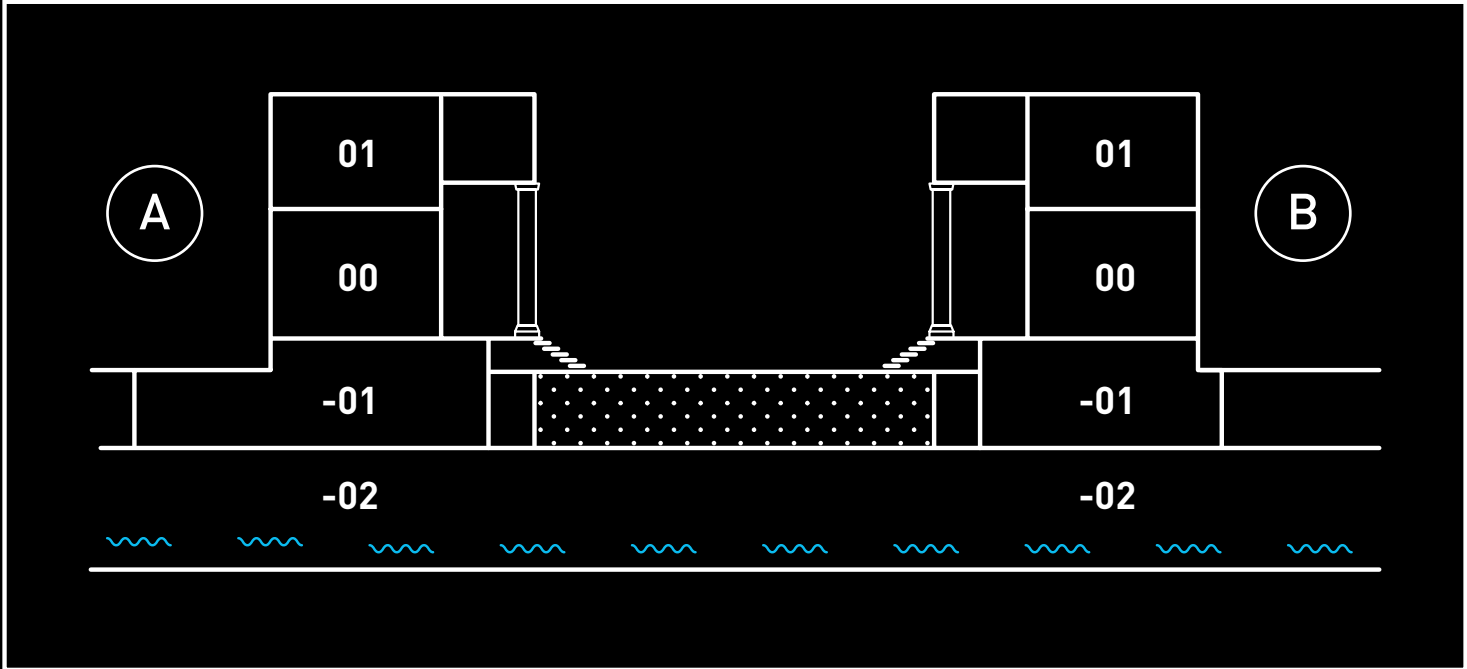




Museum of the Sewer Exploration notebook



SEWER MUSEUM



00



- 01



- 02





**Ready for the
adventure?**

Then follow me. We're off to discover the Brussels Sewer Museum. There isn't always one single answer to the questions I will ask you, but I'm happy that you will try to answer them. There are various activities you can try, following the order of the numbered panels. You'll find some answers at the end of the notebook.



00

SEWER
 Underground pipes which receive rainwater and waste water. "Waste water" refers to the water that has been used (such as water from showers, toilets, etc.) which is then discharged into the sewers.

