

# CYCLE MICHAEL BY THE SEA

Written by  
Fanni Mészáros









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Tales of environmentally conscious shopping,  
energy saving and efficiency and recycling –  
and of course the sea

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## ILLUSTRATIONS

The illustrations were selected from submissions for a children's drawing competition published by CECED Hungary Society in 2015

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## PREFACE



In 1980s Hungary there was a commercial featuring a curious creature called Forgó-Morgó (literally “Spinning Grumbler”, translated as Cycle Michael), a grouching electricity meter. He has made a comeback, and in recent decades today’s children have grown fond of the little friend who not only worries about the electricity bill, but also issues affecting the Earth and the fate of mankind, such as how to save energy, how to deal with waste and how climate change will affect our future.

This storybook celebrates Forgó-Morgó’s tenth birthday this year.

*I’d like to thank you, children for your contributions to this “birthday present”.*

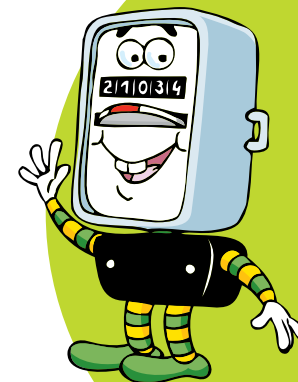
### *Special thanks to*

- the support of CECED Hungary’s members;
- Konkam Stúdió and BuddhaPets Design for the design and organisation;
- Dr János Halász, university professor at Szeged University, for revising the book;
- Imre Gyurkó, painter and art teacher, for jurying the drawing competition;
- Zsolt Szathmári, chairman of the Havaría Society, for the water safety tips;
- Elvira Morvai, writer, for her guidance in grammar and orthography;
- the supporters of the *Cycle Michael Drawing Competition 2015* for the many gifts; and
- the parents and teachers who took Cycle Michael’s stories to the children.

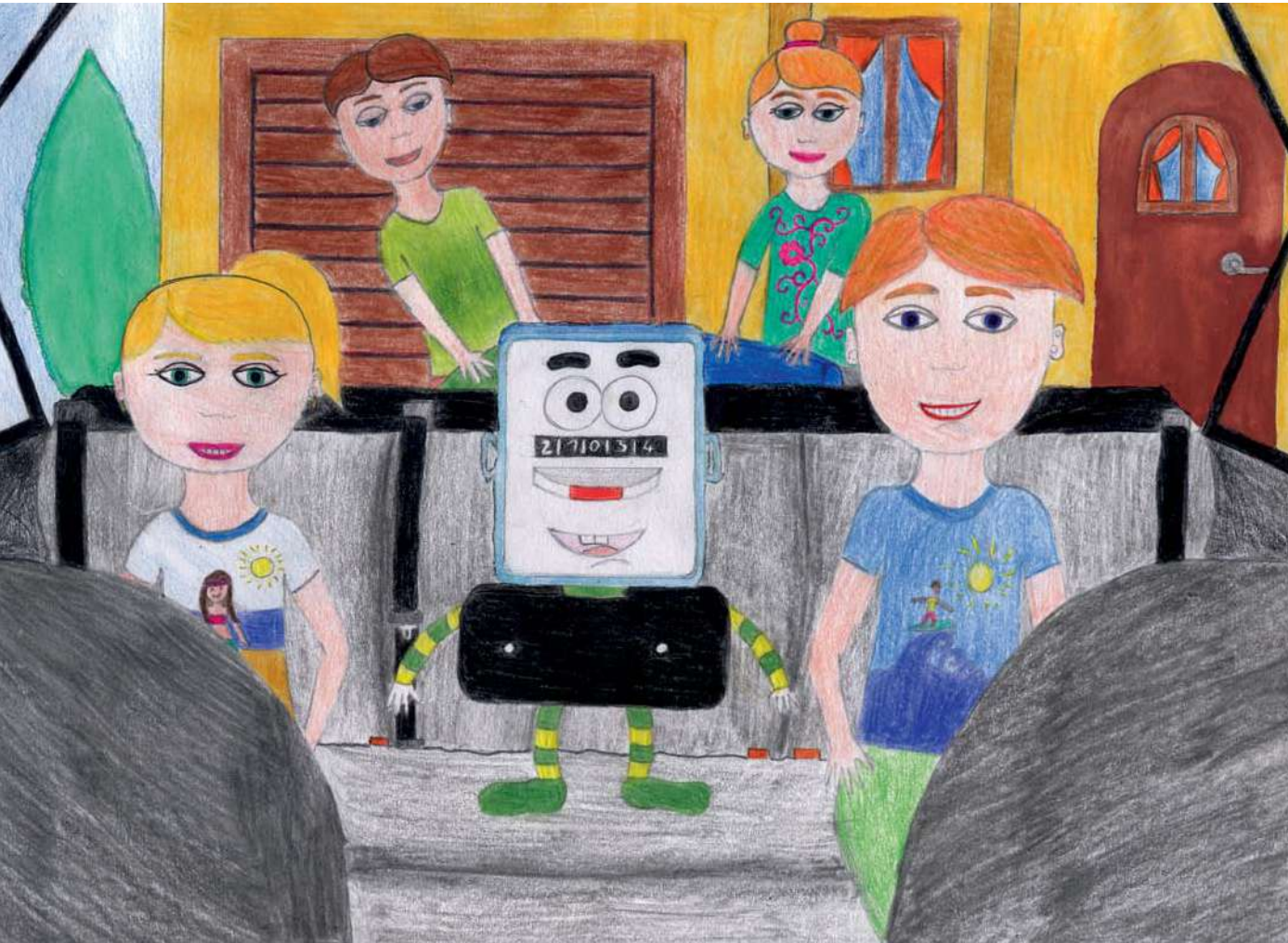
## HAPPY BIRTHDAY, CYCLE MICHAEL!

*22 April 2016, Earth Day*

Fanni Mészáros



## MEETING



It was a wonderful day: the first day of the summer holiday. Jack and Emily were sitting in the back seat, impatiently waiting for Mummy and Daddy to finish packing and leave for their summer holidays. The children had good reason to be excited. This holiday would be a special one: they were heading for the seaside. Jack and Emily had never been to the seaside and were curious to dip into this special watery world.

“Will we see octopuses?” Emily asked.

“I hope so,” Jack replied. “I’m very curious. Though I’m not sure I’d dare stroke it!” he added.

But that wasn’t the only reason this holiday would be a special one. They were going to have company – the company of a very special creature: Cycle Michael, or Mike. He was sitting between the two children, smiling and proud of his little pupils. Jack and Emily had met Cycle Michael a year ago at school. In nature class they were learning about protecting the environment and saving in, and it transpired that neither Jack nor



Emily cared about their environment. They never turned off the lights when they left the room; they never turned off the tap; and they threw away their rubbish.

“Well, Cycle Michael, I think you’ve found a new family that needs you,” the teacher thought to herself, smiling.

That day, when the children arrived home from school and entered their room, there was a mysterious sitting on their desk.

“Who’re you?” Jack and Emily asked in unison.

The alien looked like a measuring instrument of some kind, with a counter spinning round on his head, and with hands and legs that looked like yellow-and-green cables.

“I’m Cycle Michael,” he said.

“What’re you doing here?” Jack asked.

“I always come when I’m needed”, Cycle Michael replied, “and I’ve been told that things are really bad around here.”







“Nothing’s bad around here, what’re you talking about?” Emily yelled.

“You don’t save energy,” Cycle Michael replied calmly, “and when you don’t save energy you’re harming not only the environment but also yourselves. For instance, Mummy and Daddy have to spend much more money on electricity bills than if you didn’t waste energy.”

“We don’t care,” Jack and Emily replied in a huff and left Cycle Michael.

“Let’s watch telly. Much more exciting than this silly saving thing,” Emily suggested.

There was a very interesting film on the television, showing the underwater sea world. The children gaped at the huge shoals of fishes and the colourful coral reefs. They loved the hiding eight-legged octopus too.

“Mummy, when’re we going to the seaside?” Emily suddenly asked. “I’d really love to see a real octopus. Can I stroke it?”

“The sea is a very beautiful place,” Mummy said, “but it is a long way away and it costs a lot of money to go there. One day maybe we’ll go there, okay?” she said smilingly.

The room fell silent, the children lost in thought. Emily then stood up and slowly edged



into the room where Cycle Michael was still patiently waiting. Sorry for yelling at him earlier, Emily addressed him shyly.

“If we were to change our minds and learn to save, would Mummy and Daddy have more money?”

“Yes,” Cycle Michael said softly.

“And could we then go to the seaside?” Jack asked, popping his head in the door.

“But we don’t know what to do...” Emily said, starting to cry.

“I do!” Cycle Michael said and cheerfully walked over to the two gloomy children. He gave them a hug. “I’ve come to help you. If you listen to my advice, your family will be able to save a lot of money and you’ll see what fun it is to help the environment.”



## A SPINNING DEVICE: THE ELECTRICITY METER

One Monday afternoon when the school bell rang, signalling the end of the last class, Emily quickly packed her school bag and was ready to go home. She waited in the door impatiently waiting for Jack who was playing with the other boys and had no wish to go home yet.

“Come on!” Emily urged him. “Cycle Michael’s waiting. We’re learning to save. Remember? We said we would,” she said, dragging her sulking brother behind her.

After lunch the cheerful Emily and a still sulking Jack were met in their room by Cycle Michael.

“What are we going to learn about today?” Emily asked enthusiastically.

“Learning, always learning...” Jack grumbled.

Cycle Michael turned to him and said, “Jack, do you know who I am?”

“Of course. You’re Cycle Michael. A funny robot.”

Cycle Michael smiled.

“I’d prefer to call myself an measuring device than a robot. A very special one at that. Have you heard about the electricity meter?”

“Of course,” Emily said. “Erm... what is an electricity meter?”

