

RIVERS

Rivers Instructional Case: A series of 4 student-centered science lessons

Glossary

Alluvial Fan

- *From a Scientist:* A fan-shaped landform that forms at the mouth of a mountain stream, where the stream empties into a broad valley or plain and deposits its sediment. As the stream loses energy, it drops its sediment (called alluvium) consisting of gravel, sand, and silt. Alluvial fans are *subaerial* landforms literally meaning that they form “under air” or directly on the land surface. They differ from deltas that form in a larger body of water (submarine).
- *From a Student:* A fan-shaped deposit of sediment transported by a stream. They typically form at the base of mountain ranges.

Alluvium

- *From a Scientist:* Sediment deposited by a flowing stream that typically consists of gravel, sand, silt and clay. Alluvium commonly results in fertile soil.
- *From a Student:* Sediment that is deposited by a stream or river.

Delta

- *From a Scientist:* A landform that forms from the deposition of sediment (alluvium) at the mouth of a river, where the river flows into a large body of water such as the ocean or a lake. As the stream enters the large body of water, the water loses energy (water velocity) and drops its sediment. Deltas are commonly triangular in shape and get their name from the Greek letter Δ .
- *From a Student:* A deposit of sediment at the mouth of a river where it empties into a lake or the ocean.

Deposition

- *From a Scientist:* The geological process in which sediments, soil, and rocks are added to a landform or land mass. Wind and water are fluids and transport sediment. When the flow velocity of the air or water decreases (loss of kinetic energy), sediment is deposited, building up layers of sediment and forming a variety of landforms.
- *From a Student:* The process where sediment is moved by erosion and drops.

Downstream

- *From a Scientist:* Situated or moving in the direction in which a stream or river flows (towards the mouth of the river in which the current flows).
- *From a Student:* Refers to the direction that the water in a stream is flowing to.

Erosion

- *From a Scientist:* A surface process where sediment, soil, and other materials are transported

by water, wind, ice or other natural agents of erosion.

- *From a Student:* The process that moves sediment on the Earth's surface.

Flood Plain

- *From a Scientist:* An area adjacent to a stream or river that stretches from the banks of its channel to the base of the enclosing valley walls and experiences flooding during periods of high discharge. Flood plains are formed from river sediments and are generally broad and flat.
- *From a Student:* Land next to a river that is commonly flooded.

Meander

- *From a Scientist:* A bend in a portion of a sinuous (curvy) river channel. Meanders form when the river erodes the outer banks of the curve and deposits sediment in the inner part of the curve.
- *From a Student:* The curve in a river formed by erosion and deposition of sediment.

Oxbow Lake

- *From a Scientist:* A crescent-shaped lake lying alongside a winding river that forms when a meander is cut off and the river no longer flows in the loop of the meander.
- *From a Student:* A curved lake that forms from a meander in a river.

River

- *From a Scientist:* A natural watercourse of freshwater of fairly large size flowing in a definite course or channel or series of diverging and converging channels.
- *From a Student:* A large stream flowing where water flows in a channel.

River Mouth

- *From a Scientist:* Part of a river where it flows into a larger body of water or into a valley. At the mouth of a river, a delta or alluvial fan may be formed resulting from sediment deposition.
- *From a Student:* The place where the river enters a lake, ocean or a valley.

River Source

- *From a Scientist:* The furthest place on a river or stream from its mouth as measured along the course of the river. The source is the original point from which a river flows.
- *From a Student:* The beginnings of rivers, the uppermost streams in the river network furthest from the river's endpoint.

Run Off

- *From a Scientist:* Runoff is the flow of water on the Earth's surface from precipitation or snowmelt. Runoff changes the landscape by the action of erosion.
- *From a Student:* The flow of water on the Earth's surface.

Sediment

- *From a Scientist:* Solid material that consists of rocks and minerals that is moved (erosion) and deposited in a new location (deposition). Sediment is commonly formed by the weathering of rocks and minerals and is transported by erosion.
- *From a Student:* Naturally occurring material that is broken down by processes of weathering and transported by wind, water, or ice.

Tributary

- *From a Scientist:* A stream or river that flows into a larger stream or river. The confluence is where two streams or rivers merge.
- *From a Student:* A river or stream flowing into a larger river.

Upstream

- *From a Scientist:* Situated or moving in the opposite direction in which a stream or river flows (towards the mouth of the river in which the current flows).
- *From a Student:* Refers to the direction towards the source of the river (i.e. against the direction of the flow of water).