

7-9 AGE

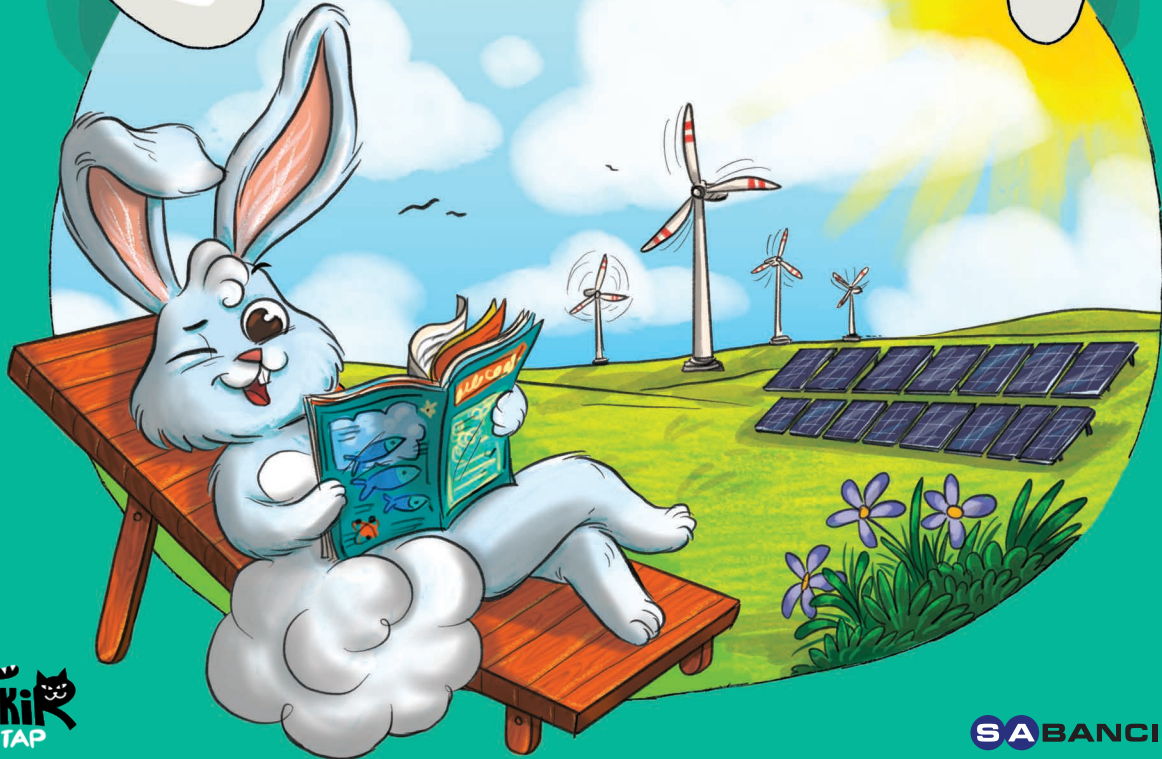
Written by: Tolga Öztörün - Lider Hepgenç

