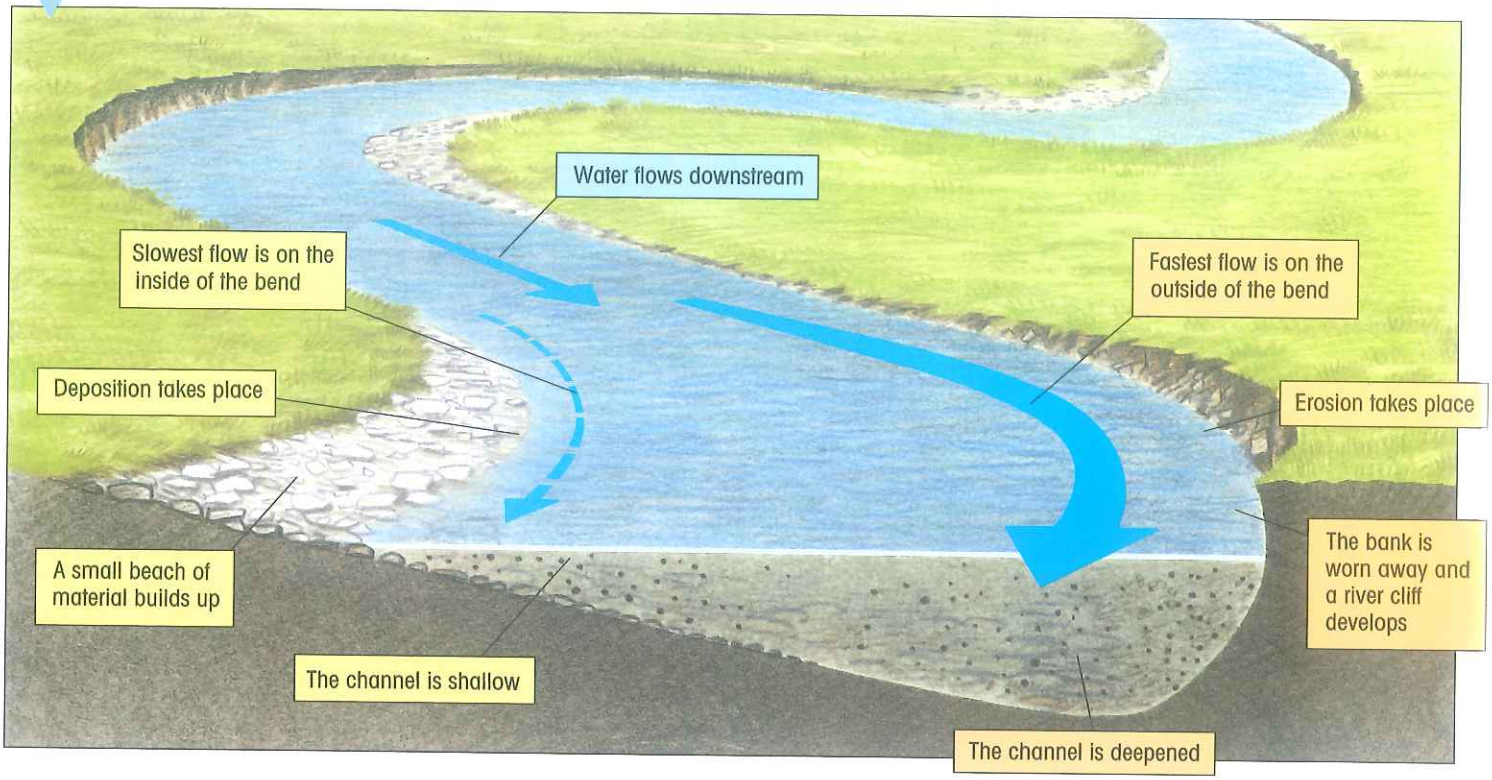
What happens on a river bend?

Have you noticed that rivers rarely flow in a straight line? Usually they twist and turn as they make their way down to the sea. The only time they are straight seems to be when people interfere with them by building banks or diverting their course.

Bends develop on a river mainly because of the water's eroding power. Think about when you are a passenger in a car and it goes around a corner. You are thrown towards the outside of the curve, often with quite a lot of force. The same happens when a river goes around a bend. The force of the water is greatest towards the outside of the bend. When it hits the bank it causes erosion. This erosion deepens the channel at that point and wears away the bank to make a small **river cliff**. On the inside of the bend, water movement is slower. Material builds up here due to deposition. This makes the bank gently sloping and the river channel shallow.

Diagram **A** shows what happens on a river bend. At the bottom of the diagram is a **cross-section**. This shows what the river would look like if a slice was cut across it from one side to the other.

