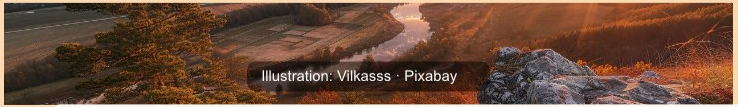
Rivers: From Source to Sea

How water sculpts valleys, waterfalls and lakes



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Today we will...

WE ARE LEARNING TO

- Trace a river from source to mouth
- Explain erosion, transportation and deposition
- Describe how waterfalls and meanders form

SUCCESS LOOKS LIKE

- ✓ I can label upper, middle and lower course features
- ✓ I can explain a waterfall and an oxbow lake in order
- ✓ I can use hydraulic action and deposition correctly

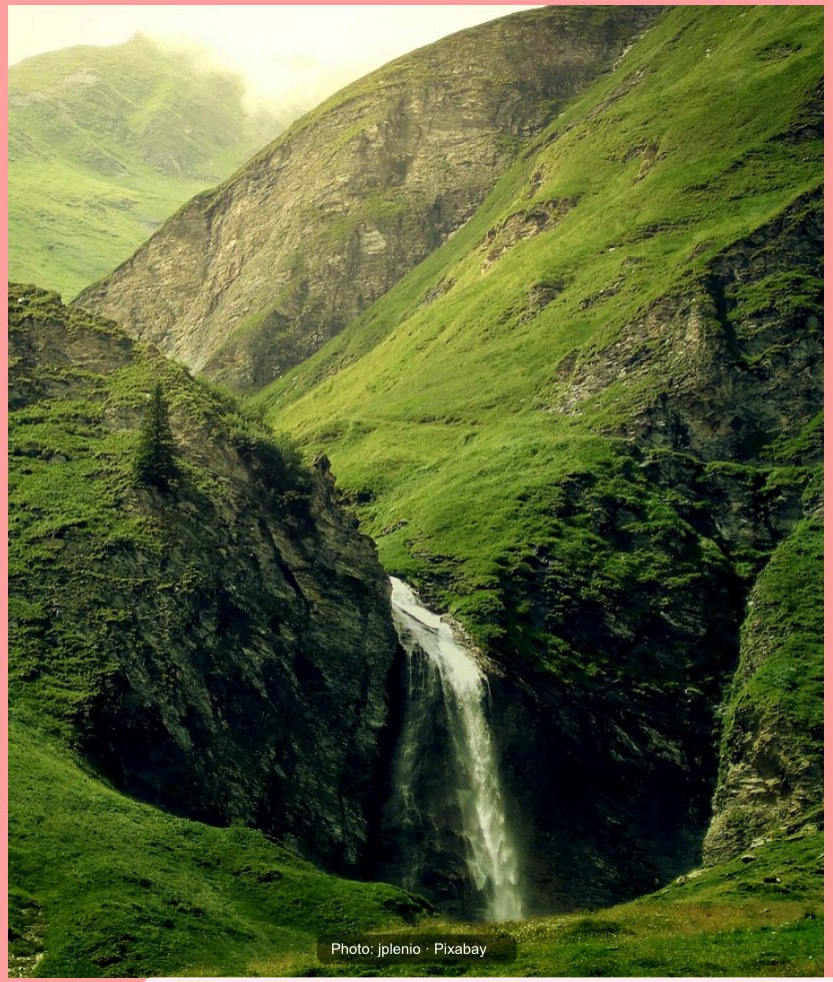


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DID YOU KNOW?

Waterfalls move uphill over time.

Soft rock wears away first, the lip collapses, and the fall retreats upstream leaving a gorge.



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DID YOU KNOW?

Rivers drill round holes in solid rock.

Swirling stones spin in dips and grind out circular hollows called potholes.



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Where would you live?

Where is the best place for a village?

A Steep upper valley near a waterfall

B Wide middle bend on a meander

C Flat lower floodplain near the mouth

Vote with your hands, then explain why.