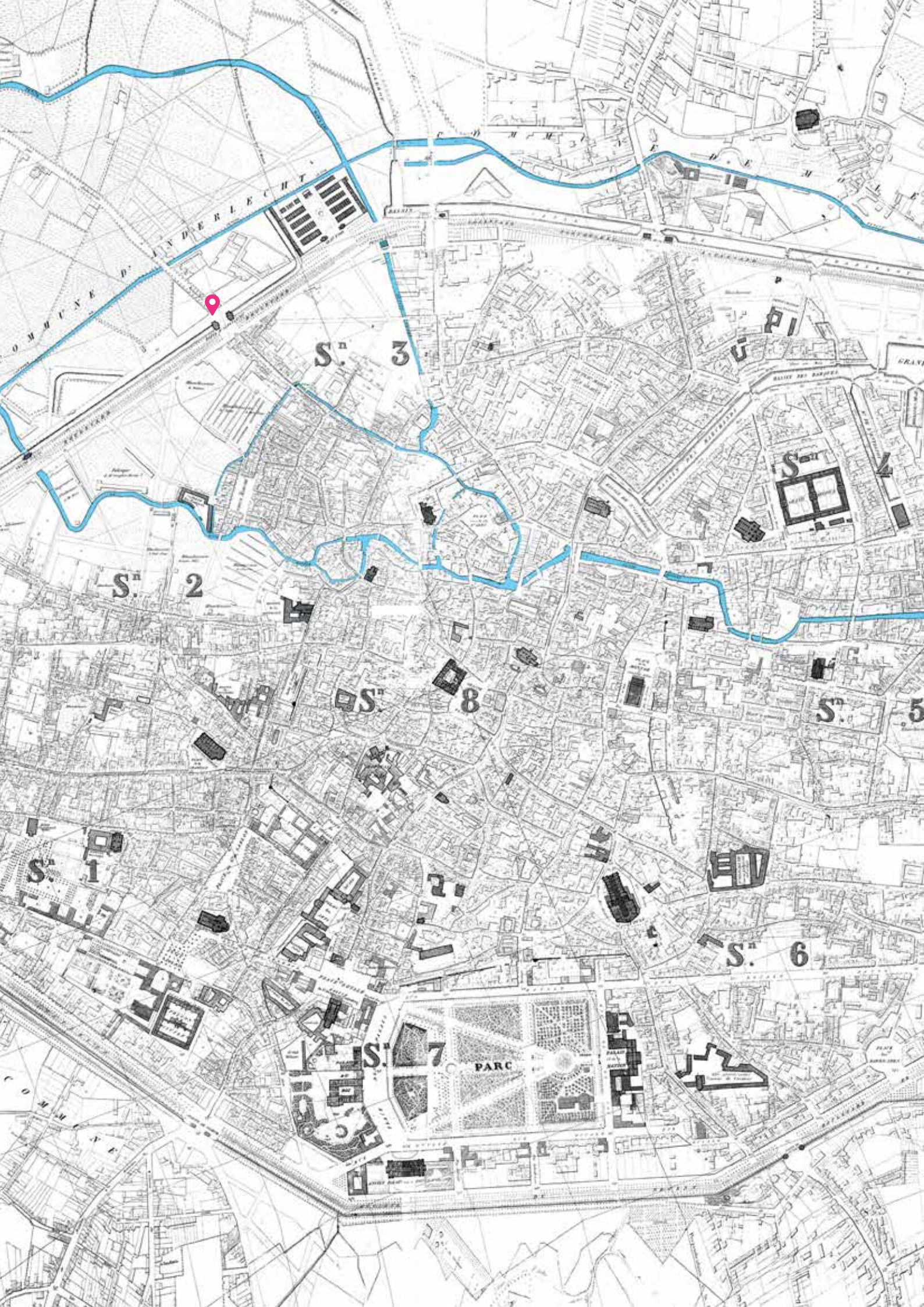
Brussels developed in the Middle Ages. In the beginning, it was just a village along a river. Gradually, Brussels became a major city and the water from this river was used to drive mills, produce beer, and dye fabrics. For a very long time, the river was also used to get rid of waste water, before the water treatment plant system existed.

Find the name of this river on the old map.



