

Water & a Healthy Environment

3. MINISASS TEST



Water life as an indicator of change and water quality



What do we need?

- Nearby river/stream/pond
- Gloves (in pack)
- miniSASS pamphlet & score sheet (in pack)
- Catch net / sieve
- Plastic cup / bottle
- White plastic dish / plate

Questions we are asking, and how we plan to take our investigation further:

The presence or absence of different aquatic macro-invertebrates in the water provides us with important evidence of how clean or polluted the water may be. If we want to identify which group of invertebrates they belong to, we need to look at them more closely and carefully. Aquatic scientists would usually collect and then study these invertebrates under a microscope, to see even more detail. We are able to see many of these living creatures quite easily - which is why they are called 'macro' (not 'micro'). We can use a hand-held magnifier to see more detail.

Some groups of aquatic macro-invertebrates - e.g. caddis flies - are very sensitive to pollution. We would find them only in clean rivers/streams. Other groups - e.g. true flies - are more tolerant to pollution. We would probably find them in most polluted rivers/streams /ponds. If our water supply was highly polluted, do you think we would find caddis flies in it?

What have we learned from using the miniSASS method? How much do you think this method can tell us? How much can it tell us about water quality? If we want to be certain that the water is safe to drink, what else could we find out? Where could we take our investigation from here?

How do we use the kit?

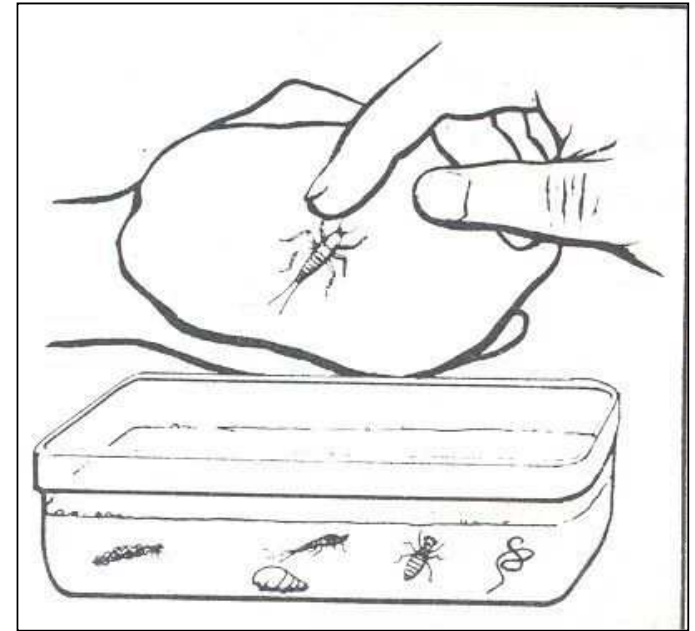
Here, we are doing an initial screening test, to get a sense of what environmental issues and risks there may be.

Here is a suggested activity to help you learn more about what is happening in your river/ stream/pond:

miniSASS: taking a closer look at the benthic (bottom-dwelling) macro- invertebrates that live in the water

The miniSASS (South African Scoring System) has been developed specially for people in schools and communities so that everyone is able help monitor river health.

- Make copies of the miniSASS sheet (site information & scoring), so that you can check different parts of the river/stream/pond as many times as you want.
- Get a white plastic container (e.g. ice-cream tub) - to make it easier to study little river creatures.
- Make a small catch net from a wire coat hanger with mosquito netting attached. Or you can use a sieve!
- Get a plastic cup or bottle - to help you catch invertebrates. Or use a plastic dropper to suck up very little creatures.
- Use the magnifier to look at the aquatic invertebrates.
- Carefully read the miniSASS pamphlet for detailed step-by-step instructions on what to do.
- Record everything you find on your miniSASS *site info & score sheet*.



- Interpret your score (use the instructions to guide you).
- Do you get a sense that the water is highly polluted, OK, or good quality? Do you think it is safe to drink?
- How does this compare with your interpretation of the turbidity and methylene blue tests?
- How does your understanding of the miniSASS score link to your sense of what the water was like at the beginning of your study?

Don't forget!

- Release all the invertebrates back in the water when you have finished studying them.
- Why would this be important?