

Saving the Earth with Magical Friends



There are children drawing the woods.



Yeony and EO have magic crayons.
They draw plants and trees with the crayons.

The trees they draw become real trees
and make a forest, just like MAGIC!





Wonder why they're drawing trees?

Trees eat carbon and make oxygen out of it.
That's how trees clean the air.

When carbon builds up, it makes the Earth hotter and hotter.

When the Earth becomes hot,
it melts the ice in the Arctic
and changes our climate.

Then, it would be difficult for plants,
animals, and humans to live on the planet.



That's why the children are drawing trees here and there.
They draw spiky thorn bushes, colorful flowering trees,
and lush evergreen trees.





The more they draw, the smaller their crayons get.
The bad carbon must be gone before their crayons wear out.



But these days,
Yeony and EO are very worried.
There is so much carbon
that the Earth is getting sick.
The trees they draw are not enough
to fight off all that carbon.



"Look at all the carbon!
The Earth is going to get really sick!"

Yeony said, looking at the carbon
that was just about everywhere.

"Where is all this carbon coming from?"

Yeony and EO decided to follow the carbon.

They followed the carbon until they arrived at a village of people.

The village was full of carbon.



People make tons of carbon every day.
Carbon is created when people leave food or throw away trash.
Carbon is also created when cars are moving.



Carbon is created when we use electricity as well.
Many things we do every day need electricity,
such as watching TV or using cell phones and computers.



We need electricity to run refrigerators
to store our food,
laundry machines to clean our laundry,
and air conditioners to cool the air in summer.
Carbon is created every time
we use electricity to run them.



People in the village are carrying the carbon
that they created.

People who created lots of carbon
are carrying more and more carbon.





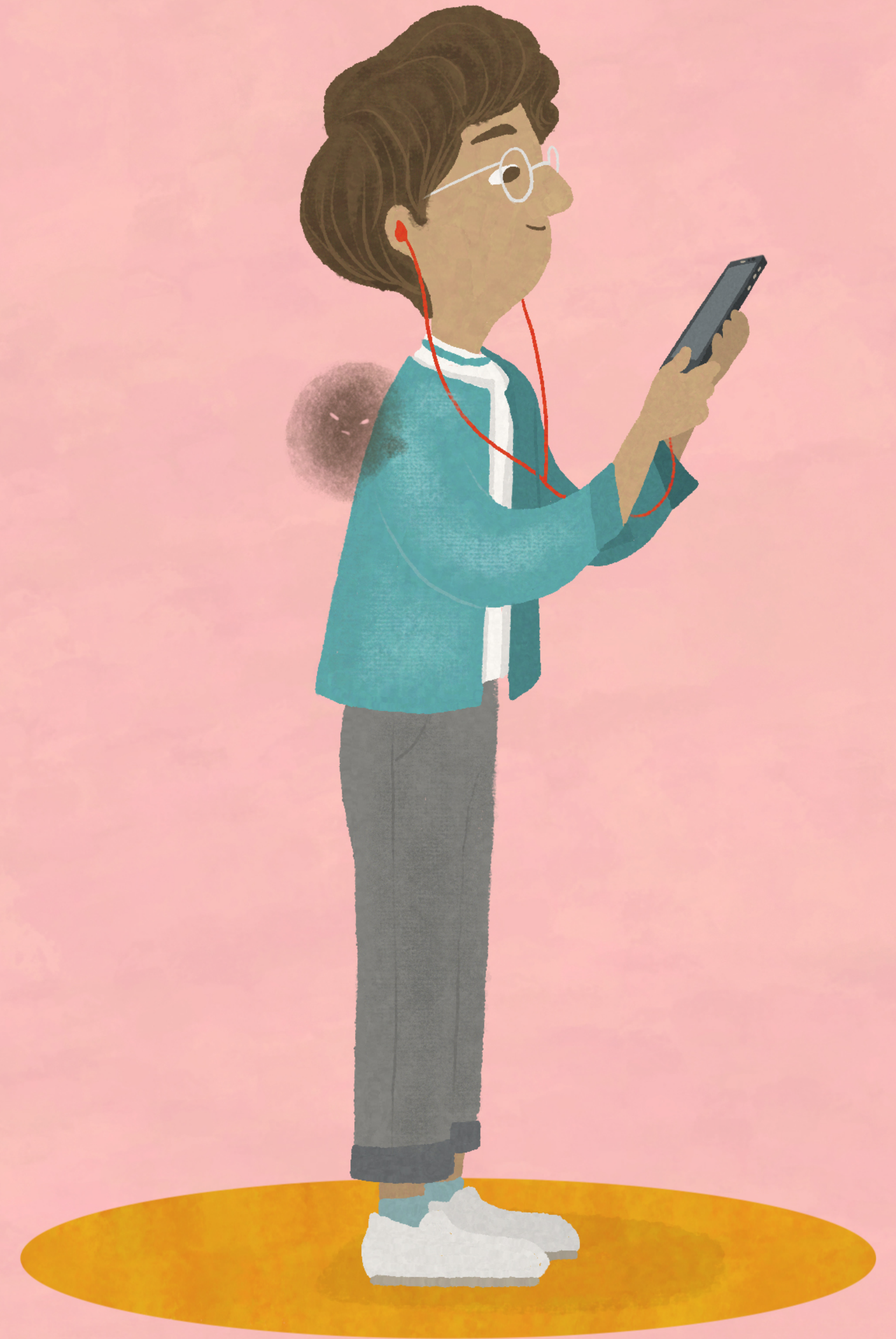
"It seems they cannot see the carbon."
"Now we don't have enough crayons left.
What should we do?"