To find your bearings in the city, look firstly at the model of the Brussels topography to understand how a "valley" is carved out by a stream, imagine where the water would go if we poured it on this model.





Sⁿ 3

Sⁿ 2

Sⁿ 8

Sⁿ 4

Sⁿ 5

Sⁿ 1

Sⁿ 6

Sⁿ 7

PARC

Black and white photos show you this Brussels of the past, which has completely disappeared today. The Senne flowed right past houses, and people threw their filth into it.



Draw the worst waste you can imagine...



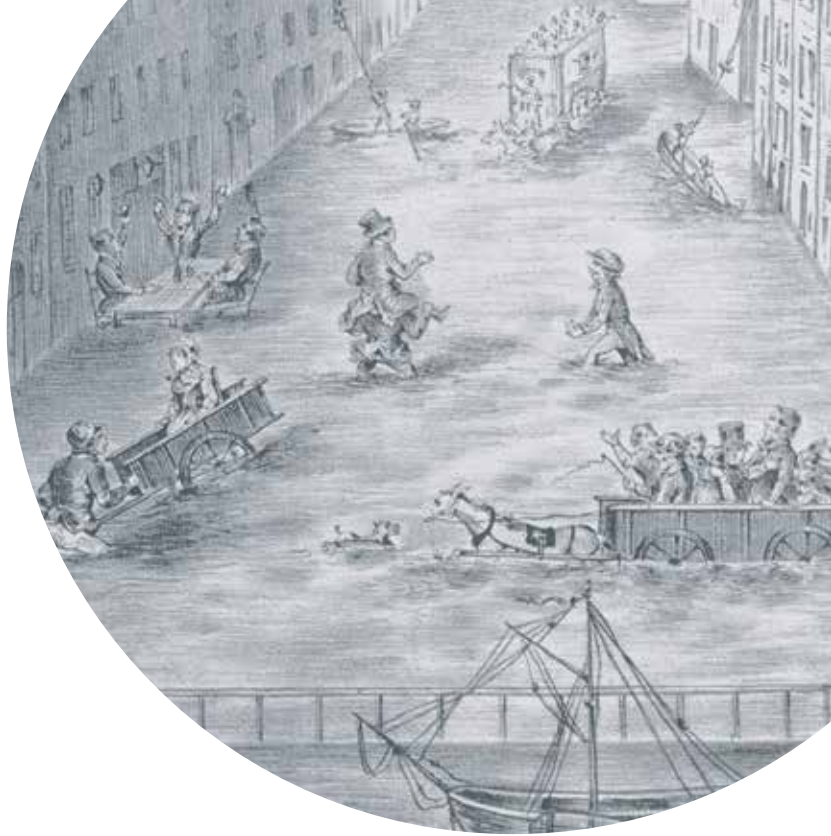
In addition to becoming an open sewer, the Senne often burst its banks during heavy rains...



Can you find the picture from which this detail is taken?



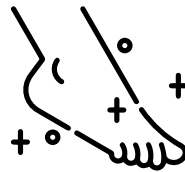
Why have the Brussels residents shown here got their feet in the water? Circle the right answer.



They are practising water sports.



They liked foot baths.



They suffered frequently from flooding.

