

# MICROPIA

toont het onzichtbare

## What lives in the flowerpot?

### Invisible inhabitants under your feet



One of the most commonly occurring small animals in the world is the roundworm, also known as the nematode. Four out of five multi-celled animals on the planet are roundworms. It is a microscopically small, wormlike little animal that can be found everywhere. And that means in your back garden, too.

Around 20,000 types of roundworms have been identified and described. Many of these are parasites on plants, animals or insects. But there are also many types that hunt bacteria, fungi or other roundworms. Roundworms mostly live in the soil – there can be thousands of individuals in a handful of earth. So this is a good place to go looking for them. You can use any type of soil for this experiment, ranging from earth from your vegetable garden to sand from the sandbox.

Despite their microscopically small size (just 0.5 millimetres long on average) you can very easily make them visible yourself. A microscope with a magnification of 20x will already do the job just fine. If you do not have a microscope or binoculars yourself, you can also use a magnifying glass with a magnification of 10x. But realise that at a magnification of just 10x the roundworms will still appear very small, so you have to look carefully!

What do you need?

- a tablespoon;
- Parafilm (or adhesive tape) to stick the lids on the Petri dishes;
- a microscope (or a magnifying glass with a magnification of at least 10x);
- six Petri dishes with agar (a nutrient medium on which microbes can grow). You can also very easily prepare a Petri dish with nutrient medium yourself. Want to know

how? Then watch the experiment 'breed your own microbes' on [micropia.nl/experimenten](http://micropia.nl/experimenten)

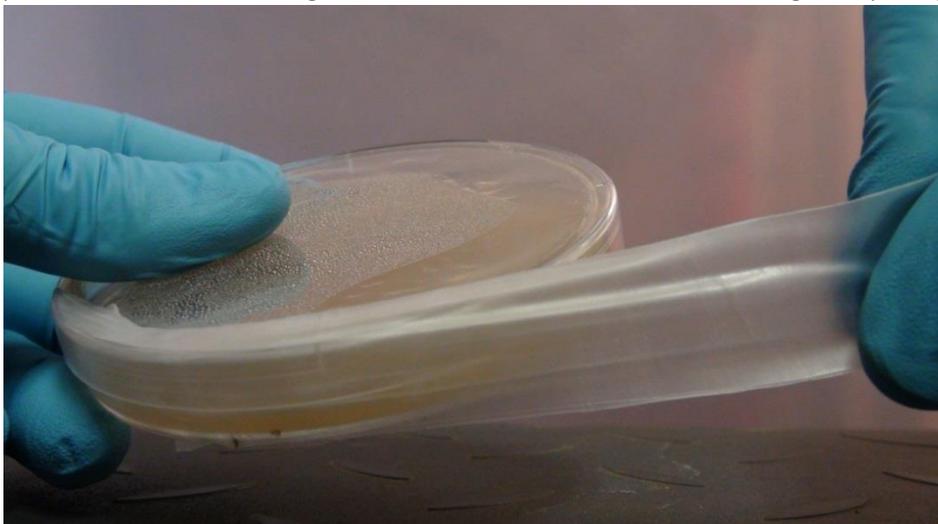
## Getting started!

### Step 1: collect soil from the garden

1. Choose three places where you want to collect soil, for instance from the sandbox, the vegetable garden and a flowerpot.
2. Use the spoon to put about one tablespoon of earth in a Petri dish. Put the earth on one side of the Petri dish. The roundworms will then have enough space to crawl out of the earth and over the surface of the dish.
3. Repeat this for each type of soil that you want to test. In the end, you will have two 'samples' for each location (six Petri dishes in total).



4. Place the lid on the Petri dish and fix it in place with the Parafilm or adhesive tape as shown in the picture below. Try not to shake the Petri dish too much – that way, you prevent the earth sliding around in the Petri dish and covering everything.



5. On the lid, write where the earth comes from (for instance: 'vegetable garden'), the number of the sample (A or B) and the date.
6. Put the Petri dishes in a cupboard at room temperature (not too warm or cold) and leave them there for a week.