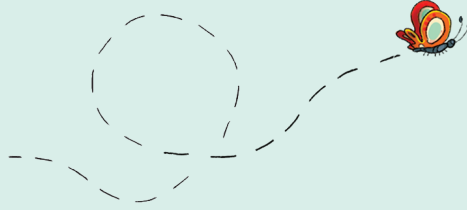
Illustrated by: Ece Zeber

Translated by: Sevin Okyay

ÇARVUDUK

and
Renewable Energy

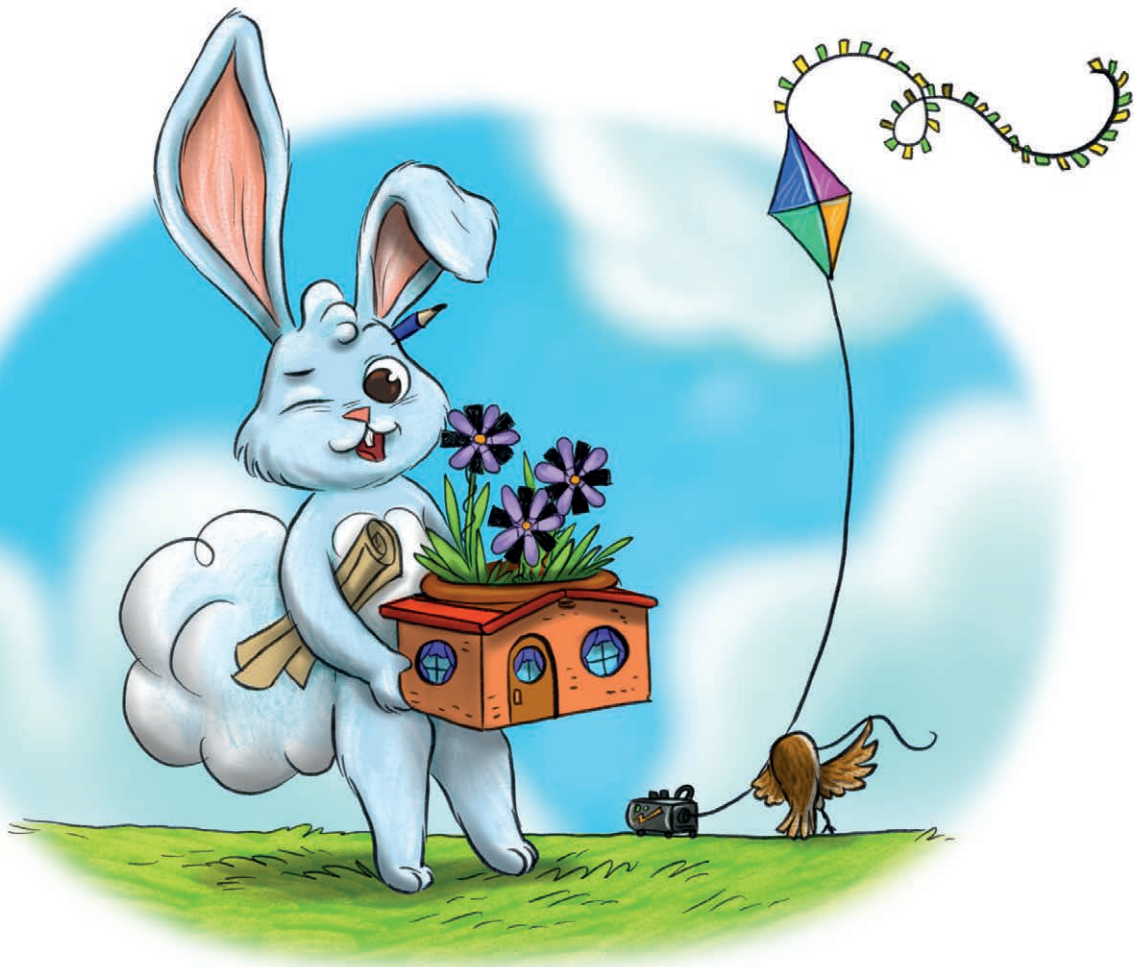




Wishing that Papuduk, the hero of the fairy tale my precious Great-Grandmother Lady Hayriye Erduran used to tell us children of several generations, will contribute to raising them to posterity with love for animals and environmental consciousness.

