

# AS15 - Mapping the School Drains

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In this activity you will carry out an investigation of the stormwater drains in your school grounds.

## Syllabus references:

**Content:** 5.10 c) describe some impacts of human activities on ecosystems

5.11.2 waste from resource use to:

a) relate pollution to contamination by unwanted substances

**Skills:** 5.14 undertakes first-hand investigations independently with safety and competence

5.22 independently plans, implements and evaluates the effectiveness of a variety of tasks as an individual and as a team member

## You will need

- A map of the school playground showing the layout of buildings, playgrounds and streets.
- Stormwater Drain Stencil (can be obtained from the NSW EPA or you can make your own with slogans such as 'The Drain Is Just For Rain', 'The Parramatta River Starts Here'. Perhaps some stencils of dolphins or other aquatic animals would look good too!)
- Can of White or yellow Spraypaint

Optional: Fluorescein dye for mapping stormwater system (available from APS Colours, 8 Abbott Rd, Seven Hills NSW 2147. Phone (02) 9839 4000)

## Pre-Work

Review Environmental Legislation ([POEO](#)) and Water Pollution

## What to do

Conduct the survey as a whole class or form into small teams of students.

Walk around the school grounds and street, noting the location of stormwater drains and potential sources of pollution. As you walk around the school, use the Drain Stencil to mark every drain. This will bring the school's stormwater system to the attention of the whole school community, as well as any tradesmen who come onto the site.

Mark on the map the following features:

- Location of stormwater drains in street gutters
- Location of stormwater drains in the school yard
- Gradient of the street and school yard, showing the direction of water flow towards the stormwater drains

Note the condition of the drains.

- Are they clogged with leaves or litter?
- Is there any sediment or mud entering the drain?
- Are there any signs of other pollutants entering the stormwater system?
- Can you see any potential pollutants on the street or in the school yard? (Look for things that could wash into the stormwater system if it rained.)

Note any potential pollution sources on your map.

Trace the stormwater drains back up to their source. If buildings are elevated, check under them to see whether the drains are connected to the stormwater or sewerage system.

Where do the stormwater drains flow to? (Your school principal or local council may be able to help with maps of the stormwater system)

You can actually test where the stormwater drains run by using fluorescein dye or different coloured ping pong balls. Place the dye or balls into a stormwater or drain inlet and trace where it comes out. (Be sure to collect the ping pong balls afterwards). *(When students from Brookvale Primary School mapped their stormwater drains, they were shocked to discover that the drain from their art and craft centre was connected to the stormwater system. Every time they washed their brushes and paints off they were polluting the local creek! They have since closed off the drains and wash their equipment in buckets which are tipped out on the garden.)*

Check the down pipe connection from school buildings.

Are the gutters and downpipes connected to the stormwater system (as they should be) or to the sewerage system (which is illegal)? Again some fluoresceine dye will tell you where the gutters are connected.

Mark all of the above on your school map.

Back in the classroom, discuss the following questions:

- What would be the impact on the local creek if litter, leaves, sediment or other pollutants are entering the stormwater drains around the school?
- What would be the impact if roof gutters were connected to the sewerage system?