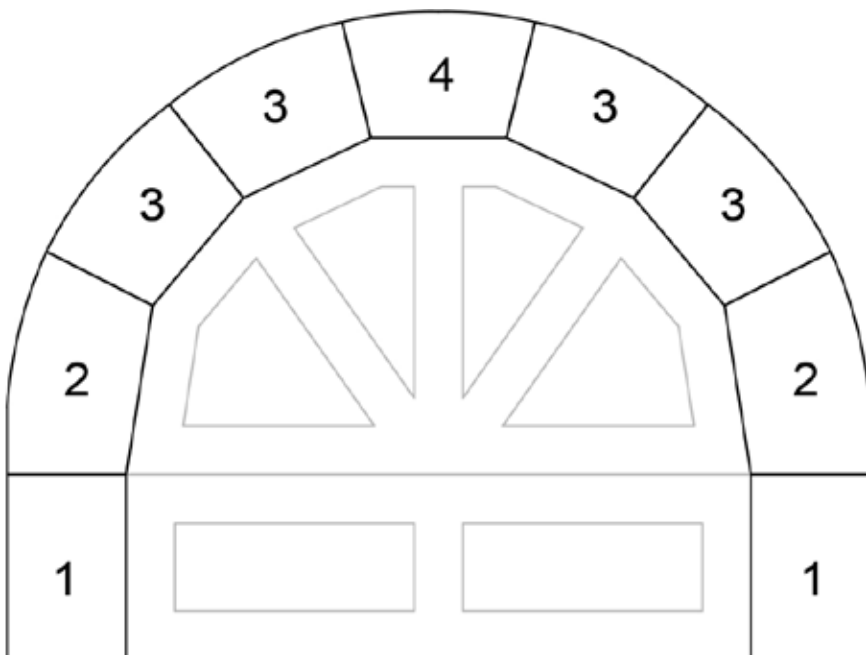
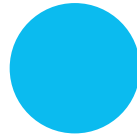


Jules Anspach, the Mayor of Brussels, decided on an extreme solution to tame the river and make the city less foul-smelling: he approved a plan to channel the Senne underground; he made it disappear and provided it with a whole new network of sewers! The work lasted from 1867 to 1871.





Take a look at the black and white photo of the large underground «cage» that we built for the river... What shape does it remind you of? Circle the right answer.



It's time to find out if you're as skilled as the engineers and workers who covered the Senne all those years ago. Let's play the game "Bury the river"! It's up to you to use the template and place the blocks over the top. Make sure that the structure does not fall apart when you remove the supporting template. This game will help you to understand the mechanism of the keystone!

The inaugural stone of the vault is kept at the museum. The year of the start of the works is engraved on the stone.



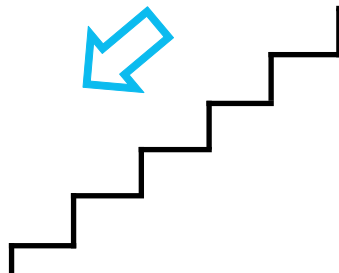
Look at the initials on the coat of arms; what first name of King of the Belgians does it refer to?



Here's a clue: look at the gold and silver coins with his image in the display case.

60 years after these works, some districts still suffered from major flooding. Consequently, the Senne was diverted. You can discover the new route by following the orange line on the aerial photo of Brussels.

There is a good reason why I just told you that, it's because it flows beneath where we are standing. Be patient, you'll see it soon! To continue the tour, go down the steps.





- 01

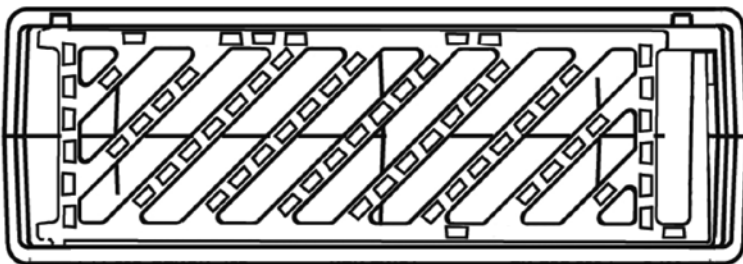
Come out of the sewer and look at the model. You are familiar with the city above ground with its streets and houses. But down below, there are the sewers, the Senne, the metro, the electricity and gas networks, etc.



Go to the next room and look for this plaque which is often seen on the surface.

What is its exact name?

If you lifted it up from the street (and good luck with that, it weighs 90kg!), you would descend directly into the sewers. It's the way the sewer workers access their work space. They descend via a ladder to check the sewers and carry out any necessary repairs.