Serra Sabancı

PAPUDUK and RENEWABLE ENERGY

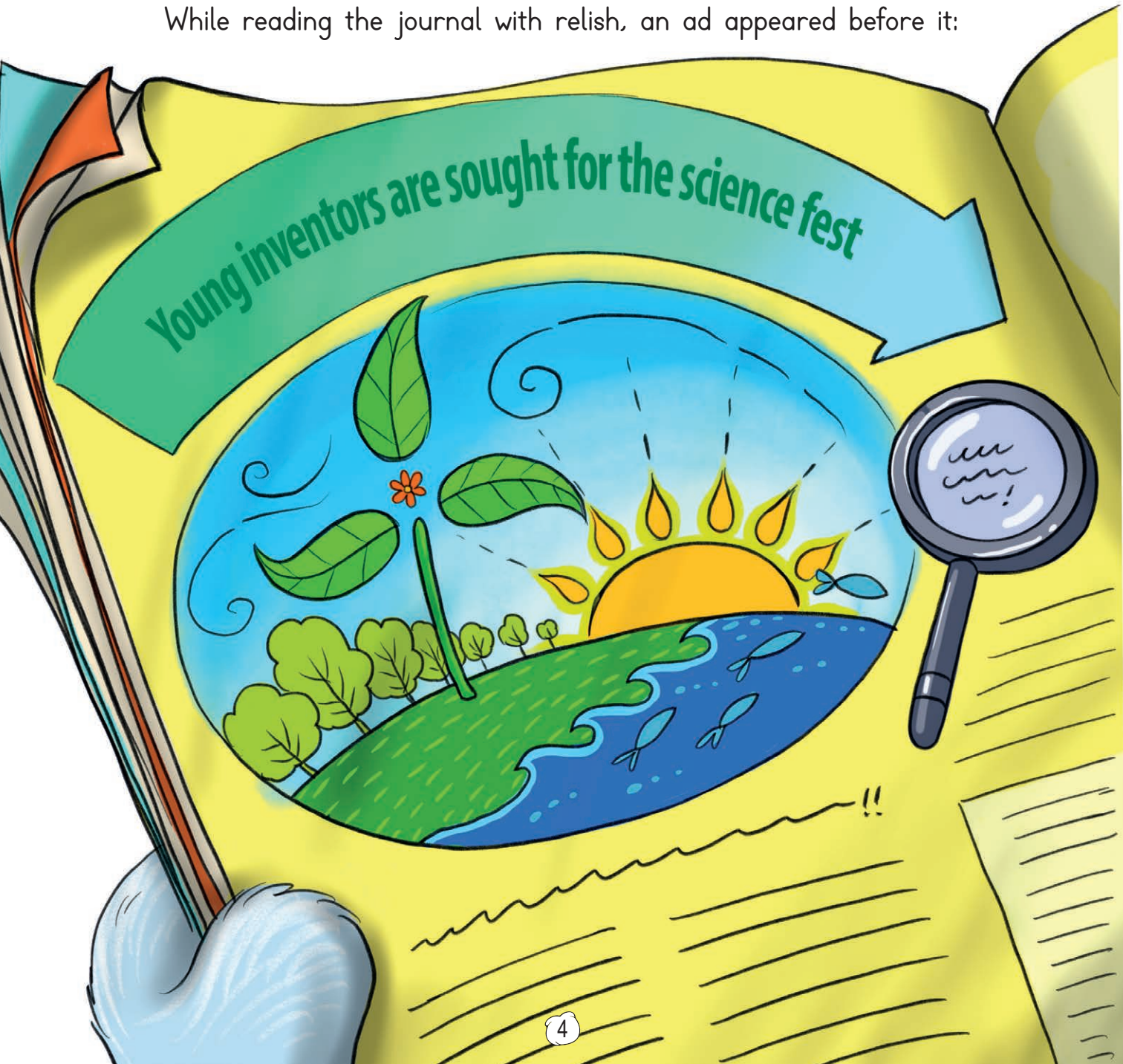




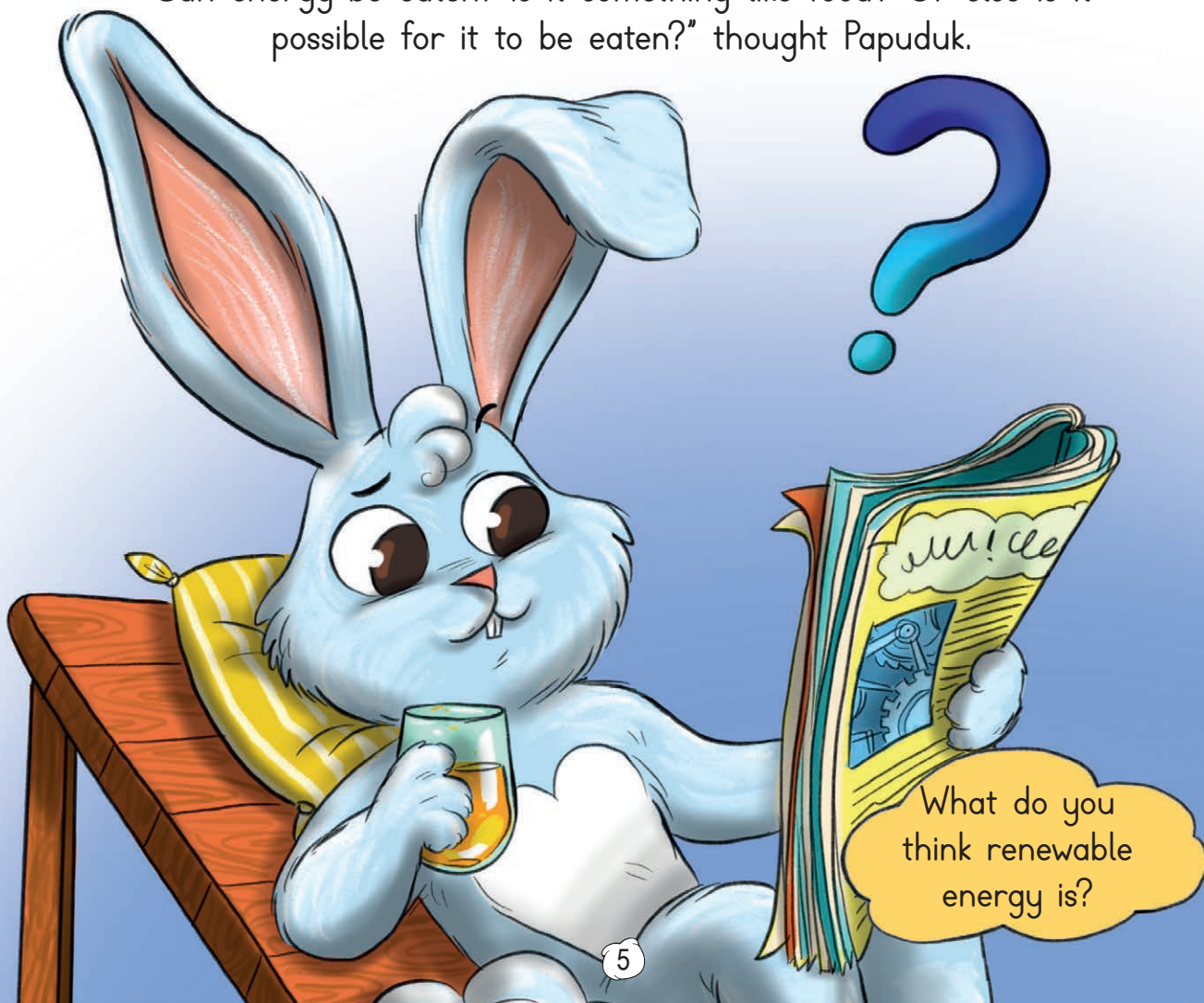
That day Papuduk stopped by the newsstand on the corner while coming home from school. Buying the science journal the new issue of which it was waiting for impatiently, it ran home. First it squeezed an orange juice for itself, then it took its journal with it and settled down to a shadowy place in the garden. While drinking its fruit juice, Papuduk was leafing through its journal at the same time. To read this monthly science journal and to dream of its own inventions was among the things it liked most.