A



B

Deposition on the inside of a river bend

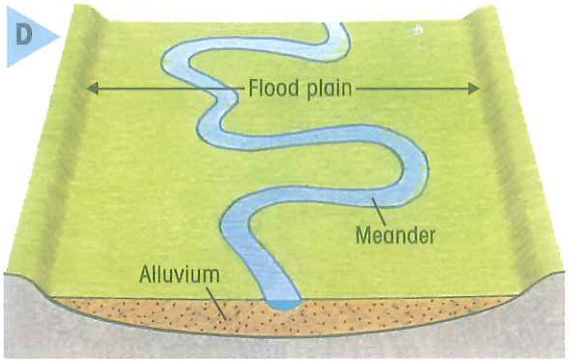
C

Erosion on the outside of a river bend

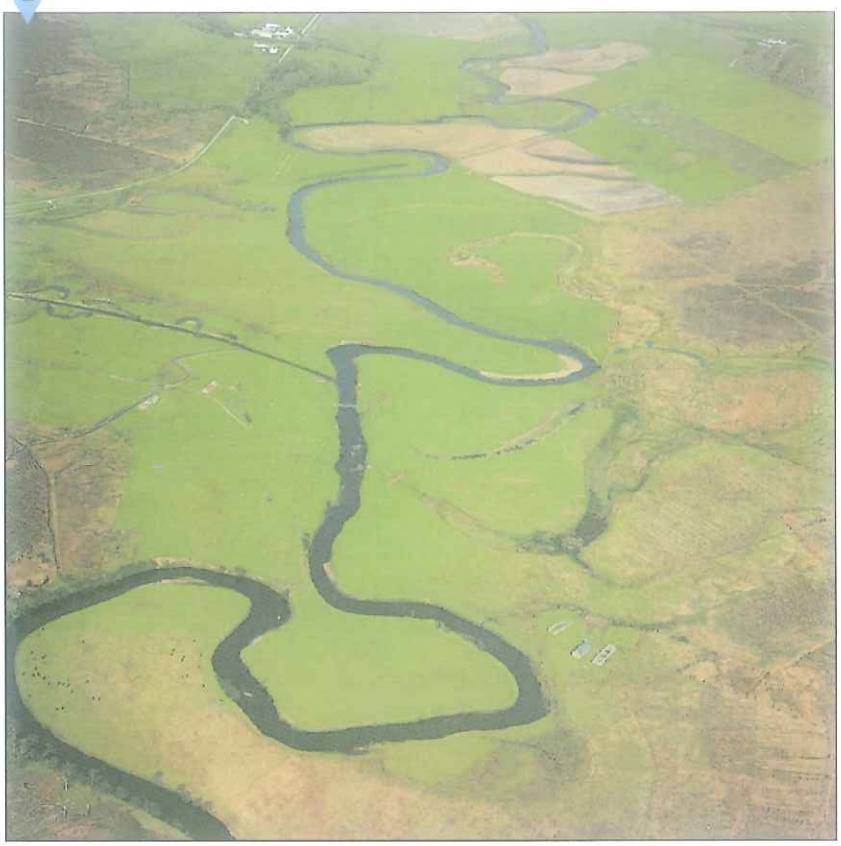
Look at sketch **D** and photo **E**. The river has many bends. These are called **meanders** and are a common feature of most rivers. On either side of the river channel there is an area of flat land called the **flood plain**. This area gets covered in water when the river overflows its banks. Flood plains are made up of **alluvium**, a fine muddy material that is left behind after floods. Alluvium is sometimes called **silt**.

Flood plains are useful to people because they are areas of flat land and have rich fertile soil. This makes them good for building on and for farming.

D



E



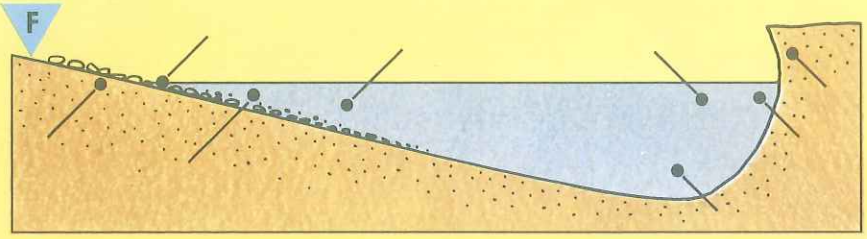
Activities

1 Look at diagram **F**, which is a simple cross-section of a river bend.
- **a)** Draw the cross-section.
- **b)** Write the labels from **G** in the correct places.
- **c)** Give your drawing a title.
- **d)** Describe why one side of the river bend is different from the other.

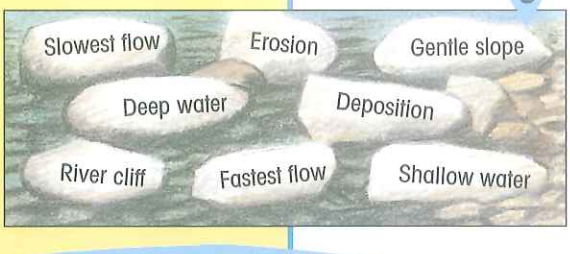
2 **a)** Make simple sketches of photos **B** and **C**.
- **b)** For each sketch describe the river feature that it shows.
- **c)** Explain how each feature was made.

3 Give the meaning of the terms shown in sketch **D**.

F



G



EXTRAS

1 Write down two reasons why the flood plain of a valley is good for farming.

2 Give one problem of farming the flood plain. Suggest what could be done to reduce the problem.

Summary

A river's course is seldom straight. It usually has many bends which cause it to meander down its valley. The outside of a river bend is worn away by erosion while the inside is built up by deposition.