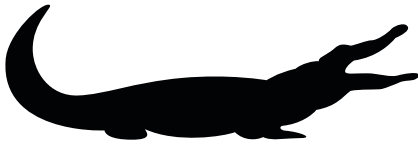
A heavy downpour changed the order of the letters of its neighbouring object which collects rainwater:

I₁ D₂ A₁ N₁ R₁

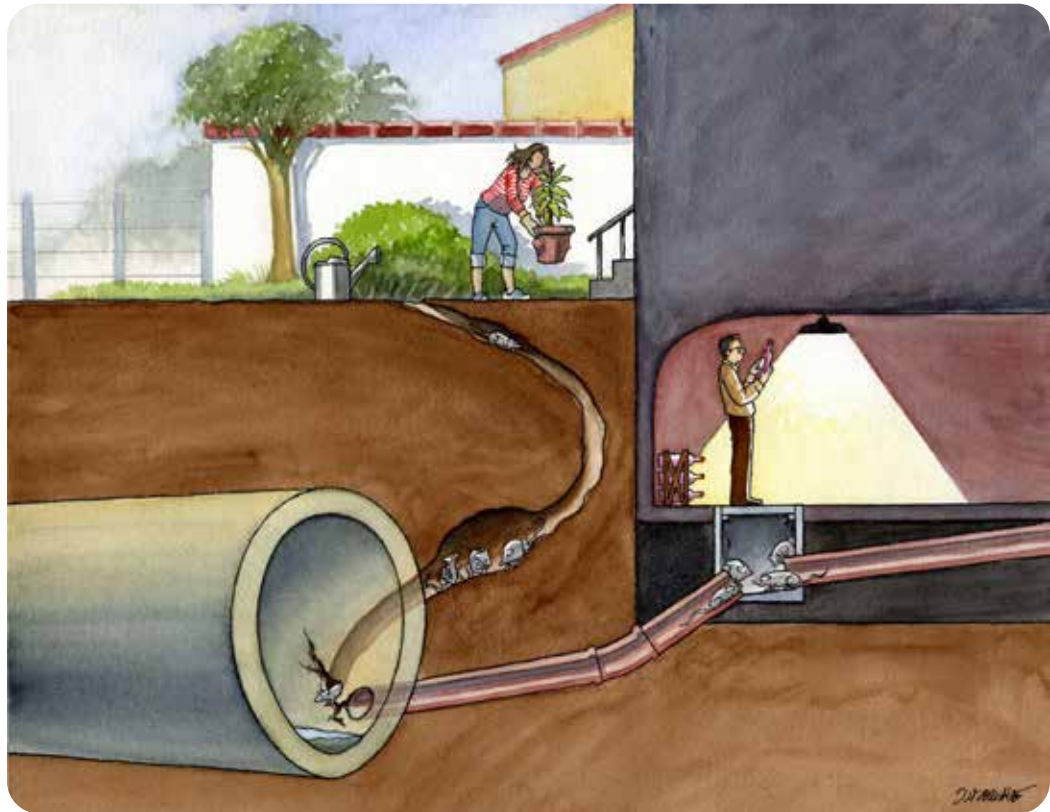
There are many inhabitants in the sewers...
What animals can you find in the sewers?



Cross out the ones that
you are unlikely to see.

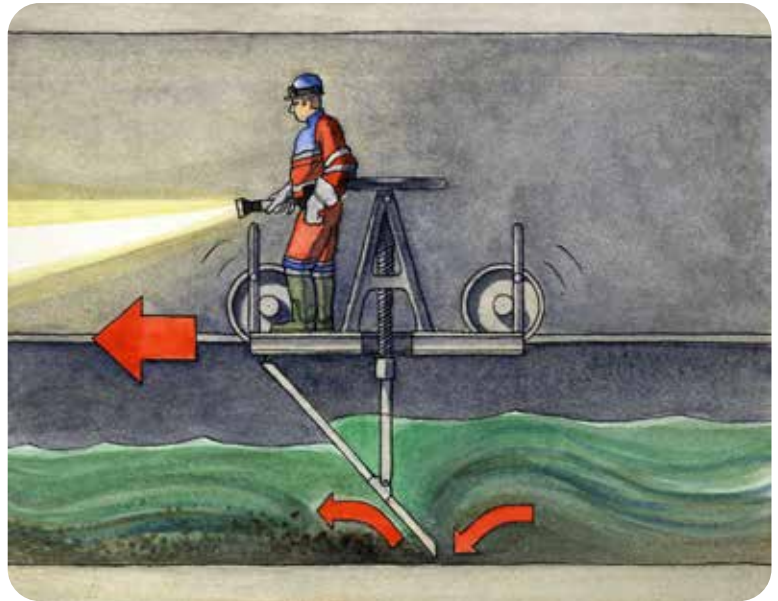
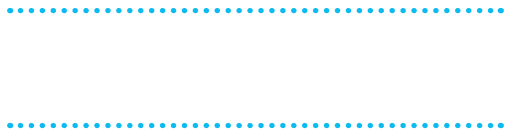