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River processes in action



▶ 0:00 – 5:00

- Watch for erosion wearing rock away
- Spot transport moving pebbles downstream
- Notice deposition dropping material



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Journey of a river

Source

Rain and springs start a narrow stream

Upper course

Vertical erosion cuts V-valleys and waterfalls

Middle course

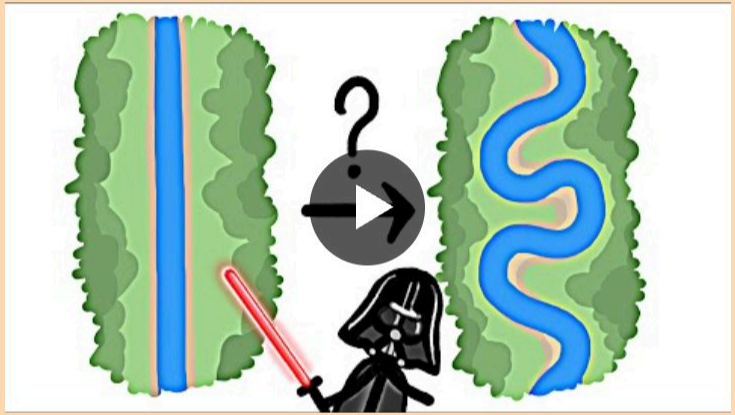
Lateral erosion widens channel and meanders grow

Lower course

Deposition builds floodplains, levees and deltas

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Why rivers curve



▶ 0:00 – 2:39

- Watch fastest water on outside bend
- Look where the bank is eaten away
- See sand build up on inside bend



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Your task

In pairs, sketch the birth of an oxbow lake in 4 boxes and colour the fastest water.

1. Draw a meander, label river cliff and slip-off slope
2. Narrow the neck, then cut through in flood
3. Show the cut-off oxbow lake and deposition

10 min

In pairs

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Two sides of a meander

Outside bend: erosion

- Fastest water hits the bank
- Forms steep river cliff
- Edge moves outwards

Inside bend: deposition

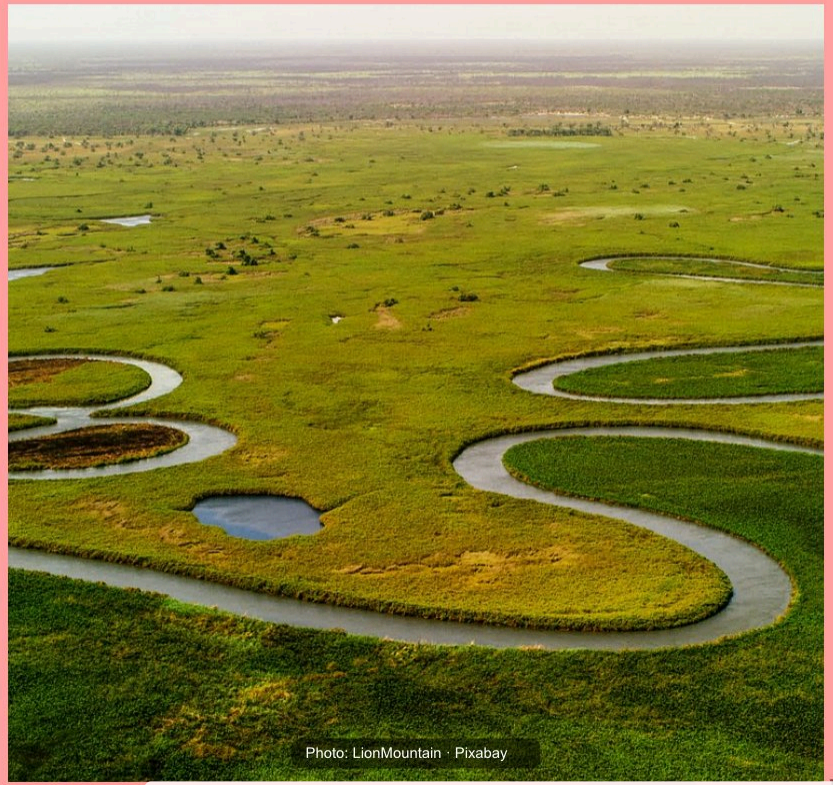
- Slowest water drops sand
- Forms gentle slip-off slope
- Edge builds inwards



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Think, pair, share

After heavy rain, does a flood only destroy landforms, or can it build them too?



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Quick quiz

1. What rock arrangement makes a waterfall?
2. What valley shape does vertical erosion make?
3. Where is water fastest on a bend?
4. What lake forms when a meander is cut off?



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