**Step 2: examine the Petri dishes**

1. After one week, take a good look at the result. IMPORTANT: leave the Petri dishes closed!
2. Put the Petri dish under the microscope or get your magnifying glass. Once again, be careful not to move the dishes too much. This is because the roundworms will mostly be visible in the part not covered by earth.
3. You get the best view if you shine light from underneath. The roundworms will be easy to recognise as little worm-shaped animals that twist and crawl over the nutrient medium.

## Questions

**Question 1:** In what type of soil did you find the most roundworms?

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**Question 2:** You will usually find more roundworms in earth from the vegetable garden than in sand from the sandbox. Why do you think this is the case?

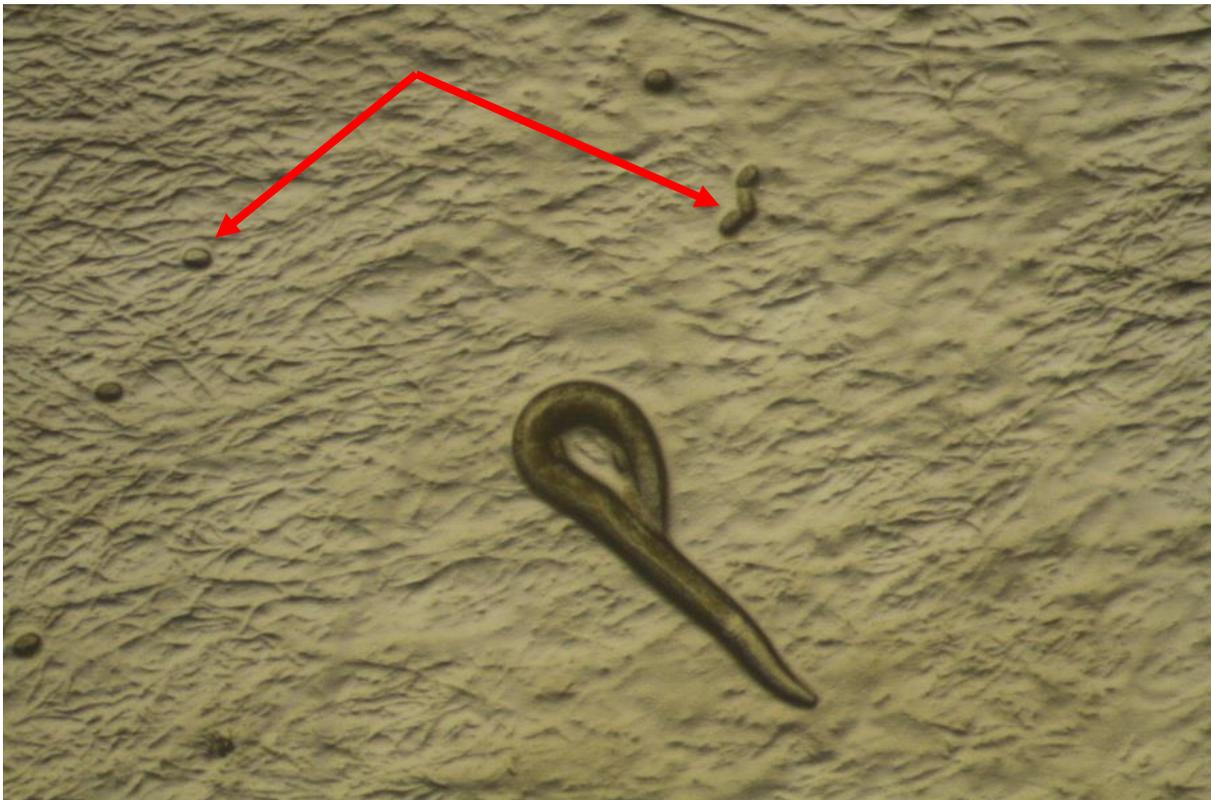
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**Question 3:** Apart from the roundworms, you often also see little ball-shaped objects (take a look at the photo below). Can you find these too? What do you think these are?

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Would you like to find out more about the roundworms and their important task in nature?  
Or would you like to do more experiments? Then go to [micropia.nl](http://micropia.nl).