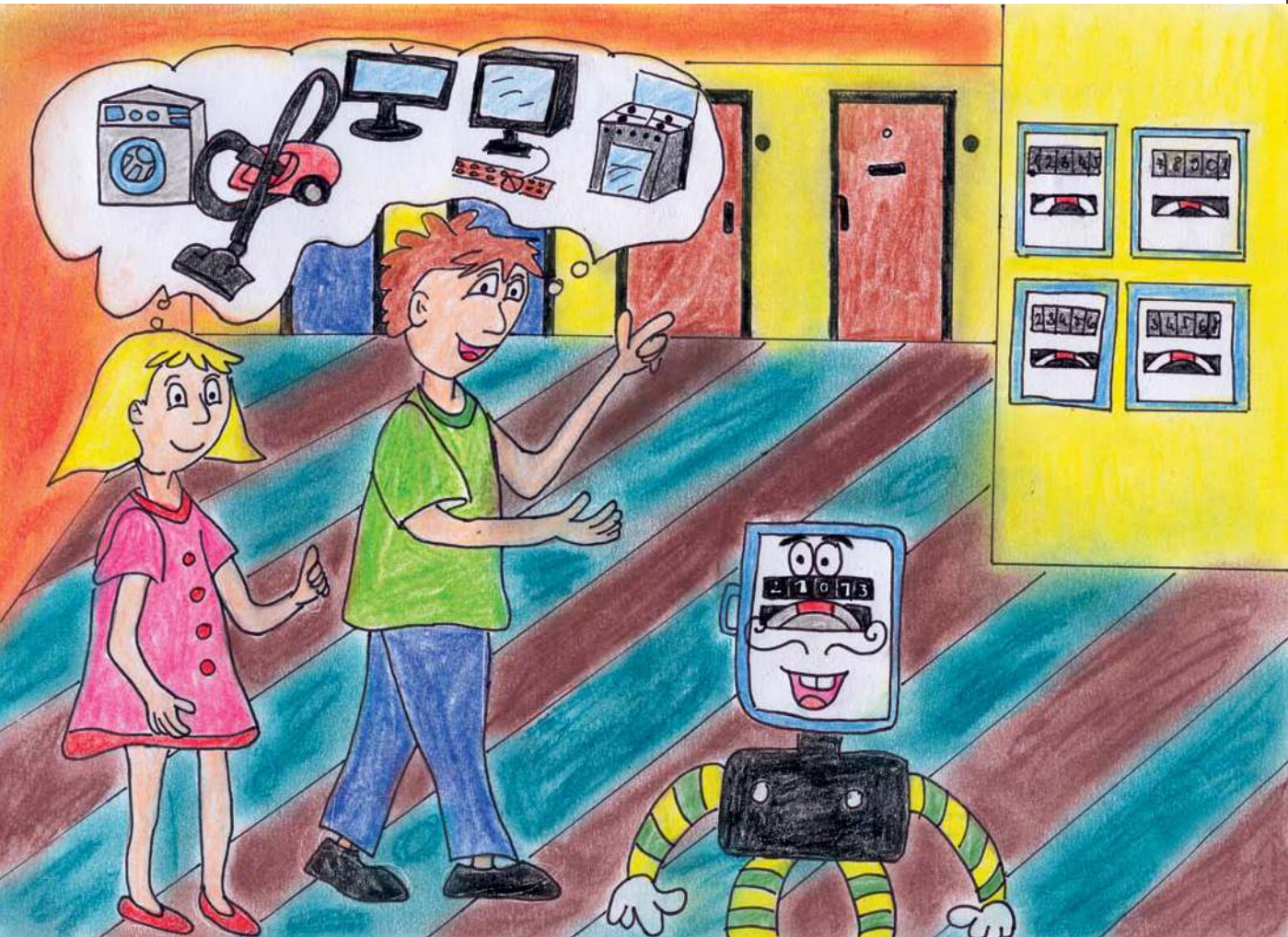
“Don’t you know? The electricity meter measures how much electricity we use,” Jack said, who was jolted into the conversation by knowing something better than his sister.

“Exactly,” nodded Cycle Michael. “Come, let’s see where the meter is in your flat and what it looks like. In some places it’s inside the house or the flat. In places like yours, an apartment block, there’s a cabinet outside in the corridor, which houses the electricity meter.

The children gazed at the electricity meter in the corridor.







“If you’re using a lot of electricity in the flat, the meter’s counter turns faster,” Cycle Michael said, breaking their silence. “Can you think of things consuming energy in your flat?”

“The telly, the computer, the hifi,” Jack said.

“And the fridge, the washing machine and the oven,” said Emily, completing the list.

“And the blender. The coffee machine, the Hoover, the bread machine...”

“And the hairdryer. And the phone charger!”

“And the lights!”

The children were really getting the hang of it, interrupting each other to list all the appliances that used electricity at home.

“Alright, alright,” Cycle Michael said, trying to stop them. “I think you’ve just about listed all of the appliances using electrical energy,” he said, smiling. “The majority of them is connected to the mains, meaning it will work when it is plugged in. But there are ones that need charging, like the phone or the camera. These use batteries



and the batteries need to be charged from the mains, after which the device draws energy from the battery.”

“Like batteries we throw away?” Jack enquired.

“Exactly, appliances using disposable batteries draw energy from batteries too.”

“And I get my energy from Mummy’s pies,” Jack added.

Cycle Michael laughed.

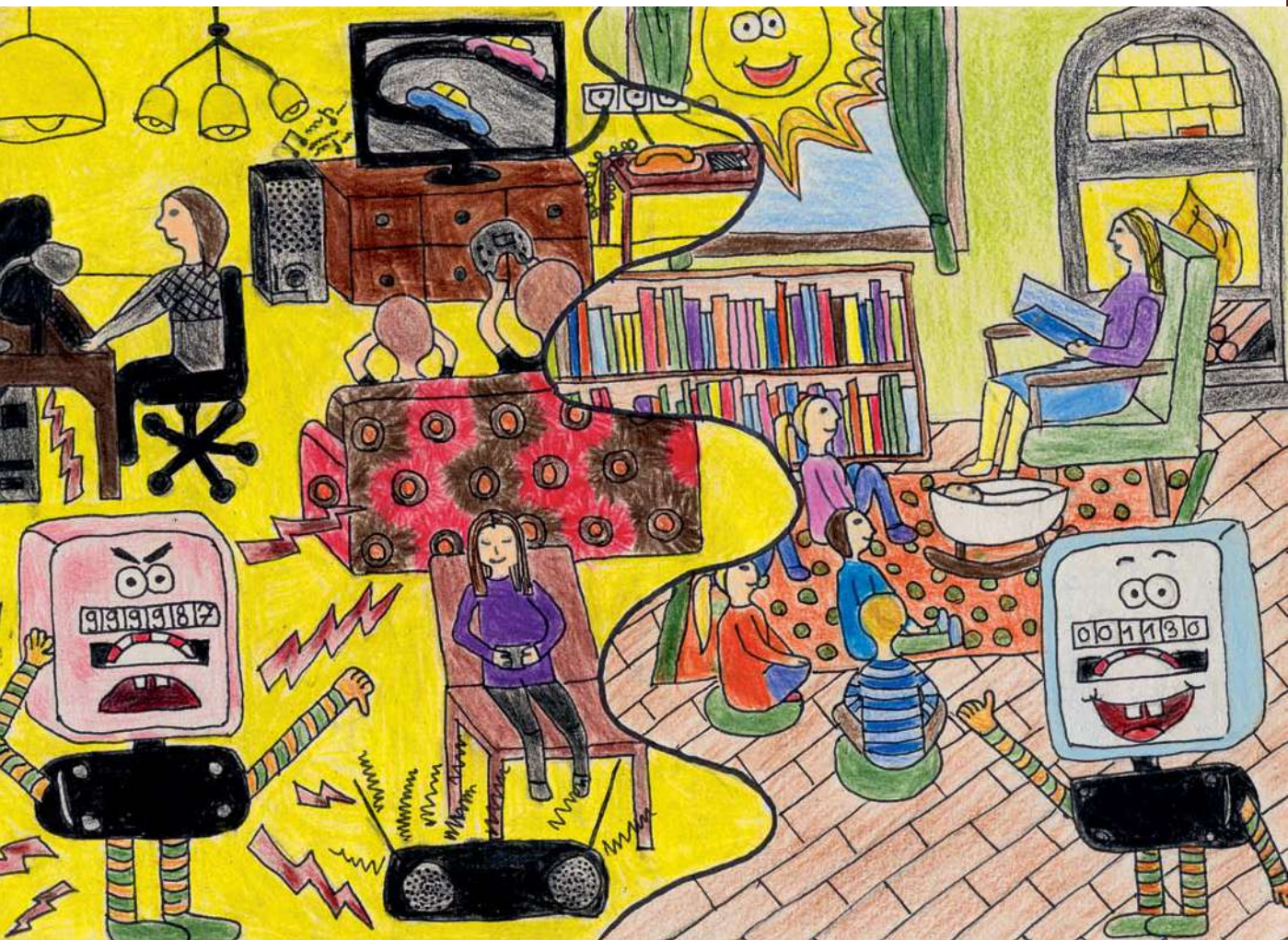
“That’s exactly how things work, Jack. Every change needs energy. For a child to grow or a car to move from one place to another or to make the house warm you need energy. As you do for our electrical appliances to work.”

“Are there different types of energy?” Emily asked.

“That’s a very good question,” Cycle Michael said. “Exactly, there are different types of energy. There’s energy of motion, heat energy and electrical energy, depending of the type of change. But going back to the electricity meter, we’ve talked about how the working of electrical appliances requires electrical energy. And the quantity of







electrical energy is measured by the electricity meter.”

This made Emily think.

“So many things at home use electricity. How much energy do we use?”

“Quick, go and write down the number the meter is showing right now,” Cycle Michael suggested. “Put down the date too. In a month’s time we’ll read the meter again and see how much energy you family has used.”

Emily read the meter and also took note of the date.

“I’ll make a table and every month I’ll write down the reading and Jack, you’ll work out and write in the table how much it costs. Okay?”

“That’s a grand idea,” Jack enthused. “And from now on let’s make sure the lights are turned off and the disc in the meter turns slowly,” he added.

“How else could we save energy, Cycle Michael?” Emily asked.

“We’ll talk about that later,” Cycle Michael replied.



## COLOURS OF THE RAINBOW: THE ENERGY LABEL

One Tuesday afternoon when the school bell rang, signalling the end of the last class, Emily quickly packed her school bag and was ready to go home. She waited in the door impatiently waiting for Jack who was playing with the other boys and had no wish to go home yet.

“Come on!” Emily urged him. “Cycle Michael’s waiting. We’re learning to save. Remember? We said we would,” she said, dragging her sulking brother behind her.

Cycle Michael waited for them at the school gates. They looked surprised.

“What’re you doing here?” Emily asked.

“I figured I’d meet you and we could pop into an electrical appliances store,” Cycle Michael said.

Even the sulking Jack’s face suddenly brightened up.

“Awesome! I can try the new Xbox game Kevin was telling me about at school.”







“Very well,” Cycle Michael said. “Until then Emily and I will look for rainbow-coloured labels in the store.”

Jack gave them a curious look, but said nothing. Clearly he was wondering what the rainbow-coloured label might be. Emily, also curious to find out, could hardly wait to explore this exciting sounding thing with Cycle Michael.

The two children ran along. Cycle Michael plodded along behind, happy to have sparked their curiosity.

Shortly they arrived at the store. Jack and Emily raced in but came to a halt when they saw the sheer size of the place, with electrical appliances and accessories everywhere. Where could the rainbow-coloured rainbows be?

Jack decided to make a move and went up to one of the store attendants.

“Excuse me, I’m looking for the rainbow-coloured labels,” he said.

The attendant looked puzzled, and had no idea what Jack was asking for. Then he saw Cycle Michael standing behind the children and instantly knew what they were after. He smiled.



“The rainbow-coloured labels are at the back of the store where the fridges and washing machines are,” he said, pointing in the direction of the rear corner of the store. “Look at the appliances and you’ll find what you’re looking for.”

The children raced each other to find the mysterious labels. Cycle Michael could hardly hold them back.

“Slow down! Steer clear of the piles of goods and try not to run over shoppers.”