Yeony was worried because the carbon
was growing bigger and bigger.



Then, she found someone who was carrying only a little bit of carbon.
He was using a cell phone, but his carbon was not growing bigger.

"That's so strange! His carbon is so tiny."
The children wondered why his carbon was so small.



The children decided to follow him and find out.

He walked along a trail and crossed a river before he entered a big factory.





Just then, something happened!

Splash!

It was an otter, and he sprang out of the river.

"Hi, Yeony and E0! I haven't seen you for a long time."

The children wondered what was going on!
They thought the otter had gone looking for a clean river.

The otter smiled and told the children,
"I came back to my house a while ago,
because the river is clean now."



"But what are you doing here
near my house?"
The otter asked.

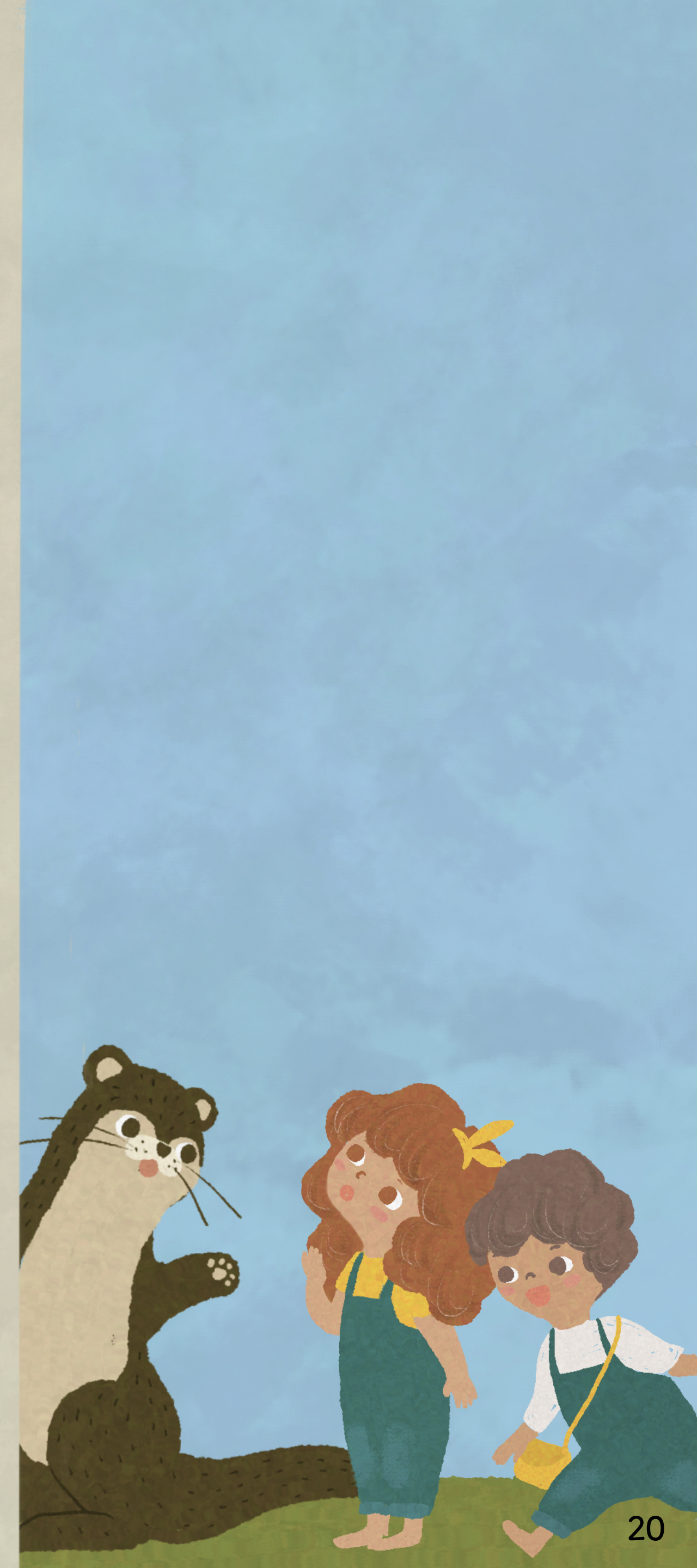
"We were following a man
whose carbon was very small."

"We wondered how that was possible."





The otter told the curious children,
"Aha! I know the answer.
You can find the answer in this factory. Follow me!"
The otter took the children to the factory.