We are considered to be
"harmful". However, we
are useful in the sewers
because we devour your
waste, but humans still
try to control our numbers
because we can also cause
some damage...



Take a good look at the main model of this unusual machine and illustrations.

You'll see this funny machine, in real life, at the bottom!
How does it move forward?



You've been very patient!
We are now finally going to
go down to see the Senne
and the sewers...

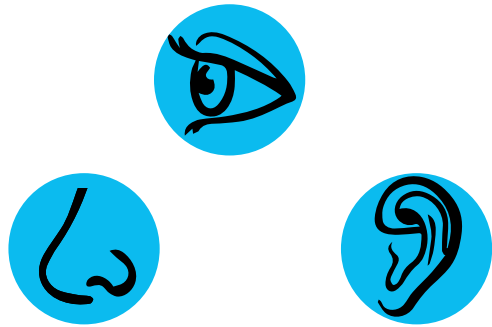
Be careful, make sure you
follow the safety instructions!



- 02

Keep your wits about you!

Well, here it is at last... the Senne.
We weren't lying to you; it was sort of «locked up» in a double tunnel and it will see the light again in a few kilometres.



Look at the plates attached to the walls and the flow of the water. Which way is it flowing?

Follow the flow of the river and name the town downstream:

A rectangular box with a dashed line at the bottom for writing.



Achteraan deze doorgang links vind je de echte riolen.



At the end of this passage, on the left, you will be in the real sewers. As incredible as that seems, you are already walking along a big sewer called a collector, which is still in operation. Waste water flows under the plates

Do you recognise the smells?
Look over there, there is a plate with the name of a street, above a smaller sewer. What does it say?



Two horizontal dotted lines for writing.

TAC-TAC



You can also hear noises, the flowing of the water, but sometimes less expected noises!

TAC-TAC

These are the cars driving over the copings above our heads.

TAC-TAC

TAC-TAC

TAC-TAC

Go on, be brave, go right to the end, and if you see them, say hello to my rat buddies.



See this big machine? It's a roller-type sluice, shown in the model and video above, it is used to clean the collectors and remove dirt and sludge which blocks the passage.



Retrace your steps and go up the stairs, wash your hands in the sink. I'll wait for you in the sewer workers' room for the rest of the tour...





- 01



Being a sewer worker is a dangerous job! Underground, the sewer workers risk catching diseases, getting poisoned from toxic products or gas, and also drowning. To protect themselves, they need good equipment. Out of the illustrations below, which are useless for modern-day sewer workers? Cross them out.



Go up the stairs to discover the final room of the museum.

In Brussels, two treatment plants do this job, one in the north, and the other in the south of the city. This requires considerable time and energy. 24 hours are necessary to purify the water and discharge it, cleaner, into the river.



The water cycle model summarises what you have learnt during your visit. Observe and listen carefully. When you press one of the control buttons, you can follow the course of the water.

Storm clouds drift over the model



Press the **THUNDERSTORM** button.



Do you hear the thunder that precedes the downpour?
Which direction does the water flow after falling on the roof?