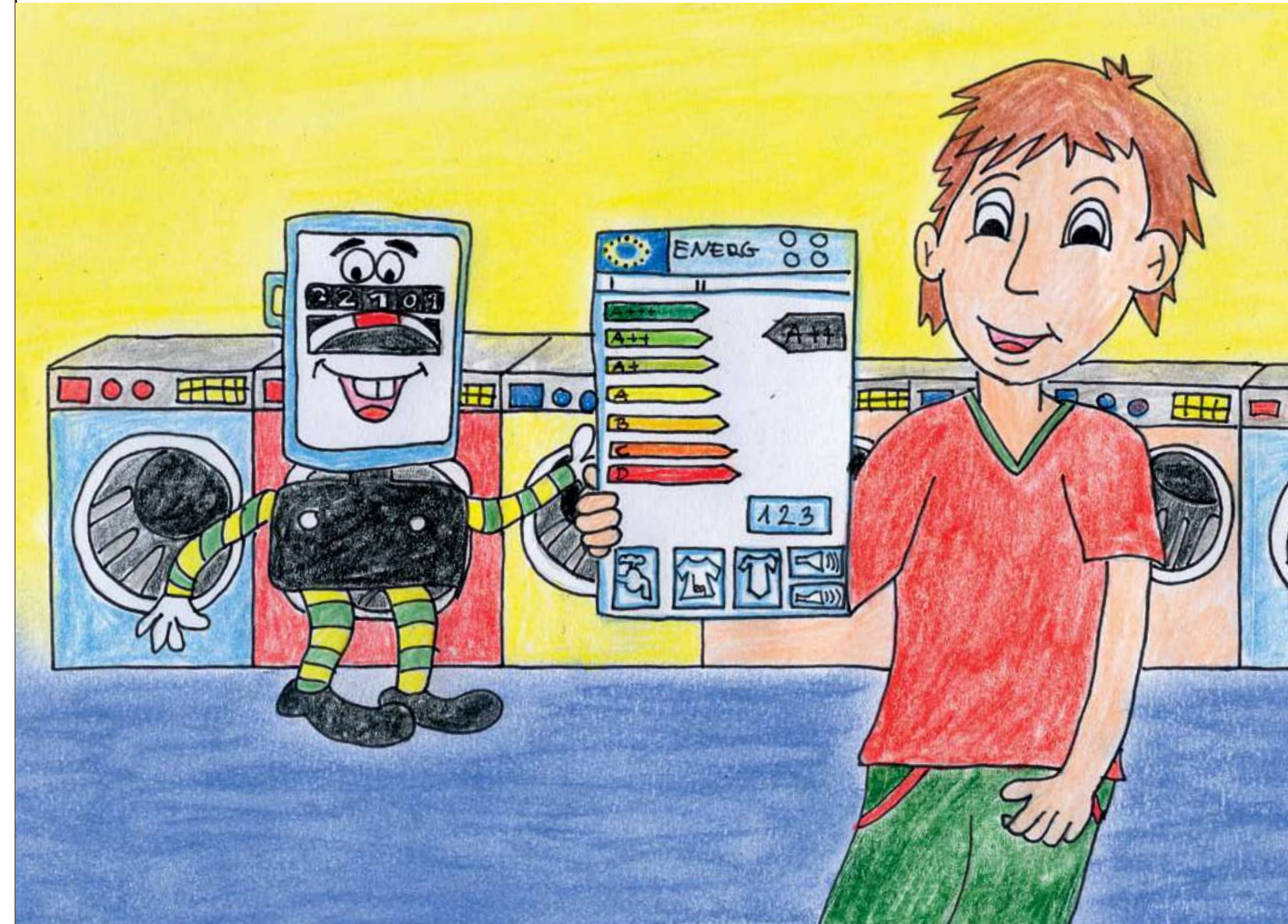
Jack and Emily cried out together, “Here are the rainbow-coloured labels!”

Emily saw the rainbow-coloured labels on the washing machines and Jack on the fridges. Cycle Michael caught up with them.

“Look, Cycle Michael, see how many there are! Every machine has one,” Jack enthused.

“Hmm. And here was I thinking you wanted to play with the Xbox...” Cycle Michael said.

“Later,” Jack said. “I’d really like to hear about these rainbow-coloured labels. Why does every machine have one?”







“Go and find your precious Xbox,” Emily now sulked because Jack ruined her plan to discover the rainbow-coloured labels with Cycle Michael, just the two of them.

But Cycle Michael sorted things out.

“I think the rainbow-coloured labels are much more interesting, if you ask me. They’re called energy labels. Both of you have plenty to discover, so don’t worry. See, you’ve already found two different kinds of labels. Emily, you on the washing machines; and Jack, you on the fridges. Let’s take a walk among the appliances, look around and I’ll tell you about the energy labels.”

The two children smiled at each other.

“Jack, let’s have a look at the labels,” said Emily, taking her brother by the hand.

They set off among the rows and Cycle Michael told them all about the rainbow-coloured labels.

“The energy labels on what grown-ups call ‘large domestic appliances’ help us compare the machines on sale in the store. The coloured scale indicates which energy efficiency



class any given appliance belongs to. Currently the most energy efficient class is A+++, meaning that an appliance in this category can expect to consume less energy in a year than one that belongs to the A++ or A+ class.”

“A+++ energy efficiency is marked with a dark green stripe,” Emily added.

“That’s right,” Cycle Michael said.

“And the ‘tap’ symbol indicates how much water a washing machine will use in a year, doesn’t it Cycle Michael?” Emily asked.

“Exactly. That’s because a washing machine not only uses electrical energy, but also water. See just how useful the energy label is to compare the machines on sale in the store?”

Cycle Michael was proud of Emily and Jack. “Very clever children,” he said. “Now you know everything about the energy label of washing machines. As you can see, other products, such as refrigerators, have energy labels. They have the same energy efficiency classes and the coloured labels.”

“I’ve changed my mind,” Jack said. “I don’t want to play Xbox any more. I’d rather check out these other labels.”





They walked around a bit, studying the energy labels and domestic appliances and eventually set off home.

“Now we know that if we pick the right machine, we can save a lot of money. But how else could we save money, Cycle Michael?” Emily asked.

“We’ll come back to that next time,” Cycle Michael said.

## COMPULSORY READING

One Wednesday afternoon when the school bell rang, signalling the end of the last class, Emily quickly packed her school bag and was ready to go home. She waited in the door impatiently waiting for Jack who was playing with the other boys and had no wish to go home yet.

“Come on!” Emily urged him. “Cycle Michael’s waiting. We’re learning to save. Remember? We said we would,” she said, dragging her sulking brother behind her.

The two children were plodding home. At home Cycle Michael was waiting for them.

“How was school?” he asked. “Apart from nothing,” I mean, he said, smiling, knowing already what Jack would have to say about it.

“We were given a new book to read,” Emily said.

“I hate compulsory reading,” Jacked sulked. “I don’t want to read. I’d rather play with my new remote-control car I got for my birthday. I’ve been doing so much homework I haven’t been able to play with it.”

“Well, it can wait,” Cycle Michael declared. “Come, let’s check out your car,” he suggested to Jack.

Jack’s face brightened up and he ran off to fetch the car.

“Wait, I’m not sure how to turn it on.”

“I’ll help,” Emily offered. She wasn’t a big fan of toy cars, but didn’t want to be left out either. “There, press this button... Oh. Why isn’t it starting? Is it broken?”

Cycle Michael waited patiently for the children to sort out the toy.



“What can we do, Cycle Michael. It refuses to start,” Jack said sadly.

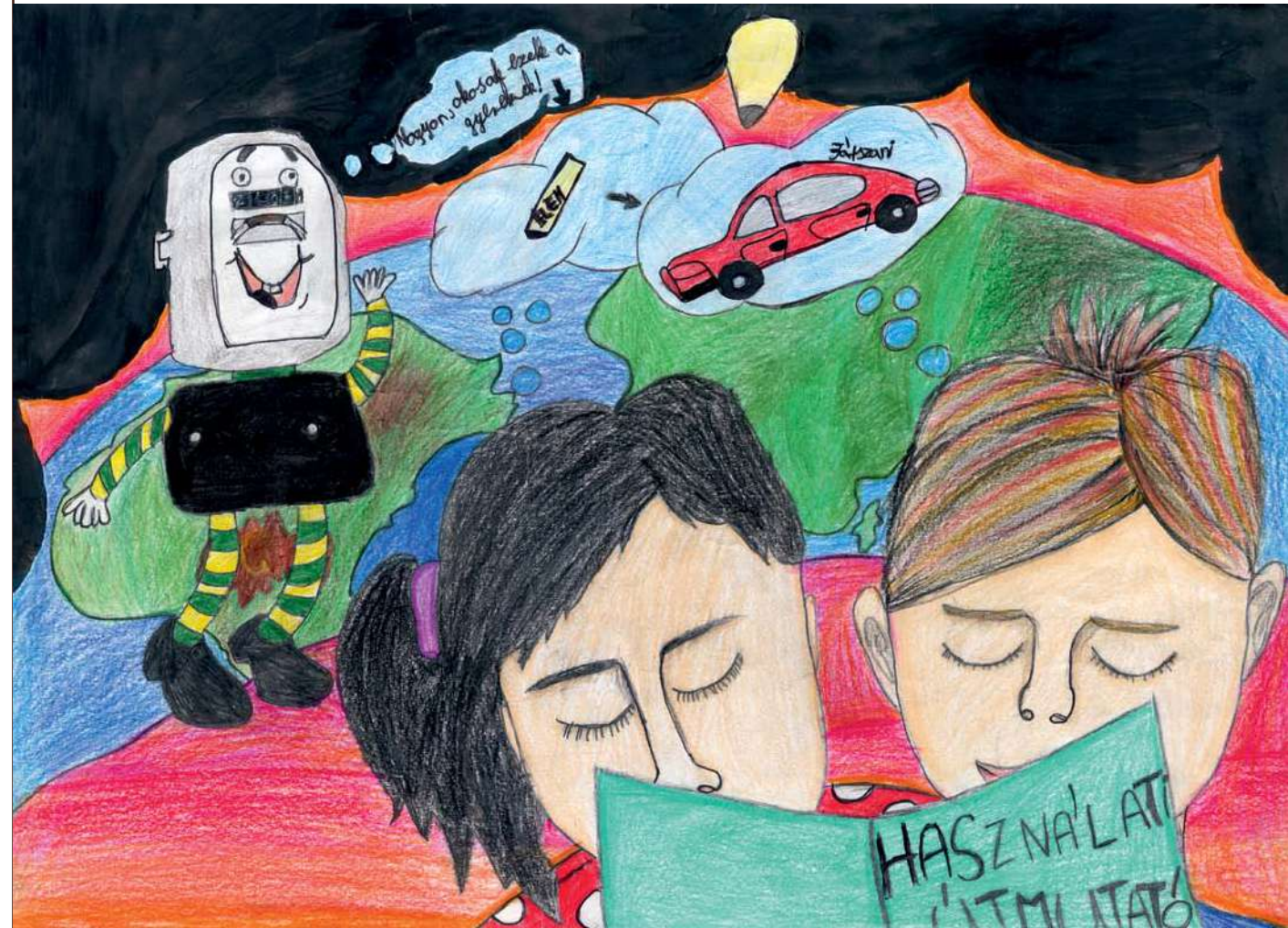
“Well, help is in the box... Only that too... how shall I put it... so that too is kind of ‘compulsory reading’.”

“What?” the two children said in surprise.

Their curiosity was stronger than their objection. Jack removed the booklet from the box. He opened it and his eyes lit up.

“Look Emily. First you need to put batteries in the car. It won’t start because it has no energy. We forgot to put in the batteries. It explains here how to open the battery compartment and the kind of battery we need.”

“Let me see. I’ll fetch some batteries, I’ve got loads in my drawer,” Emily enthused.







The children followed the instructions and put the batteries in the car.

“It explains here what each button is for,” Emily said, reading the booklet.

