

Suitable for
3-7 years

- Solo
- Pairs
- Groups

Irene's activity guide

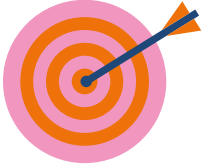
Water clean up game

How to guide



Irene's activity

Water clean up game



Aim

The aim of this activity is to explore what might be in our water and find out why and how it is removed before we can drink the water.



Time required

10:00 minutes per activity



Story to guide activity

The Magic Schoolbus at the Waterworks.



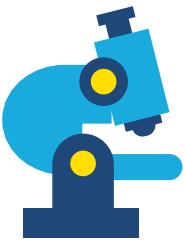
Materials

- **Magnetic cards** – print out our cards and add a paper clip to each image. Ideally laminate them so you could add to a bowl of water
- **Magnet on a string** – 2 magnets on a string can be purchased from kidspartycraftforless.com for £0.37



Instructions

1. Read the book *The Magic Schoolbus at the Waterworks* to introduce the idea of different stages of water treatment. You can also read the comic *Rose and Drop* about stages of cleaning water.
2. Discuss stages of treatment and what things might need to be removed from the water.
3. Play the magnetic 'water treatment' game removing different contaminants from water. When you remove a contaminant match it on the board to find out why and how it is removed.
4. Once children know methods that work you can play again having them match the why and how cards with the selected contaminant.



Background information

Engineers have to design water treatment works to remove a lot of different contaminants that can make us ill or make the water taste bad. The list below gives a brief explanation of the processes which are on the game board.

Methods include:

Larger filters called screens which keep out large debris like leaves from entering the treatment works.

Coagulation and flocculation (adding chemicals to get dirt to stick together)

Sedimentation (letting stuff settle to the bottom)

Filtration (why not try our filtration exercise to see this in action)

Disinfection (adding chlorine)

Catchment management – this means trying to improve water quality by making changes in the land around the rivers and lakes that our water is collected from, e.g. preventing poo from farm animals entering the water, by moving their grazing further away, or preventing pesticides from entering the water, e.g. by correct dosing and trying to avoid runoff with rain etc.



Prompt questions

→ How do you think we can remove these things from water?

Extensions

Try our filtration activity

You could also try out steps of water treatment like:

1. Seeing how adding washing up liquid causes pepper in a tray of water to move out to the sides (this is really based on surface tension but illustrates how adding a chemical can help bunch together a lot of small particles)
2. Leaving some dirt in a jar of water to sediment
3. Building a water catchment model and moving cows and sheep away from drinking water sources