North Central Waterwatch

river detectives part 4 - super soggy extras

Stormwater
Teacher's Notes

AusVELS Domain and (Level): Science (F-6), Humanities, Geography (F-6), Civics and Citizenship (F-6)
Equipment: Stormwater Spot the Difference and Crossword (This activity works particularly well after the activity *Story of a River*)
Duration: 30 minutes
Setting: Classroom

What is urban stormwater?

Urban stormwater is water that runs off hard surfaces (roads or footpaths) in towns or cities. It creates a problem when pollution is collected from the ground and washed into our waterway via the drains. Unlike sewage, which is treated through a sewage system, stormwater generally flows untreated, through a series of pipes and drains into our waterways and ultimately, the ocean. Sewage is water that flows down the drains from inside our homes**.**
There are three categories of stormwater pollution:
Litter: such as cigarette butts, cans, bottles, paper, packets, glass, foil, polystyrene and plastics
Organic: including detergents, oil, grease, petrol, pesticides and fertilisers
Chemical: such as leaves, garden clippings, soil and animal droppings

Stormwater past and present

In the past, stormwater was regarded as a nuisance to be swept away as quickly as possible underground and kept out of sight. Today, in progressive and water conscious areas, urban stormwater is caught in tanks before hitting the ground and is used for toilet flushing, car washing, irrigation of parks, gardens and wetlands.
There are many education campaigns conveying how to reduce stormwater pollution such as stenciling stormwater drains to inform people where their rubbish ends up. Litter traps have been installed on some drain outlets to local waterways and councils are increasingly focused on ensuring that developments are stormwater sensitive.

So what's the problem?

The impacts of stormwater on water quality, flora, fauna, communities and catchments are extensive:
Litter gets caught in stream vegetation, clogs up waterways, can take many years to break down and be eaten by or entangled with aquatic fauna. Although consisting of 'natural' materials, **organic** pollution can add nutrients encouraging the rapid growth of weeds and causing algal blooms, organic debris uses up oxygen as it rots starving aquatic flora and fauna of vital air, sediment makes the water muddy and builds up in waterways, animal droppings contain bacteria making fauna and humans sick and garden clippings and seeds can reshoot in streams adding to weed problems. **Chemical** pollution is toxic to humans, plants and animals, petroleum products form oil films on water and detergents can reduce the waterproofing capabilities of water birds and platypus.
Polluted waterways not only look and smell bad, but are unsafe for recreational swimming and water based activities and have an impact on the whole community. Everyone has a role in managing urban stormwater.

WATERWATCH North Central Communities Caring for Catchments
NORTH CENTRAL Catchment Management Authority Connecting Rivers, Landscapes, People
www.nccma.vic.gov.au