“Interesting compulsory reading, eh?” Cycle Michael asked.

The children got the car running and chased it around the room.

“Yes, Cycle Michael, see how brilliant this is,” Jack raved.

“Cycle Michael, is this ‘instruction manual’ thing compulsory reading?” Emily asked.

“It is. If you want to set up and use the device, you always have to begin by reading the instruction manual. The device, whether a toy or a domestic appliance, will reward you for your attention,” Cycle Michael smiled.

Suddenly they heard Mummy’s coming in the front door.

“Emily, Jack, Daddy and I have just bought a new washing machine. We’ll be doing the laundry in it tonight.”



“But first you need to read the instruction manual,” Emily and Jack yelled in unison.

Cycle Michael was very proud of his little pupils.

“Cycle Michael, we promise to always read the instruction manual first, to see how to set it up, use it efficiently and to take care of it. But what else can we do?” The children asked.

“We’ll come back to that next time,” Cycle Michael said. “Now let’s help Mummy and Daddy install the new washing machine.”

## WATER-SAVING APPLIANCES

One Thursday afternoon when the school bell rang, signalling the end of the last class, Emily quickly packed her school bag and was ready to go home. She waited in the door impatiently waiting for Jack who was playing with the other boys and had no wish to go home yet.

“Come on!” Emily urged him. “Cycle Michael’s waiting. We’re learning to save. Remember? We said we would,” she said, dragging her sulking brother behind her.

“What’re you doing here?” Emily asked.





“I figured I’d meet you and tag on for your swimming class,” Cycle Michael said.

“We were talking about water all day at school and now we’re about to get wet...” Jack grumbled.

Cycle Michael smiled. He’d become used to Jack’s unwillingness to leave his friends behind after school.

“And what did you learn about water at school?” he asked the children.

“Tomorrow’s 22 March, World Water Day. Everywhere around the world they are talking about why we need to save water,” Emily said. “The majority of the Earth is covered in water, oceans and seas, but they’re all salty and there’s much less freshwater around,” she went on.

Now Jack joined the account, not wanting to allow his sister to tell it all.

“There are lots and lots of places around the world where people don’t have clean drinking water, and that is a very, very big problem.”

“Very good, I see you’re listening. Indeed, two thirds of the World is covered in water, but only 3 per cent of that is freshwater. Especially since most of the World’s fresh water

reserves are in the polar regions in the form of ice sheets,” Cycle Michael explained to the children. “Were you also taught how to save water at home?”

“By for instance having a shower instead of filling the bathtub... And turning off the tap when cleaning our teeth,” said Emily.

“But the machines and stuff we buy is also important,” Jack interrupted, “because we can save a lot of water by using a water-saving loo tank,” he said proudly recounting what they had learnt.

“And what about domestic appliances?” Cycle Michael enquired. Can you think of machines around the house that use water as well as electrical energy?”

The two children thought a little. It occurred to both of them at the same time.

“The washing machine,” they said in unison.

“Indeed, the washing machine is one of them, but there’s another. You don’t have one at home, but when checking out the energy labels in the store the other day, you will’ve seen one there.”

“The dishwasher,” cried Emily. “Mummy’s been nagging Daddy for one of those for ages.”

“Cycle Michael, does the dishwasher use less water than when Mummy and Daddy do the dishes under the tap?”

“Absolutely. A modern, efficient dishwasher uses a sixth of the amount of water used for washing up by hand, and it requires less energy and detergents than when doing the dishes in the sink.”

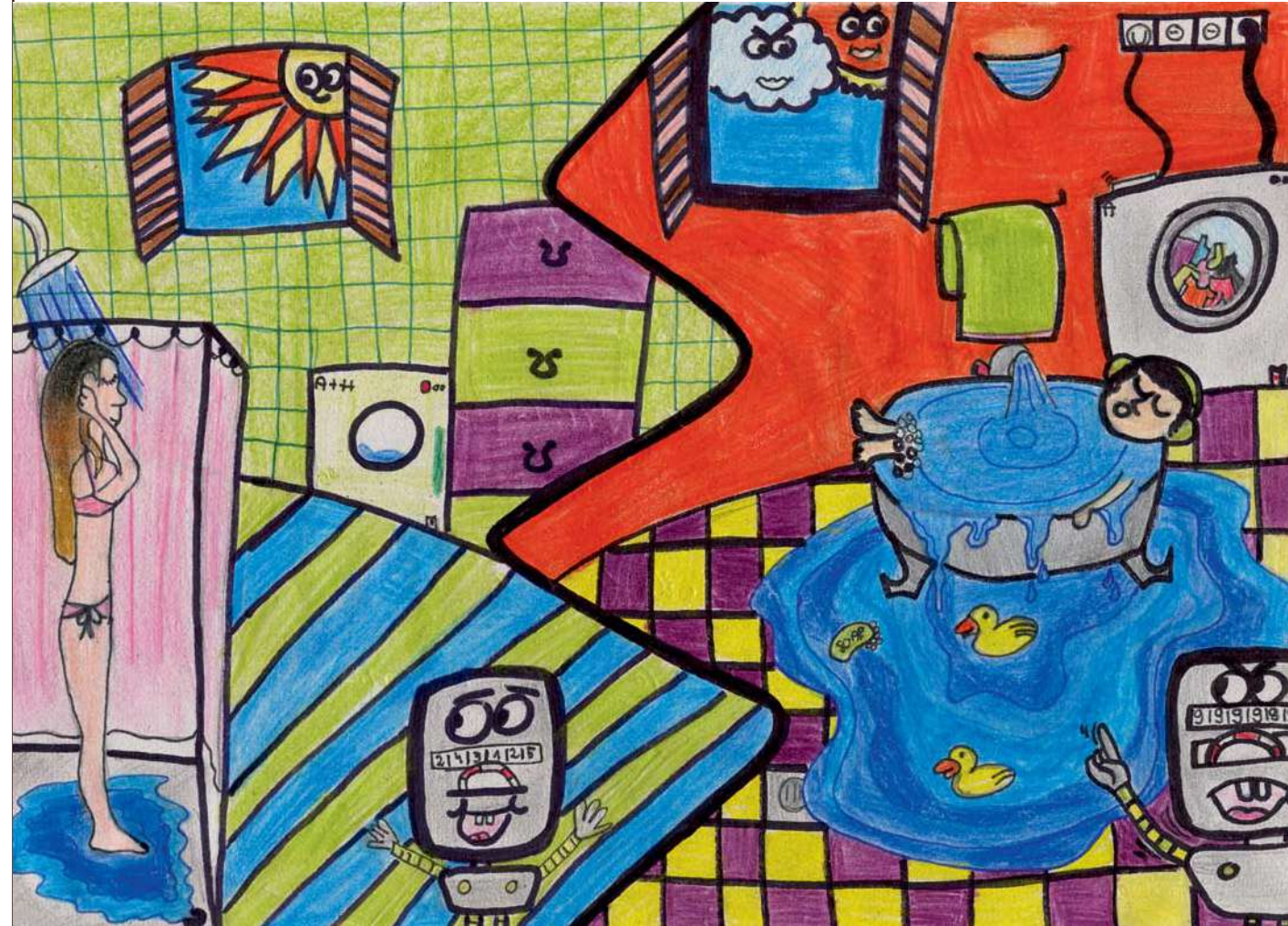
“So we’d be much better off getting a dishwasher,” Jack concluded solemnly. “I’ll suggest Dad gets one soon.”

“I’m sure Mummy would be very pleased,” Cycle Michael smiled.

“And what about washing machines,” Emily asked. “All families probably have them,” she wondered.

“True. Almost every household has a washing machine,” Cycle Michael concurred. “The trouble is that a lot of them are ancient. These 15–20-year-old ‘beasts’ consume a very lot of water and electrical energy.”

“Our washing machine is new. Mummy and Daddy bought it quite recently,” Emily said proudly.





“So we’ve already saved energy on getting an environmentally friendly washing machine instead of the energy and water-guzzling old one,” Jack added.

“So if we get a proper washing machine and a dishwasher, we not only save energy, but also water. How else can we save energy, Cycle Michael,” asked Emily.

“We’ll come back to this next time,” Cycle Michael said. “Now off to your swimming class.”

## MENACING WASTE?

One Friday afternoon when the school bell rang, signalling the end of the last class, Emily quickly packed her school bag and was ready to go home. She waited in the door impatiently waiting for Jack who was playing with the other boys and had no wish to go home yet.

“Come on!” Emily urged him. “Cycle Michael’s waiting. We’re learning to save. Remember? We said we would,” she said, dragging her sulking brother behind her.

At home Cycle Michael was waiting for them with a special exhibition. He’d laid out on the table lots of no longer used or broken electrical devices, such as transistor radios, ancient hairdryers, broken mobile phones and even a blender.





Jack curiously eyed the objects and asked, “Why did you put out all of this old stuff, Mike? In any case, where did you get them from?”

“I was helping Mummy clear out the attic this morning, and that’s where they come from,” Cycle Michael said. “Mummy told me you didn’t use them and most of them are beyond repair,” he added.

“So let’s bin them,” said Jack, picking up the transistor radio, ready to throw it away.

“Oi, you, what’re you doing?” Cycle Michael said, standing in his way. “Have you heard of separate waste collection?”

Emily, who had been quietly listening, now eagerly joined the conversation.

“Of course we’ve heard about it. You need to collect paper, plastic and metal separately, and glass. That’s because they can be recycled,” she enthused.

“Indeed, indeed,” Jack mumbled. “Only these machines are none of those,” he wondered.

“Electronic waste needs to be collected separately too, children,” Cycle Michael said. “For two reasons. Firstly, electronic waste or ‘e-waste’ is very dangerous. What this means is that if it is tossed in the wrong container, or worse, dumped in a forest or near water, it will pollute the environment. Coming into contact with rainwater or becoming mixed up with other waste, certain components in e-waste might seep into the ground, polluting it badly,” Cycle Michael explained. “If e-waste is taken to a special processing plant, the dangerous substances in them are first removed, and the individual components are sorted according to their materials: metals, plastics, wood, precious metals and hazardous materials. Materials that can be recycled, such as metals and precious metals, are returned to the industry. That is the other reason these broken machines need to be collected separately. About three quarters of their components can be recycled.”



Cycle Michael had another idea. He turned to Mummy and asked for the instruction manual of the new washing machine.

“Look. The instruction manual of every electronic product today has to have this symbol in it:



What this means is that these products cannot be thrown away in regular rubbish bins. They cannot go into what’s called ‘communal waste’, partly because they might be hazardous waste and partly because they can be recycled.”

“Cycle Michael, if these machines have dangerous stuff in them, can they be dangerous when we’re using them?” Emily asked thoughtfully.

“No,” Cycle Michael said reassuringly. “If they’re used properly, that is according to the instruction manuals, these materials are not harmful. Manufacturers only produce safe devices. If the authorities checking on them find machines in the store that are dangerous, they can ban them from being sold.

“What can you do with these old machines?” Jack asked, looking at the “exhibition” on the table.

“Smaller machines and used fluorescent tubes and bulbs, and regular light bulbs can be taken to hardware or electrical appliance stores that have special waste containers for them. After they’re removed, expert hands sort and recycle them. Most recycling sites will accept e-waste, but it’s worth calling them first to ask.”

“And what about larger machines, like washing machines or fridges?” Emily asked.

