from one bank to another

**2 sheets in book**

Oxbow lake development

In the lower course of the river meander bends become even more extreme and gradually the neck of the meander narrows eventually forming distinctive features known as ox-bow lakes

**Look at stages of development diagrams in book**

* As the outer banks of a meander continue to be eroded through processes such as hydraulic action, the neck of the meander becomes narrower and narrower.
* Eventually, due to the narrowing of the neck, the two outer bends meet and the river cuts through the neck of the meander. The water now takes its shortest route rather than flowing around the bend
* Deposition gradually seals off the old meander bend forming a straighter river channel
* Due to deposition the old meander bend is left isolated from the main channel as an ox-bow lake