

Storm Drain Maze [MC]

Adapted from Project WET® and New Wave of Learning

Grades: K-2

Time: 45 minutes to 1 hour

Goals: To understand the effect different types of pollution has on water as it flows through a watershed and introduce the concept of a water treatment plant.

Objectives:

Students will be able to: define pollution; define storm drain; distinguish between different types of pollution; understand where a water drop goes once it enters a storm drain; and understand the concept of a water treatment plant.

Key Words:

Pollution

Storm drain

Water treatment plant

Water quality

Watershed

Background Information:

Adapted from New Wave of Learning

Our water usage directly affects each of these aquatic ecosystems. Pollution from our homes, our yards, our communities, can harm plant-life as well as kill animals that rely on these ecosystems to survive. Rain and storms will transport chemicals such as fertilizers and car oils into each habitat of a watershed and can enter an aquatic system from storm drains, the grates on the side of the road that collect water after a storm.

Because water within a watershed always flows downstream, all water from inland and upstream containing point- and non-point source pollution has a detrimental effect on the entire water cycle. Debris, fertilizers, pesticides, oil, detergents, etc. that find their way to roadside storm drains will be lead downstream through underground pipelines into local waterways.

Since the estuary has water flowing into it from both upstream rivers and the ocean, it can be exposed to pollution from both sides, causing detrimental damage to occur. Inland and upriver, most pollution enters the waterways either by passing through a storm drain on the side of the road, percolating down into the soils, or being dumped directly into a tributary or the river itself. Water in a watershed always flows downstream, and because these pollutants do not pass through a water treatment plant, they are directly emitted into the estuary. Ocean pollution, by contrast, can come from boat oil or illegal dumping of chemicals, as it is pushed into the estuary with the incoming tides and currents.

There are two main types of pollution: point- and non-point source pollution. Point-source pollution is often described by its namesake and usually consists of pipes that emit pollutants directly from a factory or plant into the water. You can literally “point” out where the pollution is coming from and “point” blame on the culprit. Non-point source pollution is much more difficult to identify the cause or where it originally came from. Pet waste, detergents and soaps from cars or homes, fertilizers and pesticides for lawns and gardens, and general garbage debris can all be considered non-point source pollution. These items can be twice as detrimental because they tend to be exponentially added to the water system.

Help Hydro turn off the leaky faucet!

