

## Using water bugs to measure water quality

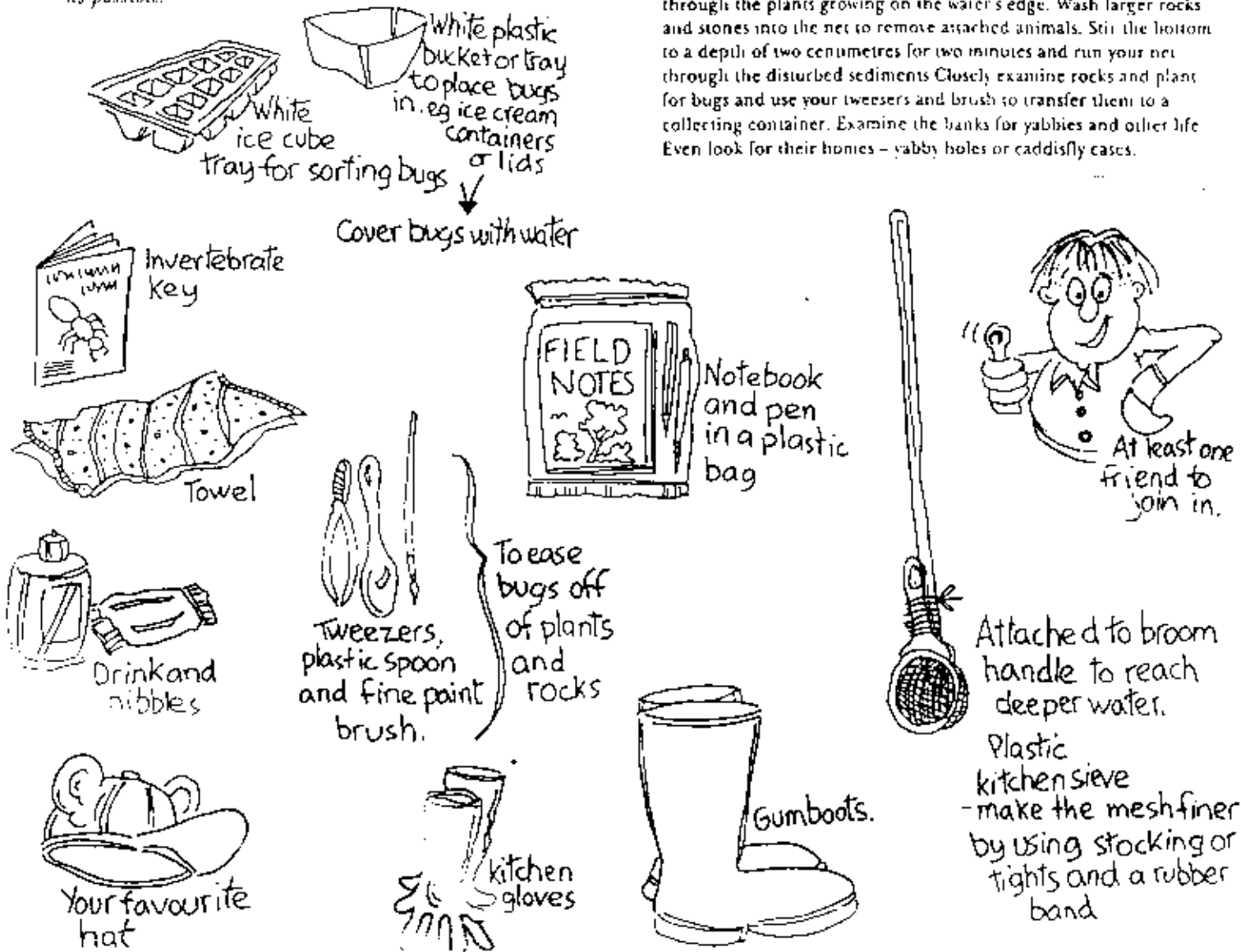
**A** stream is usually a home for many different types of animals. These include insects, crustaceans, molluscs and worms. They are commonly referred to as water bugs. Scientists have found that the number and variety of water bugs found in a stream can give an indication of the relative levels of water pollution. In other words, by sampling the water bugs in your local stream, you can get an idea about the quality of the water!

This Water Bug Detective Field Guide is designed to provide you with information on how to collect water bugs, make some basic identifications, and, based on what you've found, work out a Stream Pollution Index for the stream sampled. The higher the Index, the lower the level of pollution, and the healthier the stream.

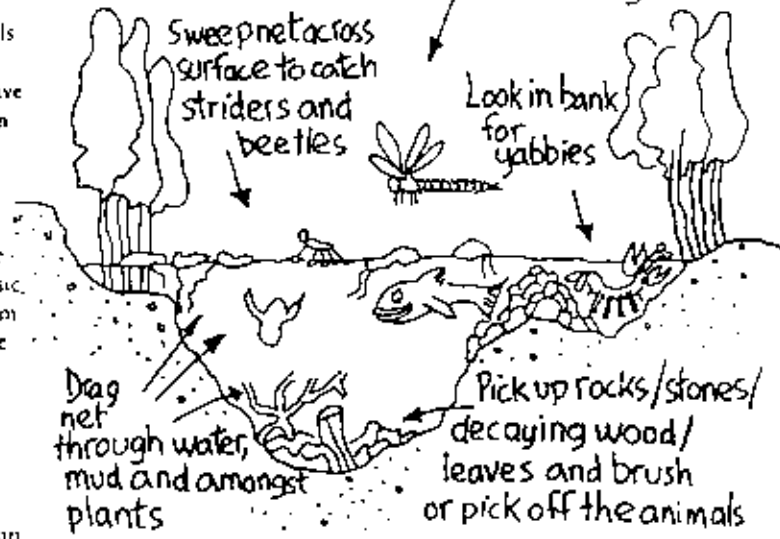
## Collecting Water Bugs

**W**ater bugs live in many different parts of the stream. Some live on the water's surface, some in the water itself, others on or in the bottom of the river or creek, in the surrounding vegetation, or amongst the rocks. The idea is to sample as many of these different 'microhabitats' as possible.

Before setting off on a sampling expedition, assemble as much of the following equipment as possible:



disturb creek as little as possible and return all water bugs



Once you've gathered your equipment, head down to the local stream and try to sample as many of the different stream environments as possible.

Using your net, strain the water at different depths, including the water surface. Run your net over the surface of the bottom, through the plants growing on the water's edge. Wash larger rocks and stones into the net to remove attached animals. Stir the bottom to a depth of two centimetres for two minutes and run your net through the disturbed sediments. Closely examine rocks and plants for bugs and use your tweezers and brush to transfer them to a collecting container. Examine the banks for yabbies and other life. Even look for their homes - yabby holes or caddisfly cases.