LC Geography – River Processes (Part 1)

Drainage basin	The area of land that is drained by a river and its tributaries.
Watershed	A ridge of high land that separates one drainage basin from the next.
Discharge	The volume of water that is carried by a river at a given time. The greater the discharge, the greater the ability of the river to erode and transport material.

Cut dotted horizontal lines. Fold vertical lines.

LC Geography – River Processes (Part 1)

Velocity	The speed of the water.
Gradient	The steeper the gradient of a river, the faster it should flow and thus the more energy it should have.
Turbulent flow	Rivers appear to be flowing fast at waterfalls and rapids. As the water flows, it is mixed and thrown about. This may occur where the riverbed is rough due to potholes and boulders. This type of flow is described as turbulent flow and it is important for erosion and transportation.

Cut dotted horizontal lines. Fold vertical lines.

LC Geography – River Processes (Part 1)

Drainage pattern	The overall layout that a river and its tributaries take in an area. Drainage patterns vary greatly due to differences in the rock types, structure and the slope of the land.
Dendritic pattern	The most common drainage pattern. The main river looks like a trunk of a tree and its tributaries resemble branches. The Shannon River is a good example.
Radial pattern	Streams drain outwards in all directions away from a central high point. This could be an isolated hill, a dome-shaped upland or a volcanic cone. Twelve Pins in Co. Mayo are an example.

Cut dotted horizontal lines. Fold vertical lines.

LC Geography – River Processes (Part 1)

Trellis pattern	Forms when tributaries join the main river at right angles. It is best developed in a ridge and valley landscape, such as Munster. The river Bandon, Lee and Blackwater have trellised patterns.
Deranged pattern	This pattern has a chaotic appearance. Rivers flow in a random pattern, often doubling back and intersecting with one another and with small lakes in the area. Much of the Connemara landscape has a deranged drainage pattern.
Hydraulic action	A process of river erosion caused by the force of moving water. It is strongest where the water has a fast flow. Water is forced into cracks in the rocks. The air in the cracks is compressed. This puts extra pressure on the banks and bed of the channel and slowly weakens them.

Cut dotted horizontal lines. Fold vertical lines.

LC Geography – River Processes (Part 1)

Cavitation	A form of hydraulic action. Occurs when air bubbles in the water collapse. This sends out tiny shock waves that weaken the banks of the river and loosen particles of material.
Abrasion	Occurs when the river uses the force of its load to erode. Pebbles, sand and gravel carried by the river are hurled against the bed and banks of the river in a sandpapering effect.
Attrition	A way of eroding the river's load rather than the bed and banks. It takes place through small collisions between the particles of the river's load. The particles rub against each other while transported and weaken as a result.

Cut dotted horizontal lines. Fold vertical lines.

LC Geography – River Processes (Part 1)

Vertical erosion	Erosion takes place in three directions. In vertical erosion a river makes its valley deeper by cutting down into its bed. It is the most common in a river's youthful (upper) course.
Lateral erosion	A river erodes on the outside of its channel. It eventually leads to the widening of the valley. It occurs mostly in the mature (middle) and old (lower) stages of a river.
Headward erosion	A river erodes upstream from its source. It lengthens the river valley in an upstream direction. It also occurs when a waterfall retreats.

Cut dotted horizontal lines. Fold vertical lines.