“They too need to be taken to recycling sites. Or when you buy a new one, the store will take them away for free. When they deliver the new one, you can ask for the old one to be taken away.”

“Or we can just dump them in the street during the annual junk-clearances,” Jack suggested.

“Unfortunately a lot of people do just that, but it’s not a very good idea,” Cycle Michael said. You’re not supposed to dump waste that contains dangerous materials. Most places have a special day and place for dumping hazardous waste, including e-waste.”

“Okay, so let’s take them to a recycling site,” Jack said and started packing them away in a bag.”

“Oi now, wait a moment,” Cycle Michael laughed. “Homework first. Then we can find a recycling site nearby, if there’s any time left before bedtime,” he added, smiling.







## PROTECTING THE ENVIRONMENT CAN BE FUN

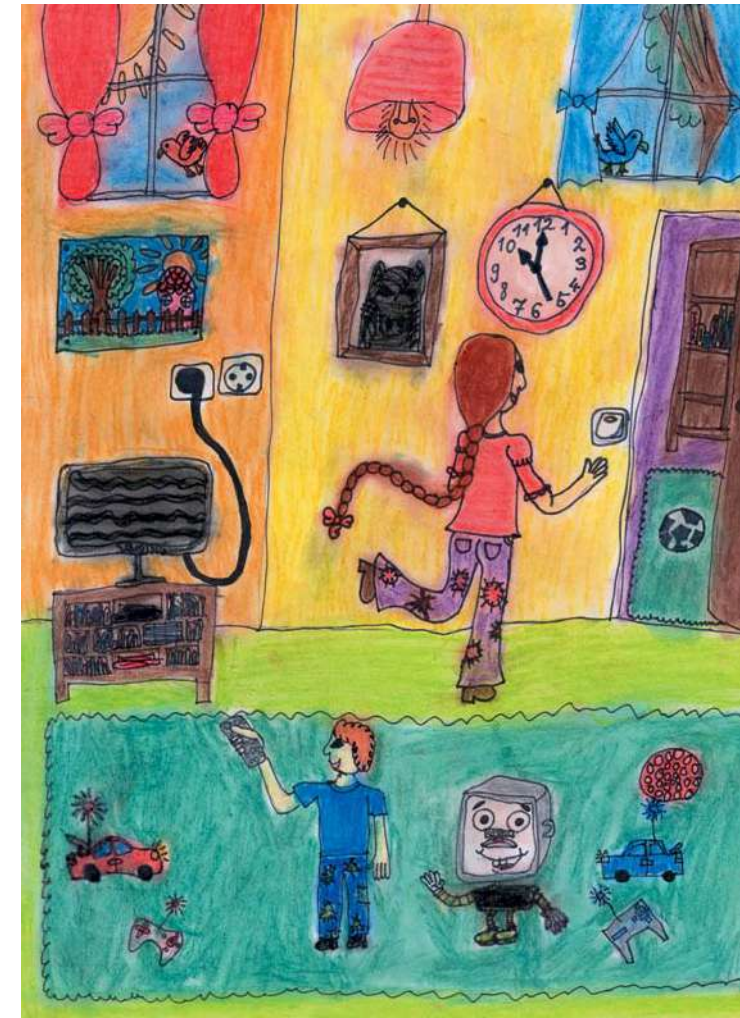
The children learnt a lot of things from Cycle Michael, including how to save electrical energy. They persuaded Mummy and Daddy to change old light bulbs for energy efficient ones, and always make sure the lights are turned off where they're no longer needed. They even warned their parents if they'd forgotten to turn off the lights. Instead of watching television they read or played more often, although they wouldn't miss any films about the sea and marine life. They made a point of not opening the fridge door all the time, having understood that it consumes more energy if heat is allowed to get in. They always made sure the washing machine and the dishwasher were only turned on if they were full, and tried not to get their clothes dirty, nor use glasses and dishes unnecessarily, in an attempt to reduce the amount of dirty laundry and washing-up.

They tried to save water too by turning off the tap while cleaning their teeth and having a quick shower rather than a big evening bath. They came to understand that in many places around the World there were children who had no access to

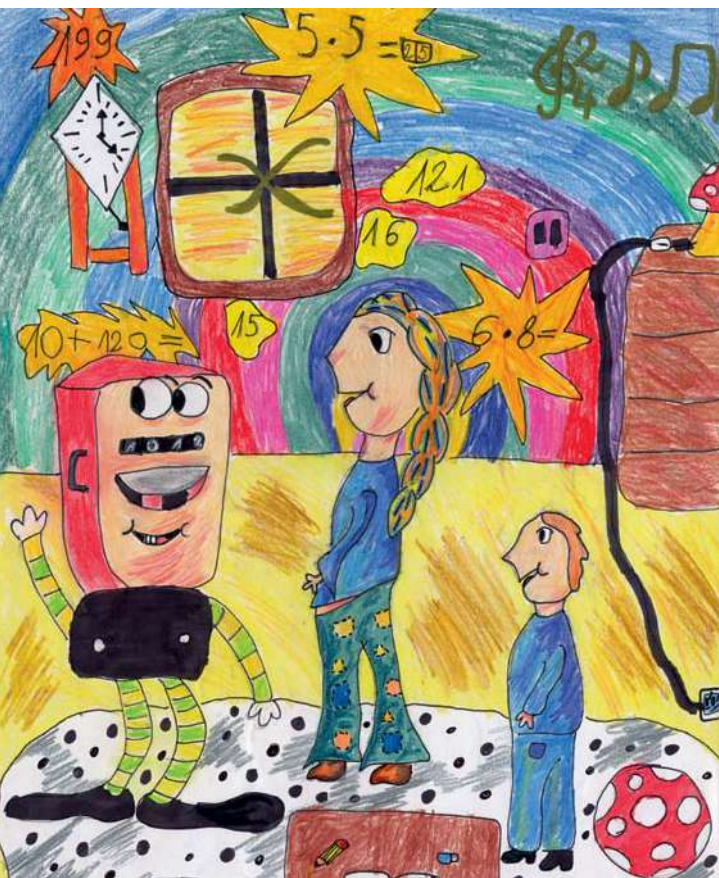




clean drinking water, and therefore clean water was to be greatly appreciated and was not to be wasted. Every month they asked Daddy for the electricity, gas and water bills, and made a table of how much they had consumed in the previous month and how much it cost them. They were thrilled to see the utility bills were getting lower every month. Mummy and Daddy were pleased to see their children care about the environment more and more, and know more about saving energy than they did. They helped in by getting rid of the old energy-eating fridge for a new, energy efficient one. In turn, the monthly electricity bill went down by a staggering amount!







They became familiar with separate waste collection. They learnt that the reason why paper, plastic, metal and glass had to be collected separately was because they would be recycled. For instance, paper could be reused to make drawing paper and books, preventing the felling of new trees. They no longer threw away their rubbish in the street. In fact, each time someone threw away litter in the street, they'd go up to them and warn them not to do so, arguing that it polluted the soil and the environment.

Then one spring day, exactly a year after Jack and Emily had first met Cycle Michael, Mummy and Daddy showed the children a magazine. They said nothing, just laid it on

the table and smiled. The pictures showed a lovely hotel by the blue sea. Close to the hotel was a small peninsula, with children bathing in the sea and divers preparing on the beach.

Jack and Emily gazed at the photographs. Then smiles lit up their faces. They realised why Mummy and Daddy were showing them the magazine.

“Daddy and I are really proud of you for helping us so much in the past year. You've learnt to save energy, care for the environment, and why that is so important. In many cases you taught us the tricks. And thanks to you, our bills were significantly reduced in the past year. So Daddy





and I decided to go on holiday to the sea this summer. Here, to this lovely place,” Mummy pointed out.

Jack and Emily ran round and round the room hugging each other and Cycle Michael, laughing.

“Mummy, can we take Cycle Michael with us?” Emily asked.

“Yes, can Cycle Michael join us? We owe this trip to him” Jack said.

“Him and yourselves,” Daddy smiled. “Of course Cycle Michael can come!”





## THE JOURNEY



The journey was long, but Jack and Emily couldn't complain. They read their books about marine life, which they showed to Cycle Michael.

“Look Cycle Michael, that's a dolphin and this is a shark. This snake-looking fish is a moray. And here's our favourite, the octopus. It has eight arms, mainly hunts during the night, and hides among the rocks during the daytime and sleeps. Did you know, it can change its colour? It goes white when it's afraid and red when angry,” Jack said proudly.

“And when it's attacked it fires a cloud of black ink at its attacker so it can escape,” Emily added.

Cycle Michael looked surprised.

“Wow, where did you learn all of that?”



“We read it in this book,” the children said. “And we saw them in the nature films on television.”

“So tell us, Cycle Michael, does pollution endanger the sea?” Jack asked.

“Indeed it does,” Cycle Michael said. “The rivers and drains carry a lot of polluted water from the cities to the sea. In ship accidents too, so when a freight carrying dangerous materials ship capsizes, the substances that end up in the sea can poison marine life. The currents then carry these to distant places and cause damage in other places. And all the poisonous substances accumulate in the fishes and other sea creatures...”

“...and we then eat them,” said Jack, finishing the sentence.

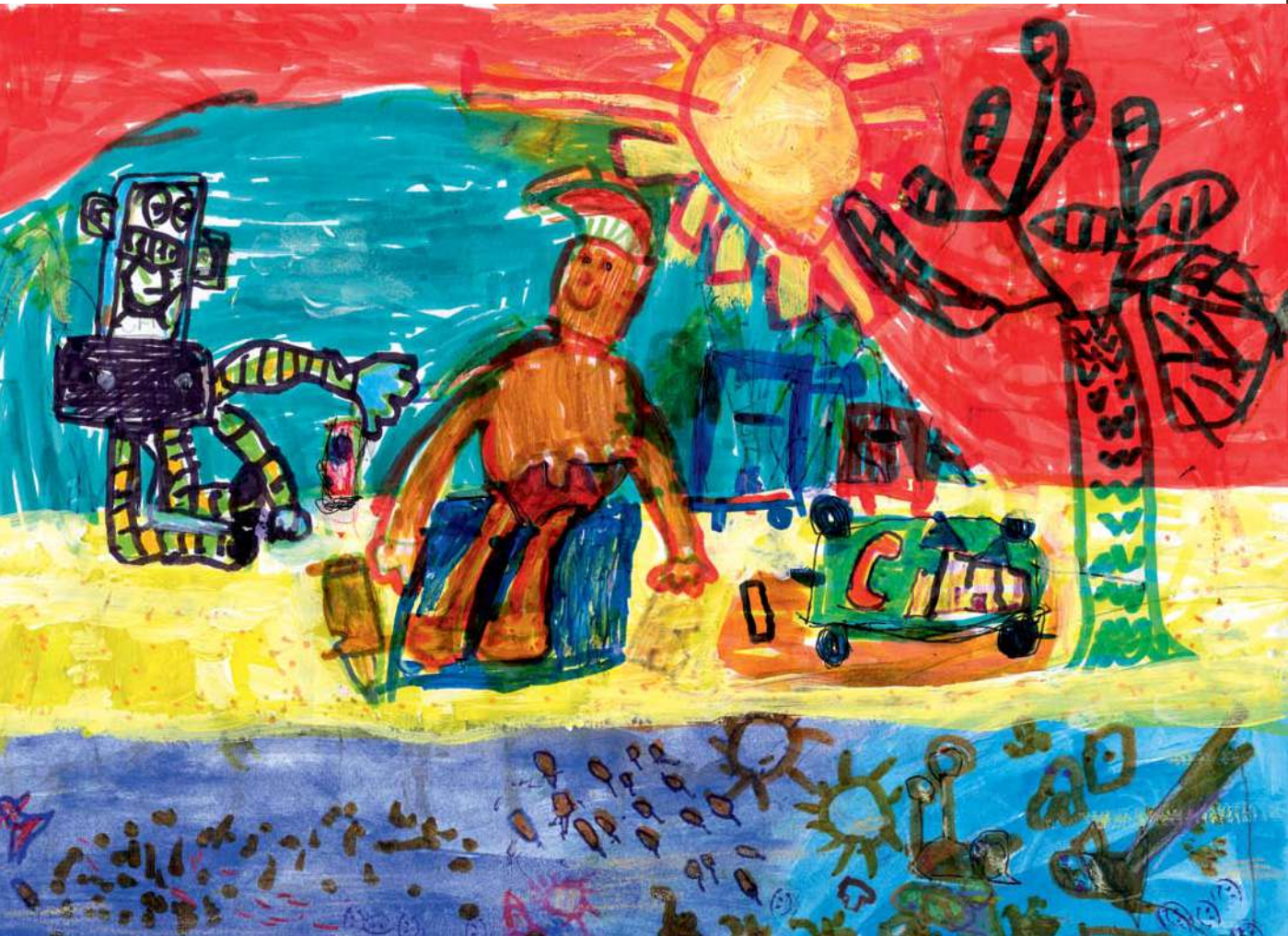
That made everyone think.