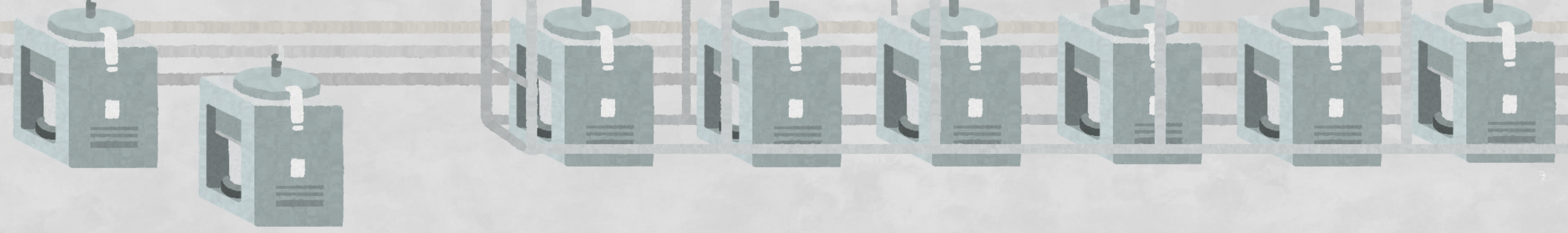




"This factory is making semiconductors."

"Semiconductors? What's a semiconductor?"

"It's a tiny chip. You need it to make electronic devices such as cell phones, tablets, TVs, and computers."





"It helps by creating less carbon when you use electronic devices."

The children were surprised to hear the otter.

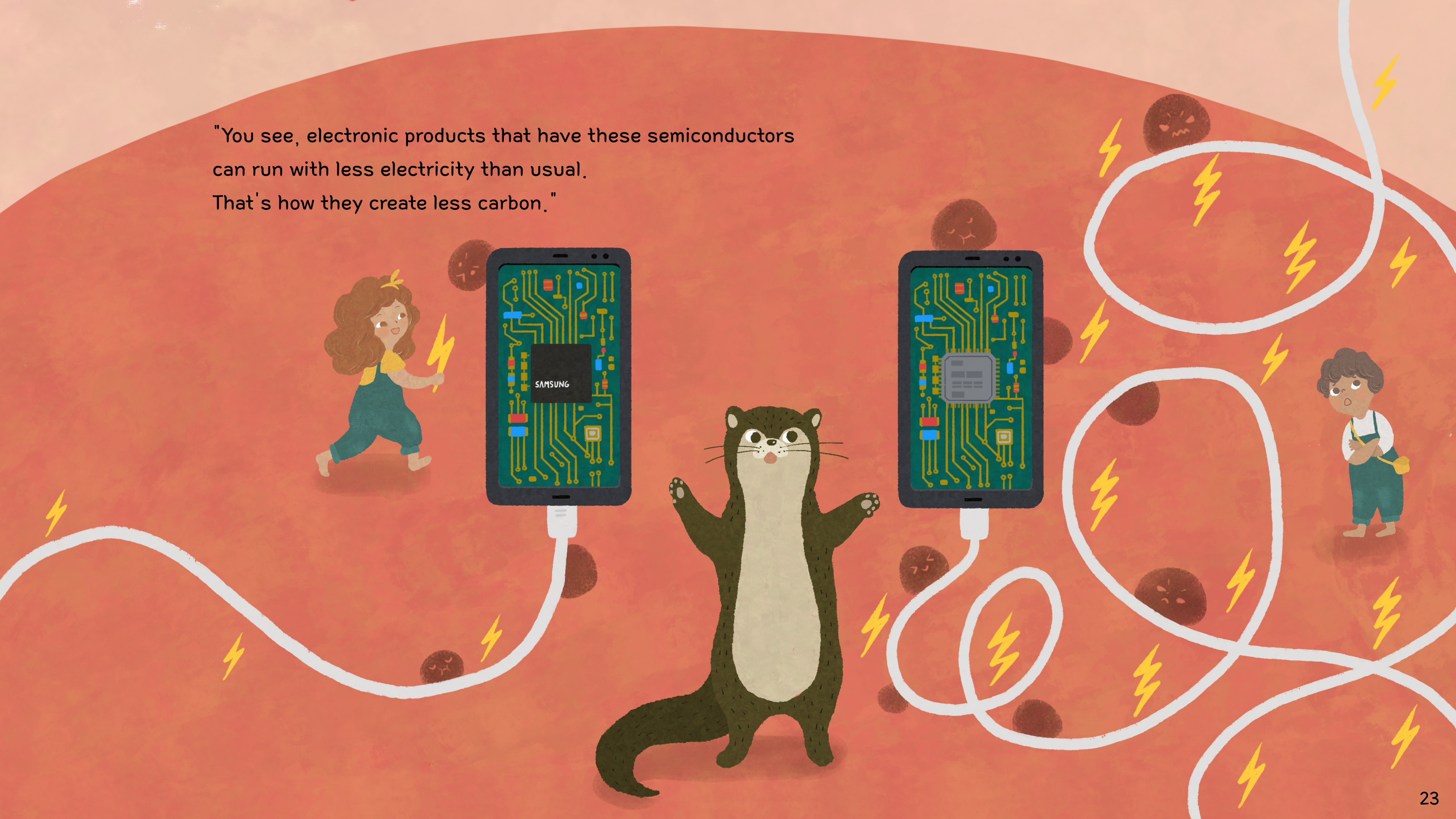
"Really? How?"