1 street – 2 collector – 3 storm basin – 4 gutter – 5 sewer


Note down the numbers in the correct order


—	—	—	—	—
---	---	---	---	---

Press the **RECOVERY** button. On the model, the rainwater is reused in three locations. Connect the right use to the right place.

bathroom 

 washing machine

garden hose 

 garden

cellar laundry room 

 WC

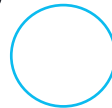
Some houses have a cistern which is used to collect rainwater. If you don't need drinking water, you can use the water from this reservoir.

Water is our «blue gold» since it is very precious: without it, we wouldn't be able to survive, so we shouldn't waste it! Here are some smart tips to save tap water. Do you know them already? What do you think of the following actions?

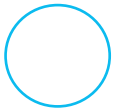
Draw a smiley to indicate the smart actions and those which should be avoided.



I use the small flush button for quick trips to the toilet.



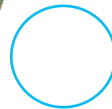
I take a shower instead of a bath.



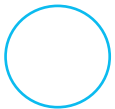
I water the garden every day.



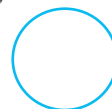
I wash the dishes with the tap running, without plugging the sink.



I wash the car with tap water.

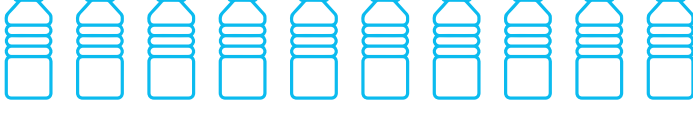
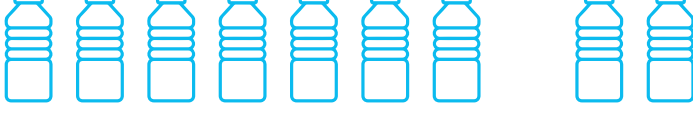
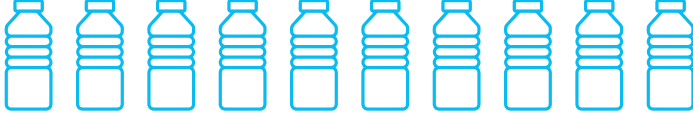
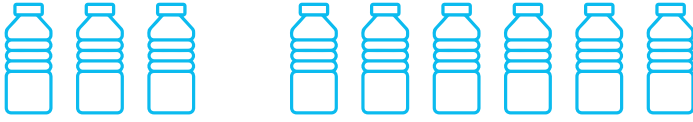
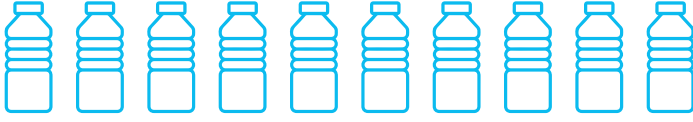
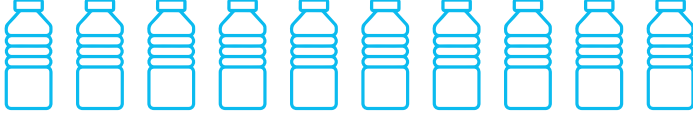
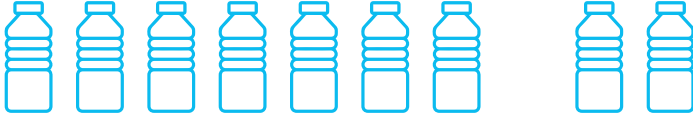
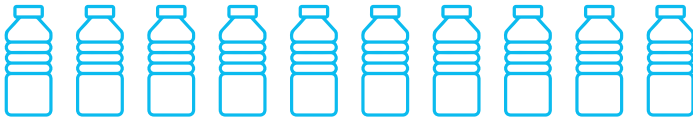
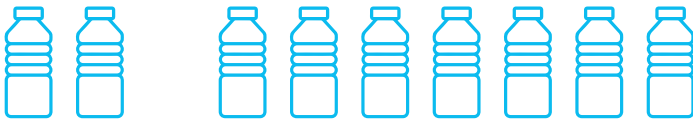
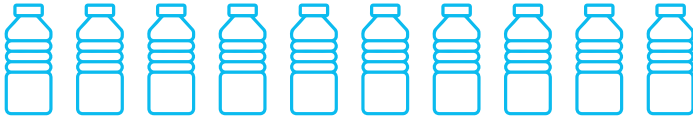


I collect rainwater to water the plants.