“I also heard that global warming too endangers the seas. What does that mean?” Emily asked.

“To understand global warming, or more precisely, climate change, we need discuss another idea first. Have you heard about the greenhouse effect?”







“Well, I’ve heard about tomatoes being grown in greenhouses,” Jack said.

“It’s no accident that the greenhouse effect, an atmospheric phenomenon, takes its name from greenhouses. So here’s what happens. The sunlight penetrates the glass roof of the greenhouse and the rays of the sun are absorbed by the surface of the earth. Then the surface radiates heat, warming the air of the greenhouse, keeping the heat inside, and only very little of it can escape. The air will be warm enough to grow tomatoes even if it’s cold outside. The atmosphere too has materials that work like greenhouses. They let the sunlight through but don’t let the heat radiated by the surface to escape. Like for example the water vapour content of the atmosphere, but also carbon dioxide. Only part of the heat radiated by the surface of the earth can escape through the atmosphere into outer space, and the majority of the heat remains near the surface, due to these greenhouse gases. The greenhouse effect is, in a way, a good thing, otherwise the Earth’s average temperature would be much lower, because all the heat would escape into space.”

“Clouds have drops of water in them too, don’t they Cycle Michael? Then do clouds make a greenhouse effect?” asked Emily.



“Indeed they do, although the droplets in clouds are very tiny, but their effect is much the same. So when the sky is cloudy, it won’t be as cold in the morning because the clouds, thanks to their greenhouse effect, keep in the warmth of the air heated during the day, so the air won’t cool that much during the night. If there’re no clouds in the sky, it’ll be chilly in the morning.

“So what is it about global warming then?” asked Jack impatiently.

“Sorry Jack, I’ve digressed. The Earth was formed about 4.5 billion years ago and since then its temperature has changed lots of times, with colder and warmer periods alternating. Currently, strange as though this may sound, we’re living in a cold period, which has lasted for a few tens of thousands of years now. In the past few thousand years temperatures have risen and dropped, but the extent of temperature rises is slightly larger. That’s what’s referred to as global warming, or to be more precise, climate change. As you can see, nature itself develops the balance that affects many things.”

The children were listening attentively.

“The problem, many scientists now believe,” Cycle Michael went on, “is that in addition natural phenomena, human activity – such as producing energy – has caused





too much carbon dioxide and other greenhouse gases into the atmosphere, which has increased the greenhouse effect, causing the Earth's temperature to rise faster. Many climate researchers believe global warming to be the cause of extreme weather around the World, like giant storms in certain places and drought in others. And also they're responsible for the ice caps melting on the North and South Poles, and rising sea temperatures and levels. The most important question is how much does human activity contribute to increasing global warming, and how global warming will affect the life of mankind. Climate researchers try and answer these questions, but very possibly it'll be you, your peers and children who'll have to answer these questions."

"However we affect global warming," added Emily, "we need to reduce our emission of dangerous materials, that's for sure."

"I couldn't agree more," Cycle Michael said.

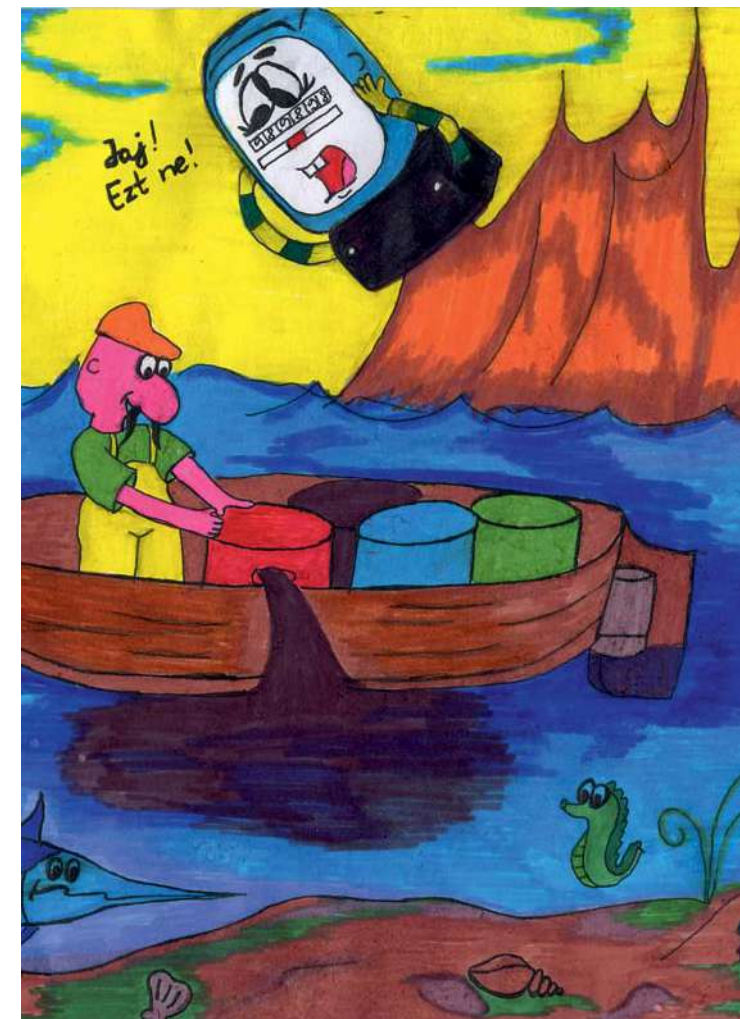
"Car exhaust gases release dangerous materials into the air," said Jack thoughtfully.

"Yes," Cycle Michael said. The solution is of course not to stop using cars or stop turning the lights on, using household appliances. That wouldn't be realistic. More importantly, everybody should save energy as best as they can and use the achievements of

civilisation sparingly and with consideration to the environment."

"And nobody should throw away their rubbish," Jack announced. "I certainly won't throw anything into the sea," he decided.

"Neither will I," Emily added.





## THE SEASIDE



The long car journey was followed by a short stretch on a ferry. They were really close now to their destination, and so Jack and Emily didn't mind in the least. They watched the sea and secretly hoped to see some kind of animal.

“Look, dolphins,” Daddy cried.

“They're beautiful!” Emily enthused.

“There're at least ten of them,” Jack said. “See how close they're coming to the ferry and how fast they're swimming with it.”

It was evening when they arrived at the hotel to begin their wonderful holiday. Early the next morning the children were playing down by the sea. They collected seashells and pebbles, and of course bathed a lot too. They loved the waves, rocking and rowing and jumping off their inflatable mattresses. For hours on end they would watch the



divers as they prepared for the dive and waiting for them to return, asking them questions about what they'd seen under the water.

“Daddy, I'd like to do diving too,” Jack said.

“We'll ask the divers if you can try it,” Daddy promised.

The two diving instructors, Dodo and Robo, were happy to have the children.

“Since you're older than 10, you can have a go at diving at a depth of 3–4 metres. But you need to take part in a one-hour prep talk to learn what you need to be careful with under the water.

The two children (after a first reluctant Emily decided to have a go) listened to the diving instructors and remembered everything they told them. They were a little anxious, but their curiosity was stronger than their fears. Three other children, Ben, Ashley and Kate, also learning to dive, edged them on. “It's fantastic fun, you'll see. We've done it and can hardly wait to go again.”

Well encouraged, Jack and Emily dived under the water with Dodo and Robo. Half an hour later – with Mummy and Daddy on tenterhooks on the beach – the two children





emerged from the water with gleaming eyes. Before they undressed, Jack and Emily declared to their parents that they had had such an amazing time that they wanted to be divers when they grow up. Dodo and Robo smiled and told them they'd done really well, as discussed before going under.

Jack and Emily told their parents and of course Cycle Michael about all the fishes and morays they'd seen, and Dodo woke up a sleeping octopus for them, luring it from under its rock. They stroked it, but let it go, seeing that it went white with fear. It had retreated quickly under the rocks.

"Cycle Michael, you were right. The sea is full of rubbish. We saw cans and even bits of a washing machine."

"We're cleaning the bay at the weekend," Robo diver said, hearing what the children were talking about. "Unfortunately the sea currents bring in all this trash, when most of it isn't even thrown in the sea here. So from time to time we collect them. Every diver helps us. Would you like to?"

"Yes, yes" the children said in unison. "We can collect the rubbish from the shallower parts," Jack offered. "See you then!" And they waved the divers goodbye.





## BE CAREFUL



The next morning a large group of children gathered on the beach. Jack and Emily were of course eager to find out what had happened, so they ran down to see. Diver Dodo and another grown-up were explaining something to the kids, one of whose knee was bleeding. It turned out that they had been jumping from the shore into the sea, only the water wasn't deep enough and a rock under the water had caused what was fortunately just a scratch.

“Since you’ve gather here in such numbers,” Dodo said, turning to the growing number of children, “would you like to go on an expedition today?” he asked.

The children, including the boy with the bleeding knee, were thrilled by the idea. The parents listened to see where it was going.

“So the idea is that diver Bob and I,” he said, introducing his friend, “will give you a



water safety training course. This bruise is luckily not serious, but it easily might have been,” he said, pointing at the little boy’s knee. It would be nice if no accidents happened, but to achieve that you’ll need to learn a few basic rules. My friend diver Bob here can help. Not only is he a brilliant diver, but also a professional lifeguard.”

“I’d be happy to join the team,” Bob said. “How about swimming round this little peninsula together? We can stop for rests and if you like, we can jump off the cliff where it is safe to do so.”

“Hooray, hooray,” the children enthused.

Some of the parents seemed worried about the leaping off the cliff part, but Bob explained that before they jump they’ll discuss what they need to pay attention to. He added that the expedition would be accompanied by the diving boat and if anyone was tired they could have a rest on the boat.

“Who’s coming then?”