"Carbon is created when you use electricity.

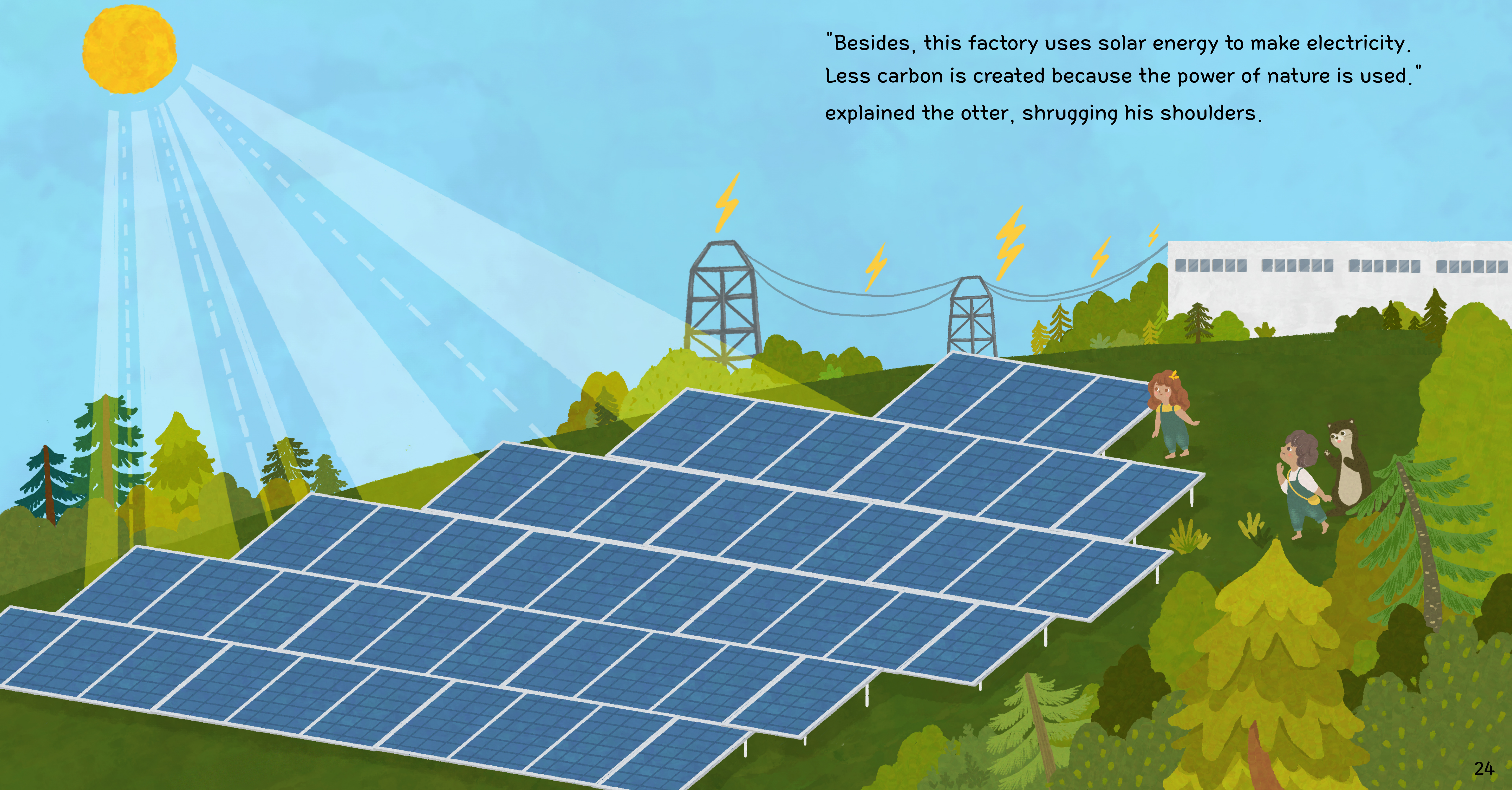
The semiconductors that people make here are good for the environment, because they use only a little electricity."



"You see, electronic products that have these semiconductors
can run with less electricity than usual.
That's how they create less carbon."