While reading the journal with relish, an ad appeared before it:

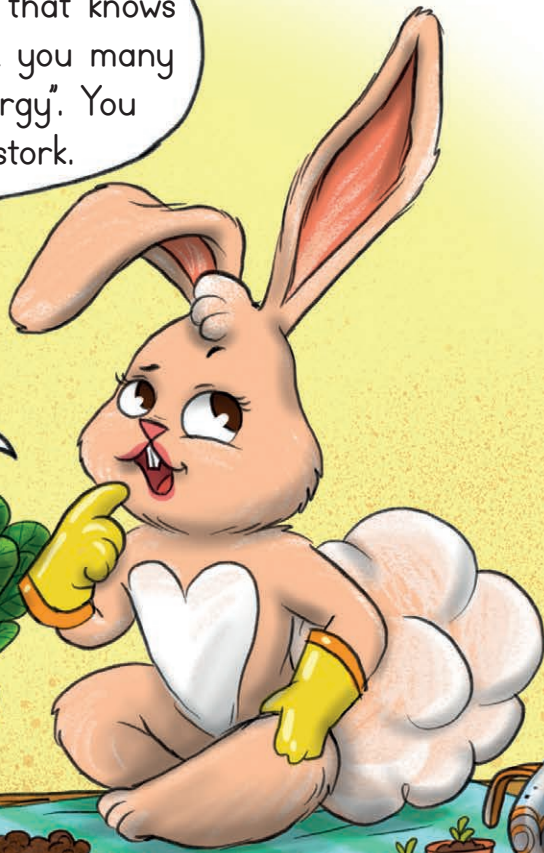


Papuduk's heart started to beat pitter patter! This fest might be a good chance to realise the "inventing dreams" that it had been having for many years. If it worked well, then it could be the young inventor itself! It took a deep breath and started to read the ad of the science fest. There it came upon a term that it hadn't heard of before. This increased its excitement: "Renewable Energy" "How could that be? Did they mean "Chewable" perhaps? Can energy be eaten? Is it something like food? Or else is it possible for it to be eaten?" thought Papuduk.



Papuduk's eyes were glued to the ad of the science fest. It couldn't manage to pass over to the next page: In its head only the words "Renewable Energy" kept turning over and over. It went in thoughtfully and showed the ad to its mother. She didn't have any such information either but had an idea on whom to consult:

There is only one person who lives in the forest that knows this. The stork can tell you many more things on "energy". You should visit the stork.

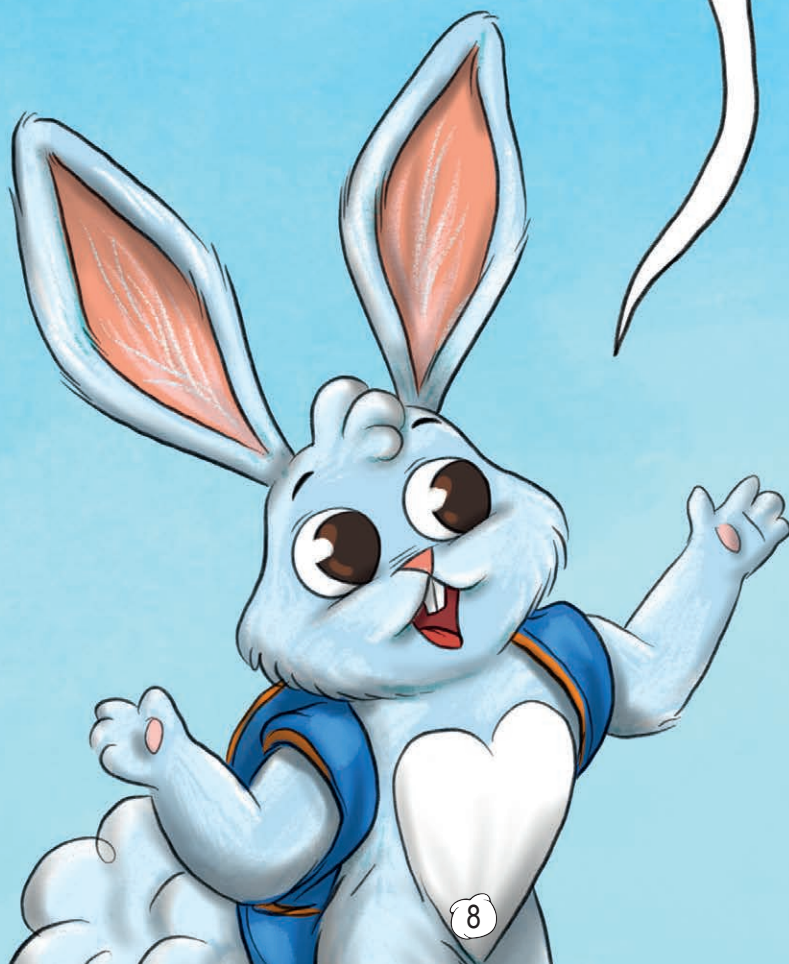





Papuduk took to the road the moment it tossed the journal in its backpack. Its mother was right, after all, storks were the animals that spent the most energy when flying from continent to continent. It could get the answer to the question it was looking for from the old stork. It spent most of its time in its nest in the woods as it got old.