Naturally none of the children wanted to miss the exciting opportunity. Bob and Dodo convinced the parents to join, so the event would be a big family expedition. They





discussed the order of the swimmers. Bob would swim at the head of the group, then the parents with the children, and Dodo would follow them in the diving boat, making sure everyone is safe.

“To sea!” cried Jack and ran off to fetch his diving mask and started to climb down the ladder into the sea.

“Oi, wait a mo, not so fast,” Bob said. “We need to talk a little first. That’s the condition of taking part in the expedition.”

“Since you only just had breakfast, you might as well learn rule number one: never go into the water with a full stomach, no jumping, no sports. So now’s a good time to talk,” Dodo smiled.

The group sat down on the beach and Bob started his lecture.

“So what is it you need to pay attention to before going in the water?” he asked.

“Not to have a full tummy,” some of the children said straight away, showing they were listening.

“You also need to make sure not to jump in the water with a too hot body. You need to wash yourself in the water and gradually immerse yourself,” Emily added.

“That’s absolutely right Emily. That is a very important rule. If you’ve been in the sun for too long and your body’s warmed up, it can be dangerous to suddenly jump into the cold water. Always wash the nape of the neck, your face and around your heart, and slowly go into the water,” Bob confirmed. “It is also crucial to come out of the water straight away if you feel cold. Remove your wet trunks or swimming dress and put on dry ones. The same goes for rivers lakes and the sea. Also, it can be dangerous not to be familiar with what’s under the water. There can be sharp rocks or dangerous creatures. Like urchins here in the sea, which can cause unpleasant injuries. Strong currents in rivers and the sea can also be dangerous because they can sweep us away. Children should only go into the water with adult supervision.”

“Water plants are so scary. Like seaweed for instance,” Emily said.

“It’s a good idea to avoid areas overgrown with water plants,” Bob added. “Still, if you do wander into waters like that, there’s no need to panic. Just float on the surface of the water and with small movements swim away from the seaweedy area.”





“Waves can be quite strong here by the sea,” Ben said. “You need to be careful, especially if you’re climbing into the sea from a rock.”

“Exactly,” Bob said. “In places where the waves are hitting the rocks hard, it’s dangerous and forbidden to climb in the water.”

Bob turned to the injured little boy.

“Do you know why you were hurt?” he asked.

“Well... Cos we hopped in here where the diving boat is usually tied up, and a rock bruised my knee under the water. I don’t really understand why because I’ve jumped in the water here loads of times and never touched the rock before,” he said, bursting into tears.

“That can easily happen in the sea. Do you know how?” Bob asked.

Ben raised his hand.

“You were probably jumping when the tide was in and the water level was higher. But the tide is out now and the water is shallower. That was why you touched the rock,” he said.



“That’s right. The ebb and flow of the tide changes the level of the sea every six hours. When jumping into the sea you need to consider that. It’s best to jump where jumping is always safe and the water is deep enough. And of course only if you’re a god swimmer. It’s important that if you can’t swim or if you’re not a very good swimmer, you should never jump in the water, but wade in as far as your feet reach the seabed.”

After discussing every important aspect and prepared all the gear they’d be taking along, such as beach shoes, diving masks, swimming goggles, the group set off on their swim around the peninsula. Luckily it was a bright and calm day, and although there were no big waves, the company made sure to give the rocks a wide berth. They also made it clear that this expedition was not a race. Nobody had to be outswum. The idea was to maintain a safe pace. When they were about a third of the way round the peninsula, they had their first rest at the jumping rock. Like they had discussed before, the children carefully climbed out onto rock and everyone found a comfy place to sit. Bob praised them for being clever and following the rules they’d learnt.

“So anyone fancy jumping off this rock?” Bob asked. “The water is deep enough here. You can jump off this lower rock or that one higher up.”

“I’m jumping off the higher one,” Jack announced.







“And me the lower one,” Emily said shyly.

“The important thing is for everyone to jump from where they feel safe. You shouldn’t go for more. Nobody will call you a coward for not wanting to jump at all or being afraid to. In fact, it takes more courage to admit you daren’t do something. It’s silly and dangerous to do something where we don’t feel safe, or encourage others to do so,” Bob told the children, to the parents’ satisfaction.

“Never forget that you mustn’t jump from places you’re unfamiliar with. First always make sure there’re no rocks sticking out of the water that might cause injuries when jumping. You need to make sure that the water is deep enough and there are no dangerous rocks or plants under the water, there’s no current, and that you can climb out of the water safely afterwards. Grown-ups can help you do that. Never jump without a grown-up around. It’s absolutely forbidden to jump alone. And if there’re more of you, always jump one at a time. The next one can jump when the person before him or her has swum a way and it’s good to go. Jumping on each other can be extremely dangerous.”

A few of the children jumped off the rocks while the others watched. The team then set off again. The sea was wavier on the outer side of the peninsula, so a few of the children



decided to climb out on the ladder. The others completed the tour. They met up at the small building of the diving base.

“You’ve been very clever,” Bob said.

“As a reward I’ll take you out on the diving boat,” Dodo offered.

The parents looked on worried about the children excitedly preparing for the boat ride, but they’d come to realise that morning that it was better for the children to learn about all the things they need to watch out for. Dodo and Bob’s expertise finally convinced them that the expedition was for their good.

“I don’t need a life jacket, I’m a very good swimmer,” Jack announced proudly.

“Everybody going out into the open waters in a boat, a surfboard, jet ski or any other device needs to wear a life jacket,” Bob said. “However great a swimmer you are, the sea is unquestionably more powerful than all of us. Never forget that. If for whatever reason you find yourself in the sea and need to swim, the life jacket helps you stay afloat and allows you to rest during your swim. Also, the rescue team will notice you more easily in the water, because the life jacket is bright coloured and can be seen at a





distance. There is a whistle in the top right pocket of the jacket, which can be heard for miles if you do get into trouble. That can be very important, especially if the waters are choppy. However good swimmers you are, a life jacket could save your life.”

Convinced, Jack put on the life jacket right away. The others did too and the boating team set off.

By the end of the expedition everyone was very tired, but they had enjoyed themselves immensely. Bob and Dodo were happy too that the children had listened to them and followed their advice.

“Are going on an adventure tomorrow?” Jack asked.

“I’m heading back to home tomorrow,” Bob said, “but I hope you’ll remember what we talked about today and will take good care of yourself and each other.”

“We will,” the children replied in unison.

## CLEANING THE BAY

It was the weekend and the day for cleaning the bay arrived. Cycle Michael was sitting on the beach and was extremely glad to see so many enthusiastic divers and children for the charity event of the day: cleaning the bay. The leaders of the local diving base, Dodo and Robo organise this event every year, with a view to collecting all the rubbish and waste in the water and on the shore, that is, to clean nature from the things that don’t belong there. Cycle Michael was happy, but also sad for needing these events at all, and needing them more and more often, what with all the rubbish being washed up and the water of the sea becoming so polluted.

As he was contemplating these matters, Cycle Michael did notice that a little boy carrying a beer bottle, an empty PET bottle, a compressed can of coke and a piece of soaking wet cardboard, had been watching him with interest for a while.

“Who’re you?” asked the little boy when Cycle Michael smiled at him.





“I could ask the same of you,” laughed Cycle Michael, since you look kind of weird carrying all that rubbish.”

“Well, believe me I didn’t drink this beer,” the little boy said. “And I found all the other rubbish lying on the beach. I’m helping the divers. I can’t dive yet, so I’m collecting the rubbish on the beach. By the way, I’m Oliver and I’m on holiday here with my parents, brothers and my cousin.”

“And I’m Cycle Michael. Pleased to meet you, Oliver. It’s very good of you to be helping with the cleaning. How come you’re not playing or bathing instead?”

“Oh, I got this storybook from one of the divers, which had a story in it about the sea. It was about how much rubbish ends up in the sea and how bad it is for the fishes and the octopuses and every other creature. So I decided to help a little. I’ve had a swim today, and if we collect the rubbish, the next time I go swimming the sea will be cleaner and nicer to swim in.”

“That’s absolutely true,” Cycle Michael smiled.



“I’m a little tired of collecting rubbish, so we could chat a little if you like,” Oliver suggested, sitting down next to Cycle Michael. “I do like chatting,” he added.

“And what would you like to talk about?” Cycle Michael asked.

“Well, do you now what I like doing nowadays?” said Oliver, “I like to build my favourite cartoon characters from building blocks, But I haven’t finished them yet. It’s very difficult. What do you like playing, Cycle Michael?”

“My favourite game is a lot like yours. It’s a puzzle, and like you, I spend the most time thinking about how to best use the little pieces. It’s called recycling.”

“Recycling? That sounds kind of weird,” said Oliver thoughtfully. “Not like any other game I’ve head of.”

“Well, you can believe me, it’s fascinating. And useful. Do you want to me to tell you about it?”

“Alright, you’ve made me curious,” Oliver said. “So let’s play recycling then.”

Cycle Michael began.







“Let’s see all the things you’ve collected. Here’s this PET bottle. It’s used for mineral water and soft drinks. It’s made of plastic, which is an artificially made material. If it ends up in nature, like a forest for instance, or a lake or a river, it will not decompose, but will become brittle from the sunlight. Unfortunately, lots of PET bottles get thrown in the sea and there are giant islands of them floating on the oceans, with plastic particles many metres deep. These are very dangerous to the underwater world.”

“There are lots of plastic bags in the sea too,” Oliver said.

“Yes, nowadays people use loads of plastic bags, usually for just half an hour. Imagine that one million plastic bags are retailed every minute in the world. They put groceries in them and get thrown away at home.”

“These plastic bags and the PET bottles have to be thrown in the recycling bins, don’t they?”

“That’s right. But often people forget about it and throw them in the regular rubbish, or worse, they toss them on a bonfire. That’s a big problem too. The smoke of certain burning plastics, like PVC, contains environmentally harmful, poisonous materials. These can be very dangerous to people. Stuff like that getting in the air can cause serious diseases. That’s why plastic shouldn’t be burnt at home.”



“But that’s terrible, Cycle Michael! It would be better if there was less rubbish,” Oliver said sadly.

“Exactly, Oliver. Prevention is always better.”

“Meaning using fewer PET bottles and plastic bags,” Oliver said in summary.

“Exactly. The best waste is waste that never happens. If tap water is good enough it can be drunk instead of mineral water. If you go shopping you can take along a basket or reusable shopping bags, so as not to need disposable bags. And if we still need one, we need to try and reuse them at home, as rubbish bags for instance.”

Recently at school we made bird tables from plastic bottles,” Oliver said enthusiastically.