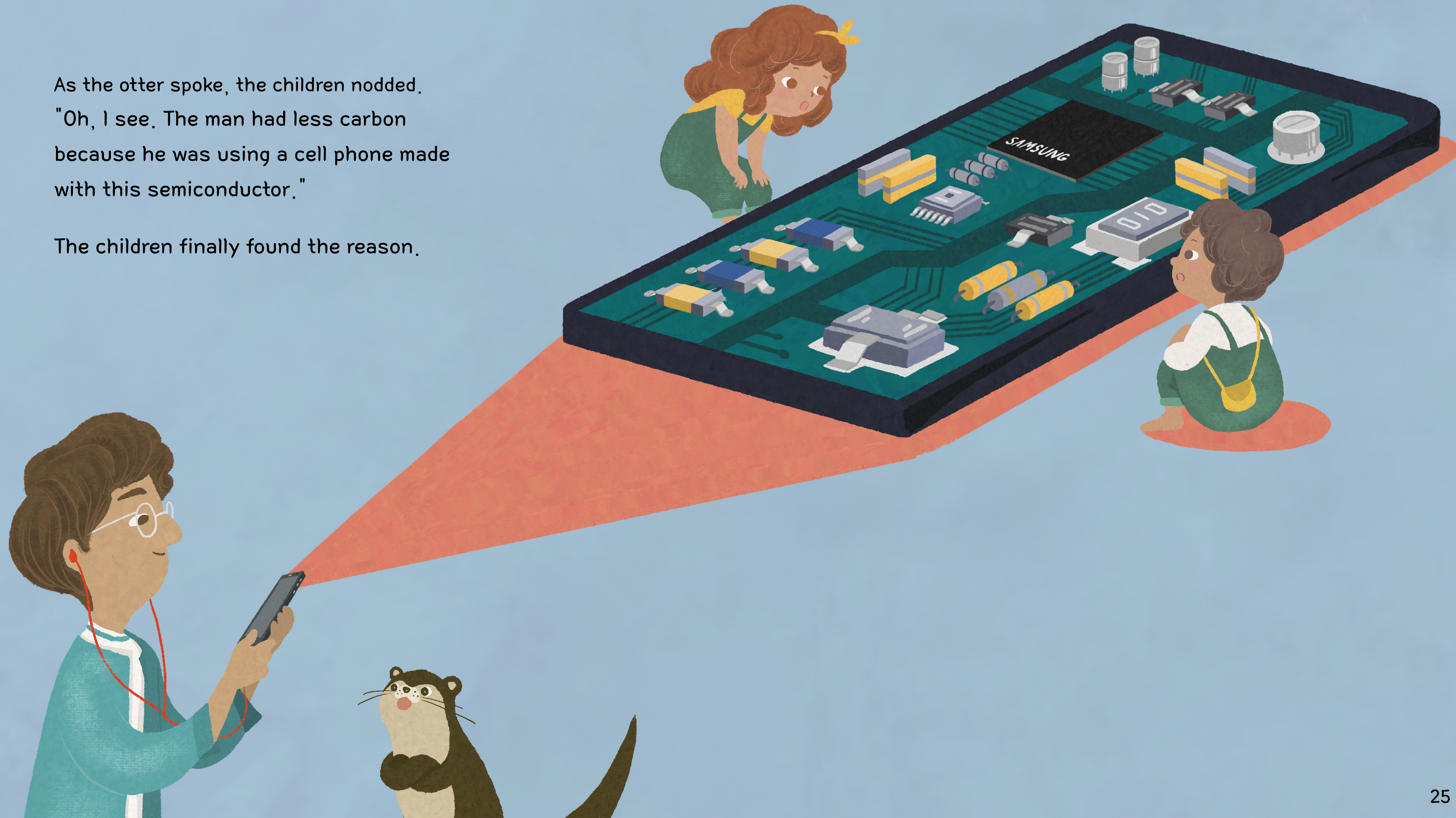


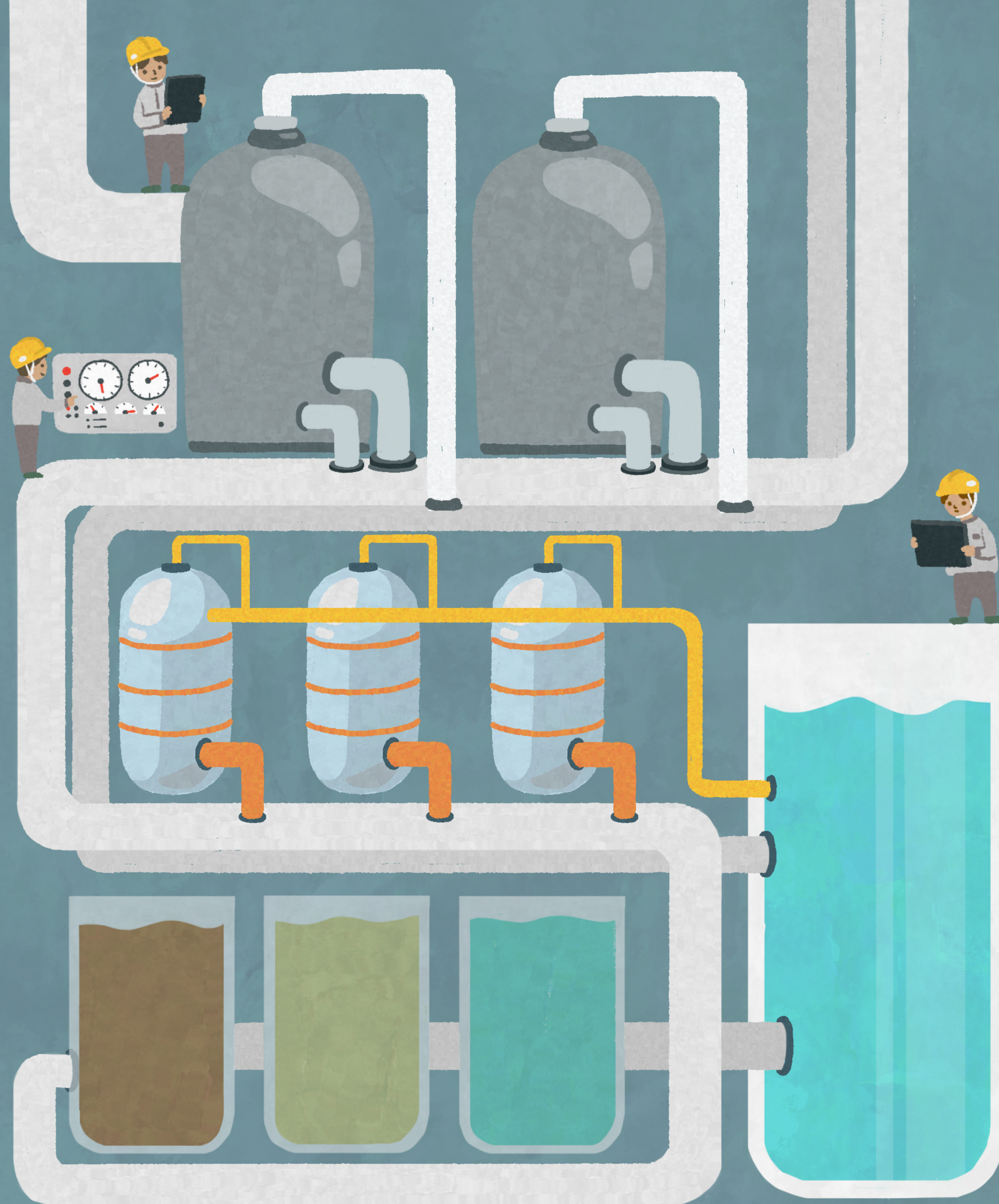
"Besides, this factory uses solar energy to make electricity. Less carbon is created because the power of nature is used," explained the otter, shrugging his shoulders.