When Papuduk reached the stork's nest, it called out to it. The stork came down and they greeted each other. Papuduk lost no time asking:

Today I learned something new.
"Rechewable Energy"... No, RENEWABLE energy, but you see,
I even have a hard time telling its name. I'm researching
what this means. I thought I could ask you.



The stork smilingly answered Papuduk:



Papuduk, energy is inside you. Your body needs energy to move, and you get this energy from the healthy foods you eat. If you'll be nice to nature, you may get your energy from it, Papuduk. And renewable energy is something like that. The energy acquired from sources like the sun, the wind and water that are infinite, endless and nature-friendly is called "renewable energy".

Papuduk, who got more confused with this enigmatic answer decided to go back home. Apparently, it had to acquire the energy necessary for the invention it was about to make from some “nature-friendly” and “infinite” source.



On the road back, Papuduk had already started to generate ideas for its new project. It thought of making a house. The water tank of this house would be right under the roof. It decided to make the roof black in colour. Papuduk remembered reading in the science journal that dark colours attract sun more. The black roof would heat the water used in the house and the household would use hot water without using fuel.

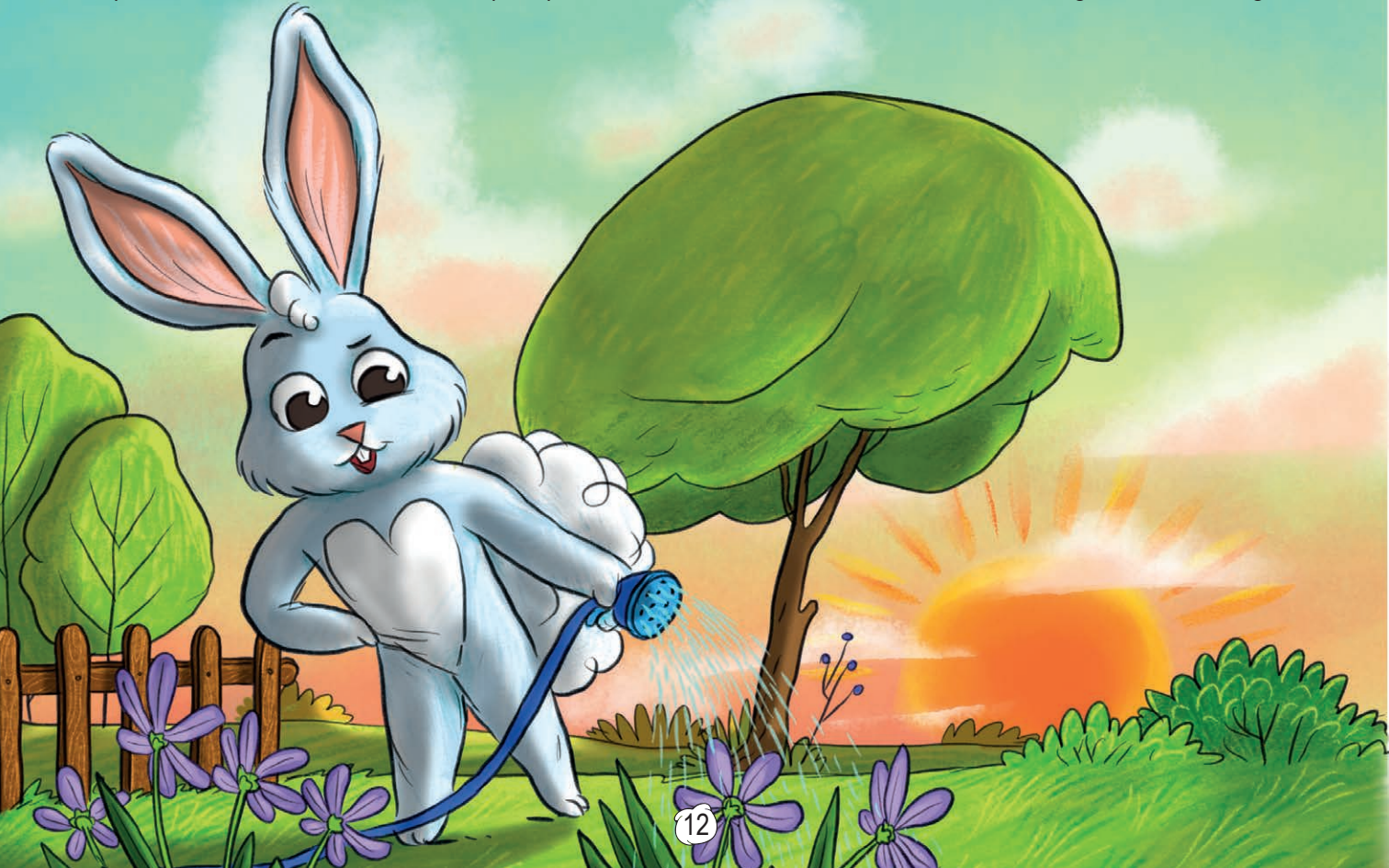
Papuduk went to the kitchen at once and took the waste packing and started to build a pompous house. It even made tiny curtains from old cloths it got from its mother. The house was finally complete. It was able to finish the job it started towards evening. But it then noticed that the rays of the evening sun were much oblique and did not heat the roof. At that moment it heard its mother's voice:



Papuduk, will you water the flowers in the garden?

Alright mother.

Papuduk drew the hose and started to water the flowers in front of the house. Just then it noticed that the leaves of flowers that looked homeward in the morning, had turned right in the opposite direction in the evening. It understood that the leaves turned through the day and followed the sun. Right at that moment, Papuduk had a terrific idea! Cutting the roof in proper places, it settled on the top of the house a small flowerpot. Then cutting the black cartons on the roof into tiny plaques, it tied them to the leaves of the flower with very thin threads. Now the black plaques always looked at the sun together with the leaves following the sun. And the water in the pipes that passed behind the black plaques would be heated from morning till evening!



Papuduk loved the idea of collecting the sun.
It could apply to the competition with this invention.



Did you ever make
an invention?

Next morning Papuduk and its mother went to the address written in the science journal. It was very crowded. This lovely excitement increased Papuduk's eagerness to learn, its curiosity even more. Finally they could be enrolled.



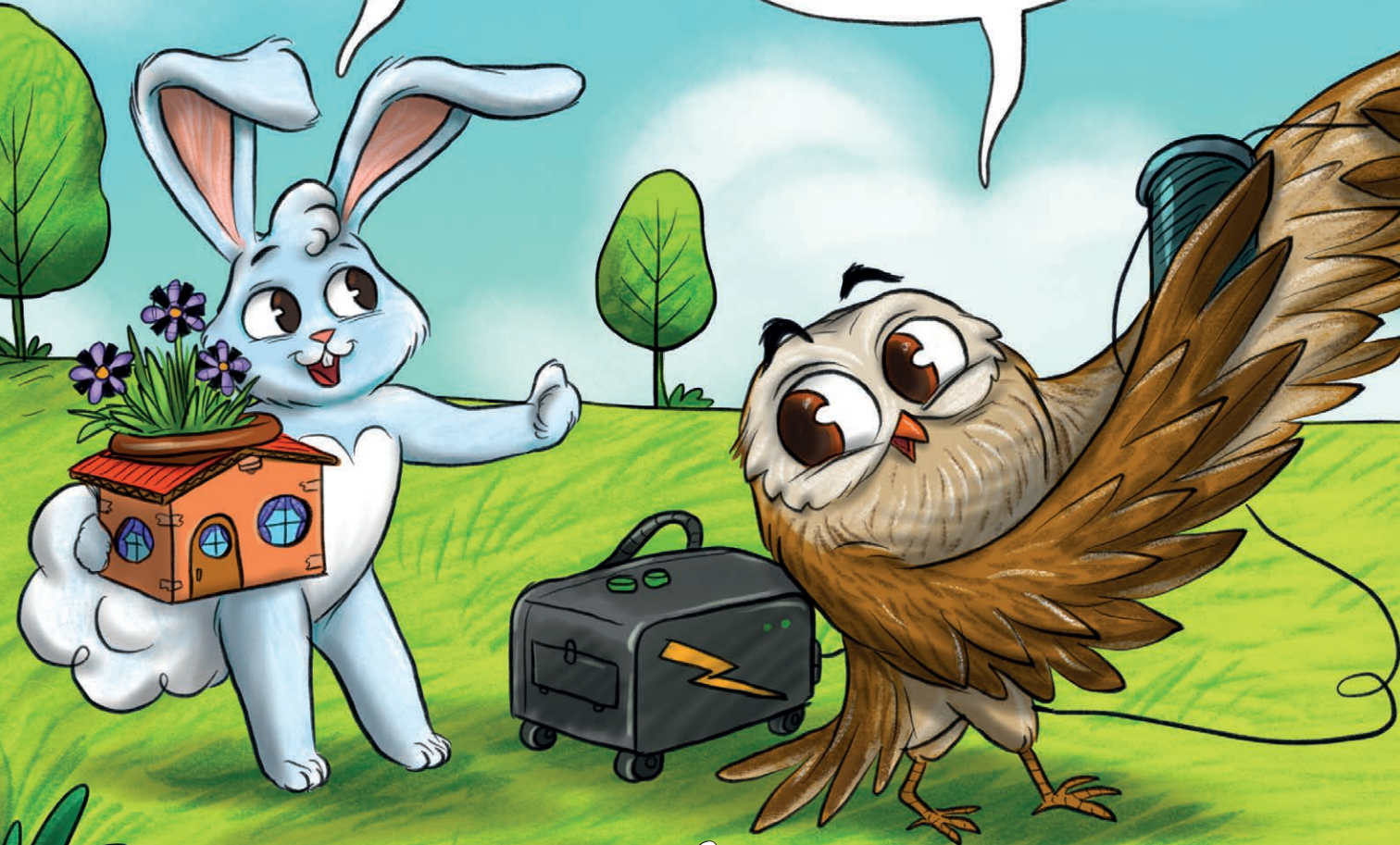