I use a cup when brushing my teeth.

Water is essential for life on Earth. But it is not unlimited! Our drinking water resources are threatened because of pollution, wastage and increased consumption.



Count the number of 1-litre bottles drawn below



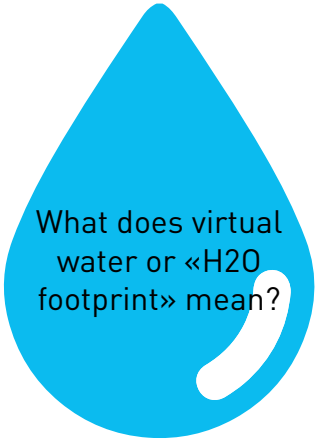
Litres per inhabitant and per day in Brussels.

Do you think that's a lot or not much?

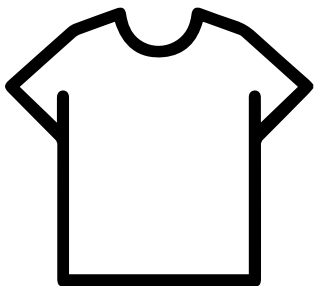



How does this compare with other countries?







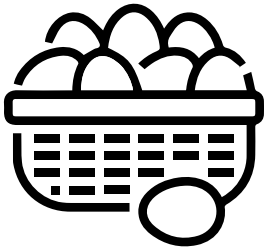
All our consumer products contain water, even if we can't see it in the finished product. We call «virtual water» or «hidden water» the water which is necessary for industrial production. In effect, companies consume a lot of water to make products or food. They also need it to clean and maintain machines, tools and premises. That all adds up to many litres of water! Link the amount of water necessary for the production of:




 4 100 liter

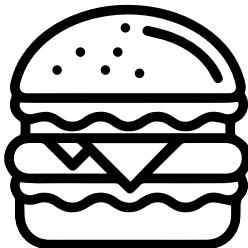
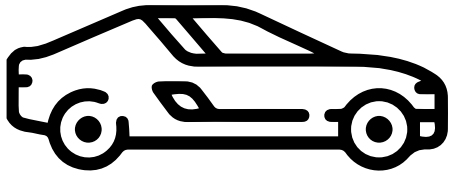
 2 400 liter

 8 000 liter



 1 350 liter

 120 000 liter



Thanks for your visit! This museum is unusual, right? I hope you will be careful with your water consumption, and don't throw just anything down the drain. Here's a little souvenir of your visit here, stick my face on your schoolbooks or on the mirror in your bathroom.

If you want to find out more, don't hesitate to ask the attendants questions. Some of them are former sewer workers.



- p. 4: Senne / valley, river, pond, canal, sewer...
- p. 7: They often suffered from flooding
- p. 8: Heart shape
- p. 9: Leopold II
- p. 10: Shower baths / Egg shape
- p. 11: Manhole cover / Drain
- p. 12: By streaking: crocodile, ostrich, horse and sometimes abandoned pets survive / Due to water
- p. 13: To the north, left / Vilvoorde / Slachthuislaan
- p. 16: The buoy, the flippers and the canary (even if it was the ancestor of the gas detector)
- p. 17: 4-1-5-2-3 / Bathroom-toilet / Washing machine - Cellar / Garden hose
- p. 18: Small flush ☺, Shower ☺, Garden watering ☺, Dishwashing ☺, Car washing ☺, Rainwater for plants ☺, Toothbrush cup ☺
- p. 20: 96L = Average consumption per day and per person / 10 eggs: 1350 l / Shoes: 8000 l / Car: 120000 l / Cotton T-shirt: 4100 l / Hamburger: 2400 l

hier begint de zee



ici commence la mer

ne rien jeter | niets ingooien







NOTEBOOK DESIGN

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