As the otter spoke, the children nodded.
"Oh, I see. The man had less carbon
because he was using a cell phone made
with this semiconductor."

The children finally found the reason.





"People in this factory are trying hard to protect the environment.

I was also able to return home because they sent out only purified water from the factory and kept the river clean."



"Next time, come visit me at my house. Bye!"

The otter said goodbye to the children and went back home.

The children were excited.

If many people used these semiconductors,
the Earth would become healthy.

Then, Yeony and EO wouldn't need magic crayons
to protect our planet.





The children wanted to give a gift to the good factory.

"EO, let's draw our last drawing for the factory."

"Okay. Let's make a pretty one."

The children used their last pieces of magic crayons to draw a beautiful picture on the wall of the factory.



Yeony and EO have no more magic crayons, but they are not worried anymore.
There are good semiconductors that are good for the Earth,
and many people are making them.





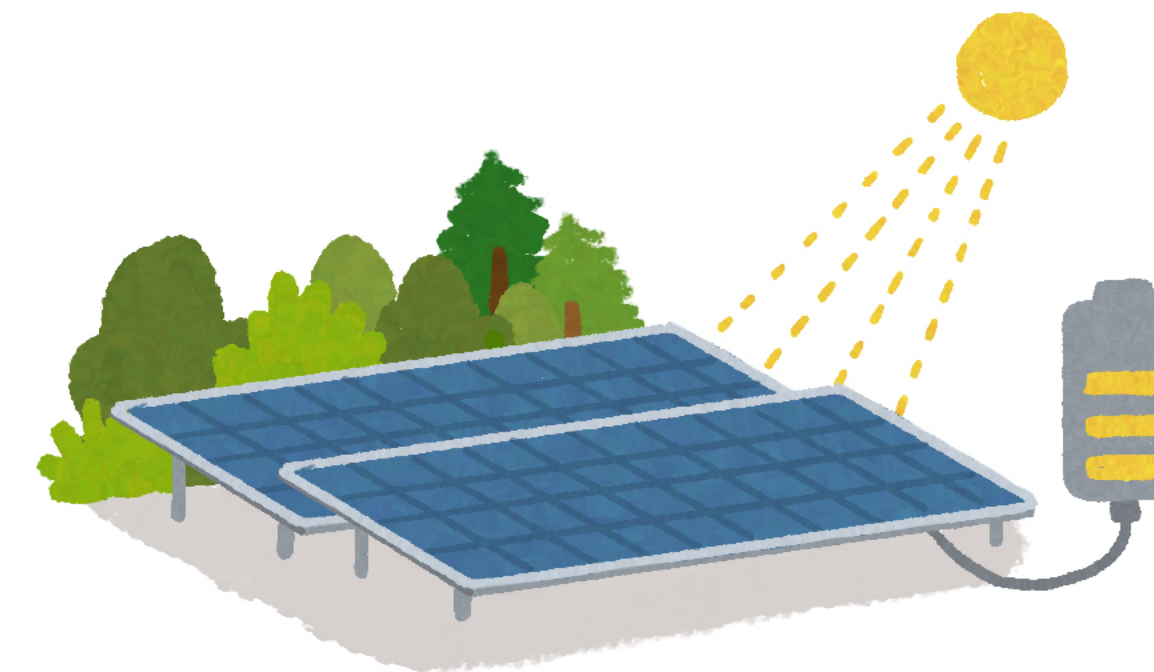
They are all of us.