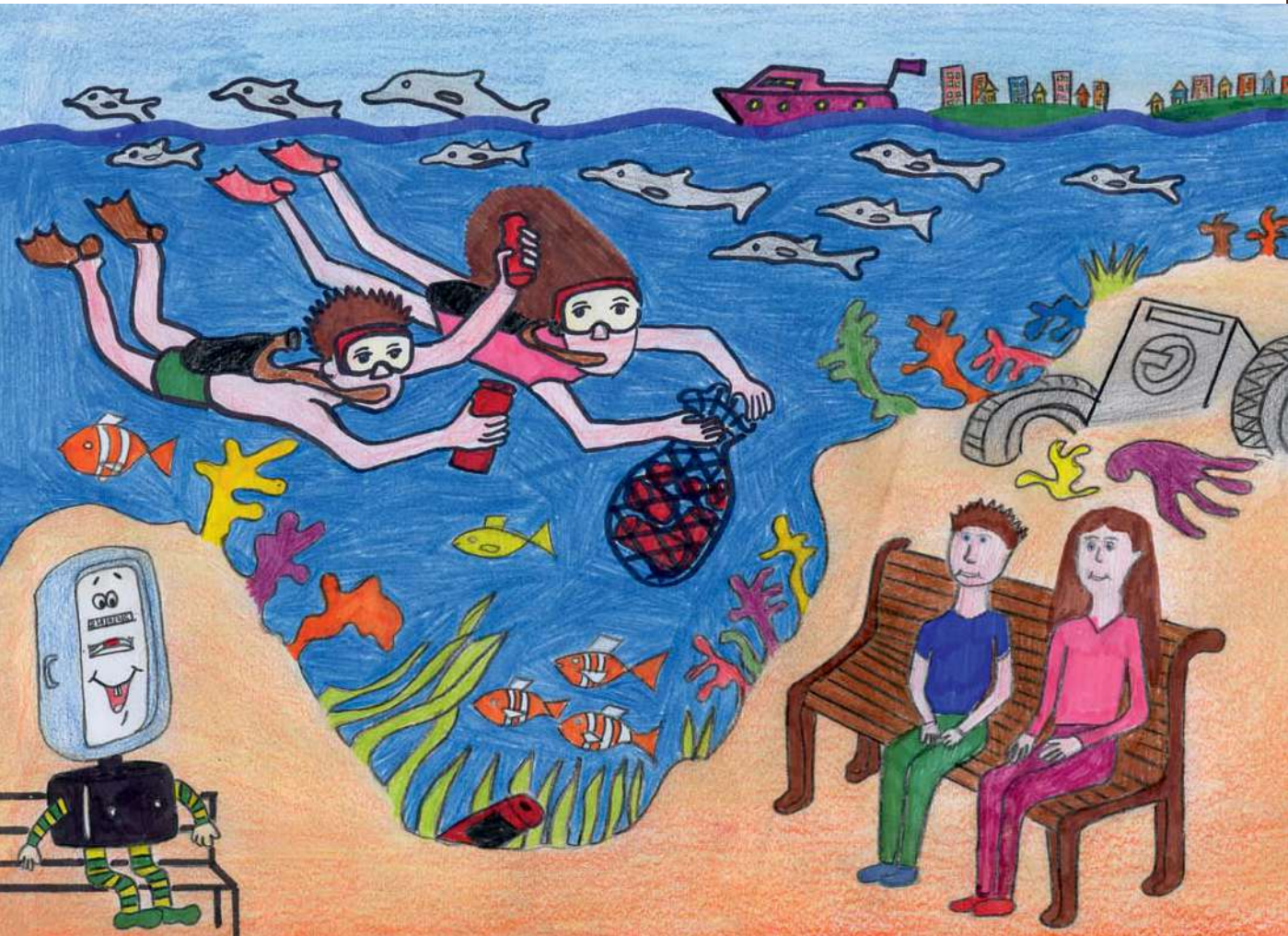
“See, that’s an excellent idea. You can find dozens of useful things to prevent waste.”

“And if you really no longer need them, you can throw them away plastic stuff in the recycle bins,” Oliver added.

“See, we’re speaking the same language,” Cycle Michael smiled. “That’s exactly it.







If there's no other way to get rid of plastic, to avoid creating new poisonous materials, it needs to be burnt at higher temperatures. There is another possibility. Certain plastics can be turned into granules after cleaning, that is, tiny little balls, which can then be used to make garden furniture, flower boxes, flip-flops and lots of other things. Did you know, Oliver, that in a distant African country called Kenya, a company came up with the idea of scouring the beach every evening for left-behind flip-flops, which they use to make plastic animal figures."

Oliver thought about that and his face brightened.

"I see, so unused stuff gets processed to make new materials, which you can use to make the same things, or anything else for that matter. That's recycling."

"Exactly. And reusing material gained through secondary recycling in production will always be less environmentally harmful than using primary raw material, that is, materials from nature."

"Cycle Michael, is waste the same as rubbish?" Oliver asked.

"That's a very good question. What do you think, Oliver?"



“Well, from what you’re saying I think rubbish is what can be reused, whereas waste is no good for anything anymore and has to be dealt with.”

“That’s spot on, Oliver,” Cycle Michael said. “That’s exactly the difference between the two.”

Oliver was staring at the pile of rubbish in front of him.

“We’ve said a lot about plastic. What about glass, Cycle Michael?” said Oliver, picking up a beer bottle found on the beach.

“It’s similar. Glass production uses several different kinds of minerals, like quartz sand, limestone and other additives in an environmentally harmful process. It’s better to reuse glass to make glass, being the more energy-efficient solution. That’s why glass has to be recycled too.”

“But you can reuse bottles too,” Oliver said. “Mummy never throws away jam jars, but uses them to put jam in.”

“That is a very good solution,” Cycle Michael said.







Oliver put down the bottle and picked up the coke can.

“What’s this made of?” he asked.

“These cans are made of metal. Aluminium, to be precise. The raw materials for aluminium too requires a lot of energy, and in the process a dangerous substance – a byproduct – is released, called red mud.”

“Coke also comes in bottles,” Oliver said.

“True,” Cycle Michael said. “Cans do require less energy than the same amount of glass, but you can’t reuse cans to fill them with drinks again. So if you chose recyclable bottled drinks instead of cans, you’ve already helped the environment. And of course metals need to be collected selectively so they can be recycled by melting down.”

All that was left to talk about was the cardboard. Oliver wanted to know everything.

“Cycle Michael, tell me about paper,” he suggested.

“Okay. To make a ton, that is a thousand kilos, of paper, 2–3 tons of trees need to be



felled. Collected separately and processed, paper can be reused as secondary raw material. Making recycled paper needs about half the energy and quarter of the amount of water compared to new paper which requires new trees to be cut down.”

“I’ll be very careful about paper from now on. I’ll use both sides of the sheet,” Oliver declared and jumped up. “Cycle Michael, please come and see us at school. You could tell all the other children about recycling.”

“I’m happy to go anywhere where I’m invited,” said Cycle Michael. “I like talking to children. But the truth is, Oliver, that you too have a lot to say to your friends about the importance of separate collection and recycling. And you yourselves can come up with new things you can made from waste, like you made those bird tables from old PET bottles.”

They sat on the beach in silence for a while, but Cycle Michael was certain that Oliver was thinking about things to make out of rubbish. Then a voice broke the silence.

“Oliver, lunch time!”

Oliver’s father was trying to collect the family members for lunch. Oliver got up.







“We had a good chat, Cycle Michael. You were right: recycling is a good thing. I’ll tell my friends all about it, but it would be great if you could come and see visit us some-time. I’ll draw a picture of you tonight so I can show it to my friends. Bye, Cycle Mike!”

Oliver collected all his rubbish and went over to the waste container. He went off cheer-fully with his family, telling them about meeting a new friend. Cycle Michael watched him for a long time.

The future is all about the children, he thought to himself. If they learn about the importance of protecting the environment as a child, later in life conscious consump-tion, saving and preventing waste will become second nature to them. Wherever they end up, they’ll know the right way to protect the environment.

At the end of the day there was a huge pile of rubbish on the beach.

“Let’s make a big sculpture,” Jack suggested.

“Oh, that’s a brilliant idea,” said Dodo and Robo. “We’ll ask the manager if he’ll let us erect a sculpture made of rubbish here on the beach, to call attention to the protection of marine life.”



Everybody loved the idea.

“Let’s make a sculpture of Poseidon, the god of the sea,” Emily said.

And they did. In the next days the team, naturally including Cycle Michael, made a Poseidon-like figure out of the rubbish. They even made a board saying, in several languages, “Poseidon looks after the sea. So should you.”

## FAREWELL

It was time to go home. Jack and Emily had had a fantastic time. They’d certainly have stories to tell when they got back to school in September.

“Cycle Michael, will you be staying with us when we get home?” they asked.

“I’ll be staying with you for good,” he said comfortingly, “but for now I have to move on to other families that need me,” he smiled. “You’ve learnt all about the importance of caring for the environment and everything you can do to protect it. From now on, you can help your friends who know less about it than you.”

“Absolutely we’ll help,” the children promised. “But you will visit us from time to time, will you?” they asked.

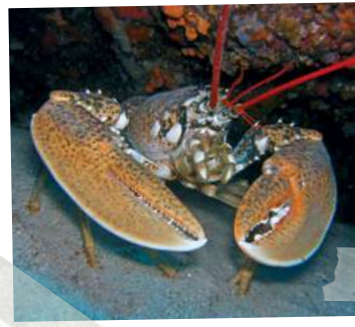
“Of course I will,” Cycle Michael promised.



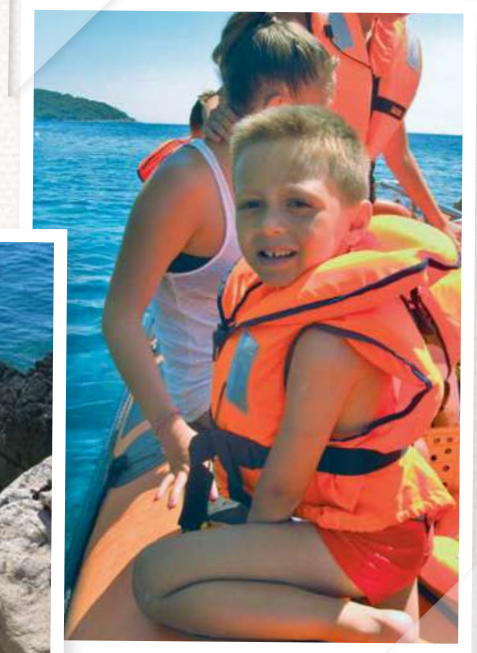
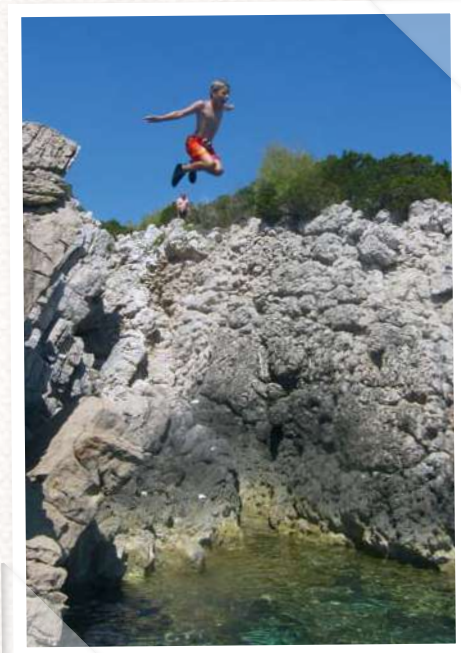


# Photo Album

## Summer holiday in Croatia



















## Have you heard about Cycle Michael?

He's an amusing electricity meter who grumbles when we waste energy, like when there's a light on in an empty room or when the telly's on and nobody watching. He will say, "You'll hit the roof when you see the electricity bill. Who can afford that? Quick, someone do something, there's an energy leak!" Cycle Michael's stories are about two of his pupils, Emily and Jack in search of rainbow-coloured labels and a trip to the seaside. The book illustrations were made by children.



CECED Hungary Society