

# ARTIS MICROPIA

## From 'small animals' to friendly virus

### Microbiology: past, present, and future

Tardigrades that survive on the moon and fungi that turn insects into zombies. Microbiology often sounds like science fiction, but that is not the case. Microorganisms are ancient and indispensable for the health of our planet and ourselves. Meet these invisibly tiny partners and discover how we will embark on a sustainable future together with them.



1

#### "Small animals"

##### Exhibit: Zoom in

The world of microorganisms is a relatively recent discovery. It was not until 1674 that the Dutchman Antoni van Leeuwenhoek first observed "small animals" through his homemade microscopes.

#### First life

##### Exhibit: Mighty microbes

It is astonishing how ancient microorganisms are. Humans have only been around for 200,000 years, while microorganisms have existed for 3.5 billion years! That's 17,500 times longer. All life on Earth has evolved from these primeval microorganisms.

2

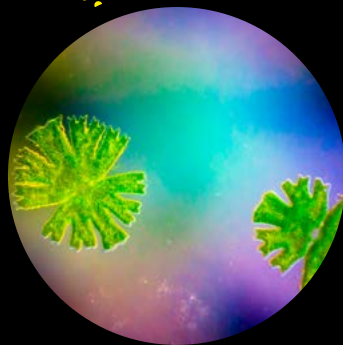


3

#### Important tasks

##### Exhibit: Munch, nibble, gulp

Over the course of 3.5 billion years, microorganisms have shaped the Earth into what it is today - a planet abounding in oxygen, where microorganisms are at the beginning and end of all food chains. Discover the green engine of the Earth: microalgae.



4

#### More microbe than human

##### Exhibit: Scan yourself

Humans have emerged on a planet revolving around microbes, which is why we are filled with them. The microbiome digests our sustenance, synthesizes vitamins and hormones, and fortifies our immune system. Explore these life forms here!

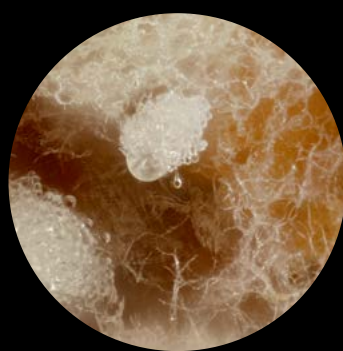


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#### Sublime symbiosis

##### Exhibit: Farming ants

Other species have also co-evolved with their microbes. These parasol ants cultivate fungi. However, what motivates an ant to cultivate fungi?



6

#### Magnificent yeast

##### Exhibit: Not born yeasterday

In pursuit of a sustainable future, microcosm offers viable solutions. For instance, yeast not only produces bread, but also various sustainable alternatives for our future. Engage in this game together and discover boundless possibilities.



7

#### Sustainable doers

##### Exhibit: Plant-based plastic

Bacteria also generate various eco-friendly materials: from biofuels to sustainable cleaning agents. Spin this wheel and uncover how lactic acid bacteria manufacture various types of plant-based bioplastics.



8

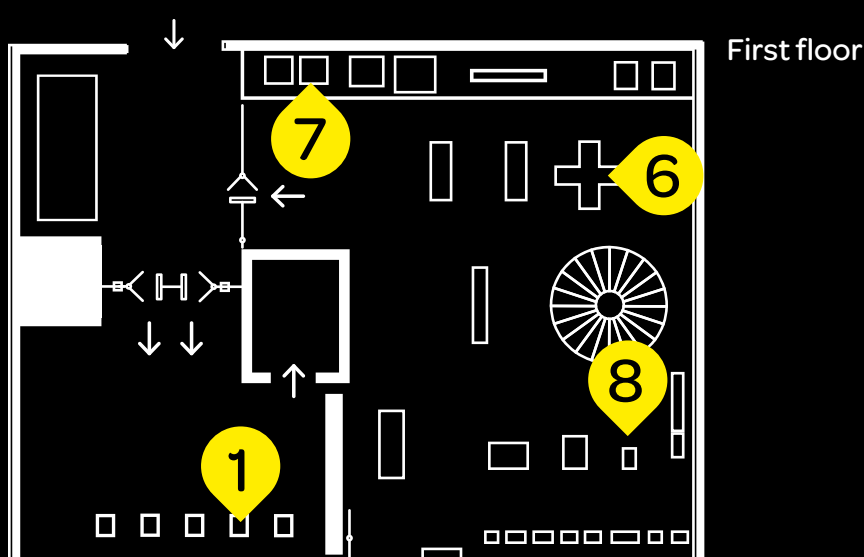
#### Healing genes

##### Exhibit: Friendly virus

Viruses too can be our allies. Through their unique mode of replication, they can tackle genetic diseases at their source. Certain viruses can replace the faulty gene, thus leading to the recovery of patients.



Using the map below, embark on a quest for these exceptional microbes.



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Second floor