What does Samsung Electronics semiconductor factory do to keep our planet green?

Samsung Electronics is working hard to protect the environment of our planet. The company is trying to reduce greenhouse gases and protecting the environment by making semiconductors that are really small and use less electricity.

Samsung Electronics' semiconductor factory uses solar power because it's a renewable energy source. Solar energy creates less greenhouse gas and is safe for our environment because it is created from the light and heat of the sun. The factory has been using electricity made from solar energy since 2016.

*Samsung semiconductor factories have solar power panels in many places, such as the parking lot and rooftops. At the Giheung factory in Korea, a solar power plant that can make 1.5MW (Mega Watts) of electricity was built in 2019. Another plant that can make 0.4MW of electricity was built at the Pyeongtaek factory, Korea, in 2020.



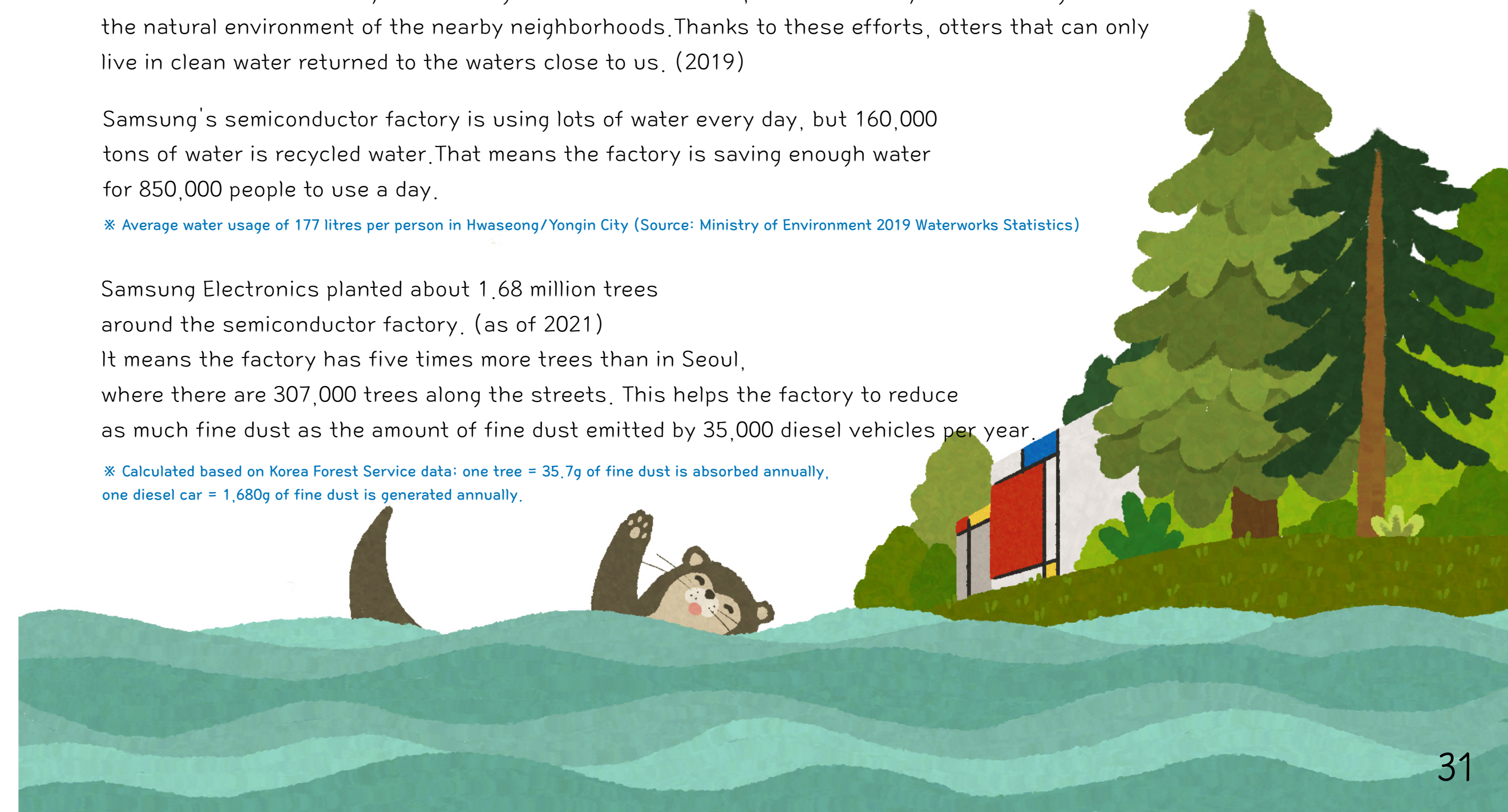
The semiconductor factory is returning clean water to nature, and the factory is also taking care of the natural environment of the nearby neighborhoods. Thanks to these efforts, otters that can only live in clean water returned to the waters close to us. (2019)

Samsung's semiconductor factory is using lots of water every day, but 160,000 tons of water is recycled water. That means the factory is saving enough water for 850,000 people to use a day.