In the enrolling line there were many of Papuduk's peers waiting like it. While the competition committee made evaluations, all the participants told each other about their inventions. Papuduk thought about how late it learned about the subject of "renewable energy". It began to browse around the stands where the other inventions were on display, with fascination.

The kite in an owl's hand drew its attention.
It quickly went to its side.

Hello, I'm Papuduk.
I made an invention collecting
sunlight for a renewable
energy project. Is your
invention a kite?

Yes, I made it from old
newspapers that I painted in
all colours. I will collect the
wind. Look, like this...





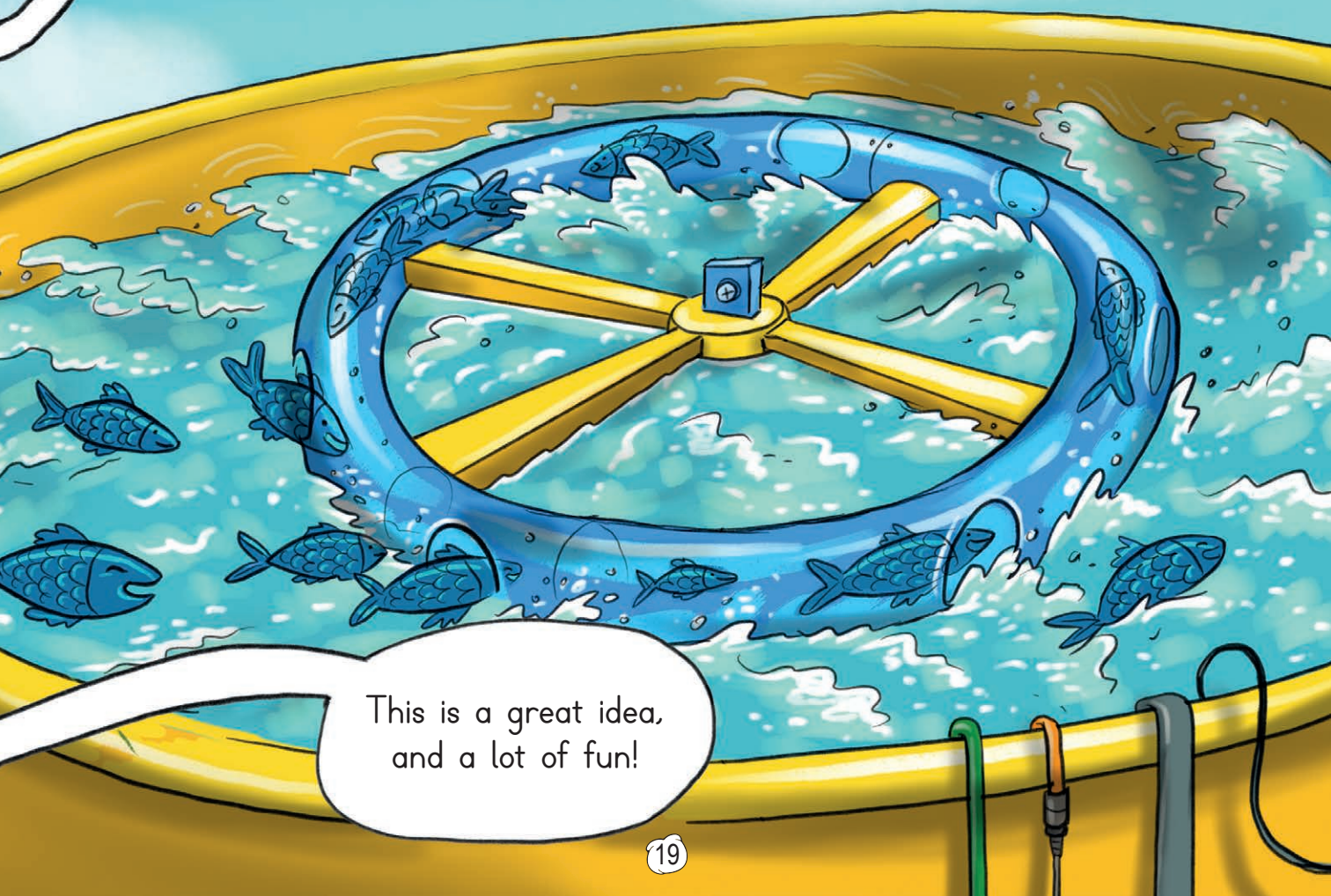
The owl's kite at the end of a very long thread kept drawing "eight"s thanks to the wind up aloft. And thanks to the "motion energy" that it acquired from this motion of the kite, electric was produced. This energy coming from the sky, could collect on the ground and meet all the lighting needs of a house. Papuduk loved this idea of collecting wind. It thought that the award should go to the owl. It celebrated its friend saying that it liked its idea very much. Then, it continued walking around the fest area to examine other inventions.