※ Average water usage of 177 litres per person in Hwaseong/Yongin City (Source: Ministry of Environment 2019 Waterworks Statistics)

Samsung Electronics planted about 1.68 million trees around the semiconductor factory. (as of 2021) It means the factory has five times more trees than in Seoul, where there are 307,000 trees along the streets. This helps the factory to reduce as much fine dust as the amount of fine dust emitted by 35,000 diesel vehicles per year.

※ Calculated based on Korea Forest Service data: one tree = 35.7g of fine dust is absorbed annually, one diesel car = 1,680g of fine dust is generated annually.



Carbon is Making the Earth Sick

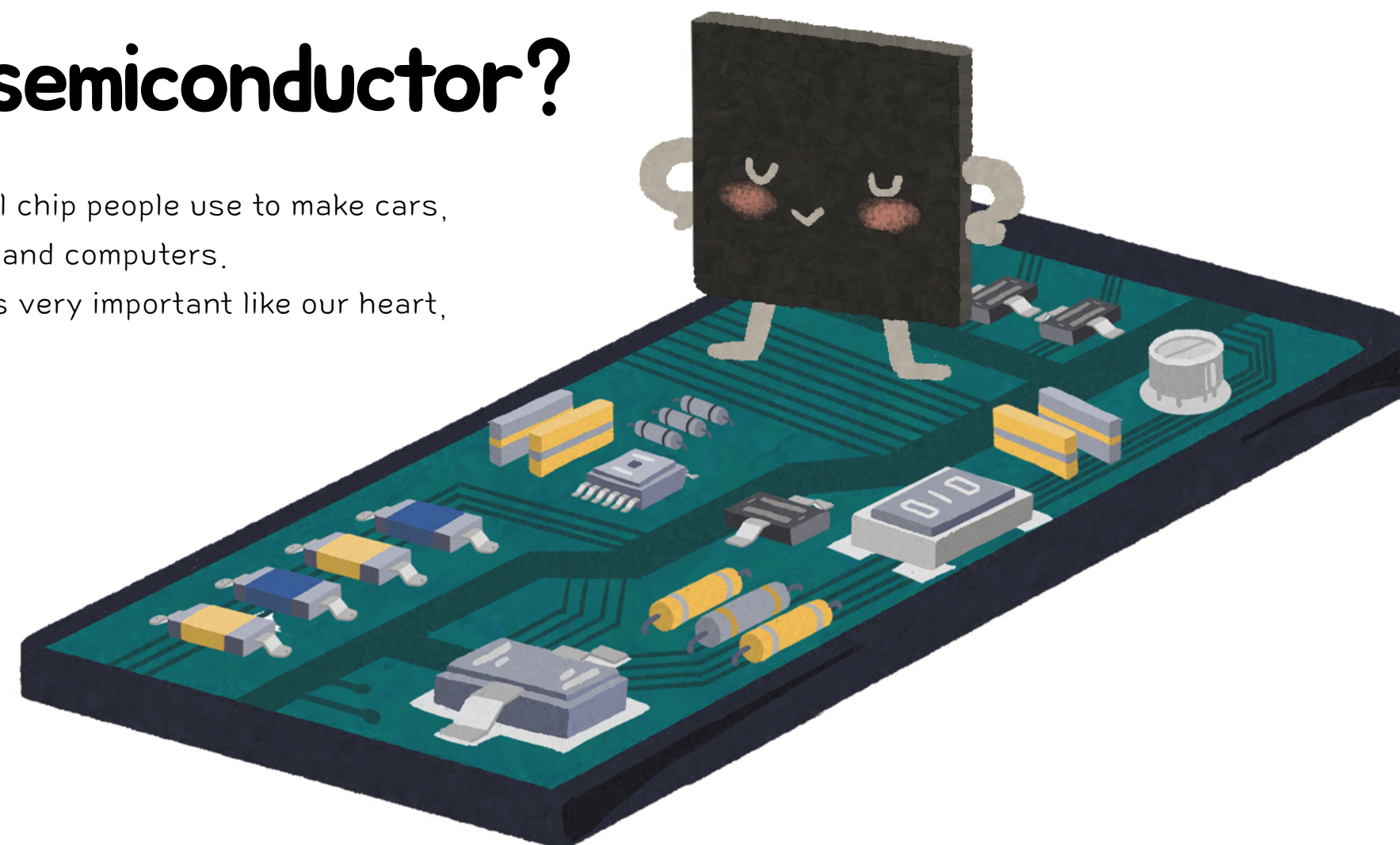
Electronic products make our lives convenient, but greenhouse gases that include carbon dioxide are created when electronic products are made, delivered to us, and even when we use them.



Greenhouse gas is a gas that covers the atmosphere. It traps heat from the Earth and makes it warmer. When the Earth keeps getting warmer, it changes the climate and makes it really difficult for many animals, plants, and people to live on the planet.

What is a semiconductor?

A semiconductor is a small chip people use to make cars, cell phones, tablets, TVs, and computers. You cannot see it, but it is very important like our heart, eyes, and brain.



Saving the Earth with Magical Friends

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① This is a work of children’s fiction based on actual efforts and activities of Samsung Electronics’ environmental sustainability policy. In this story, certain factual incidents, places and characters have been changed for dramatic purposes.
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Saving the Earth **with** **Green Chips**

SAMSUNG