In the pool set on the stand a little further off, Papuduk saw the joint project of the turtles and fish. Approaching in awe, it asked:

Hello, have you also prepared a renewable energy project?




Yes, we are producing energy from what we know best, "the sea". Look, think of this pool as sea. In the most wavy spot in the sea, we set these pipes. When the fish go through them, the pipes start to turn, with the influence of the waves. The turning pipes produce electricity thanks to "motion energy" and this electricity reaches the charging station through cables!



This is a great idea, and a lot of fun!

This was really entertaining because not only do the fish swim faster thanks to the waves, but they also feel themselves as if they were on a ferris wheel while they are in the turning pipe. Just as Papuduk was celebrating them, it heard the announcement from the stage.





Dear participants,
our competition is concluded.
We are announcing the winners.
I invite you here.

All the children who participated in the competition excitedly came together in front of the stage. The cat from the competition committee was smiling.

Little inventors who have participated in our fest with inventions each more beautiful than the other, I'm proud of you all. Each one of you have grasped the subject of clean and renewable energy perfectly and have made impressive discoveries. Thanks to your ideas, we can make "clean and self-powered sources" without touching energy sources that have consumed away in our world, and would thus create a more habitable world.





Just at that moment lots of trophies came to the stage in a wheelbarrow. As all the participators looked at each other in awe, the cat went on explaining:

We, as the science committee
have liked all the works very much. Congratulating
you all, we present the achievement
awards to you.



All the competitors delightedly congratulated each other! Happy to have won the competition and having made something good for the world, they embraced each other and had a souvenir photo taken.

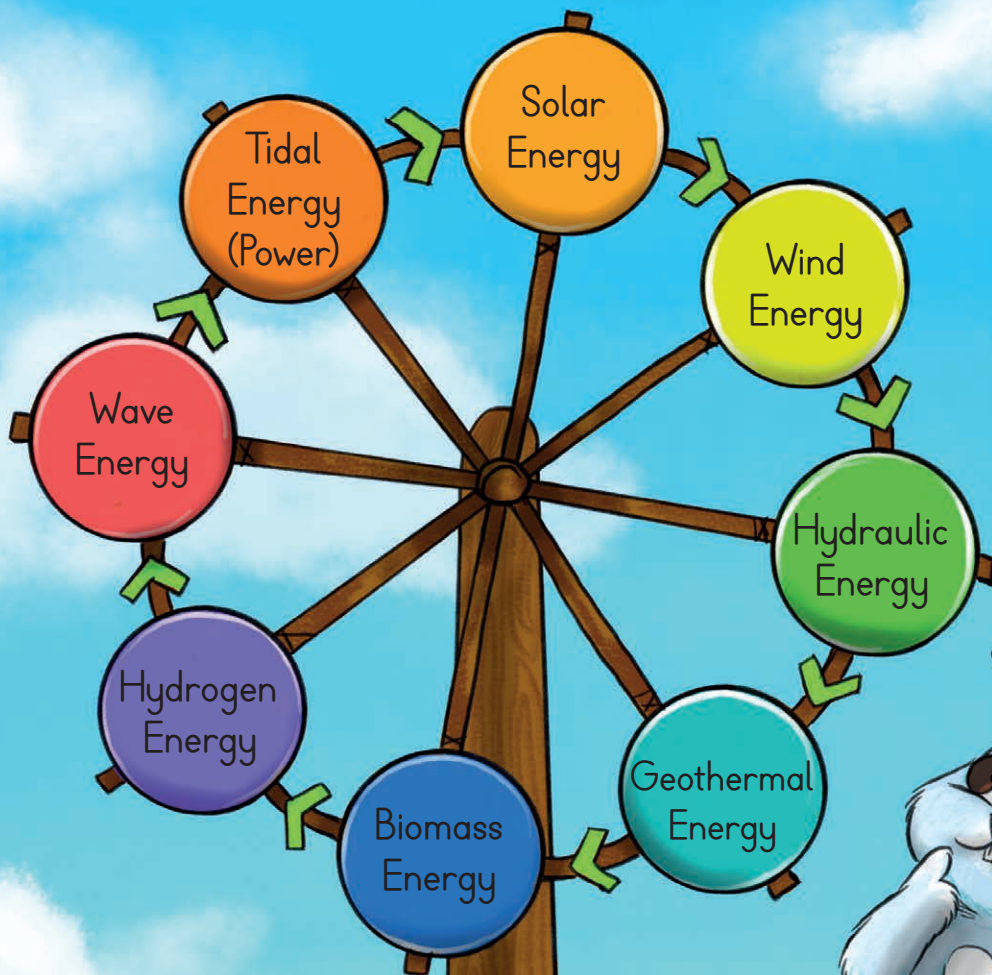




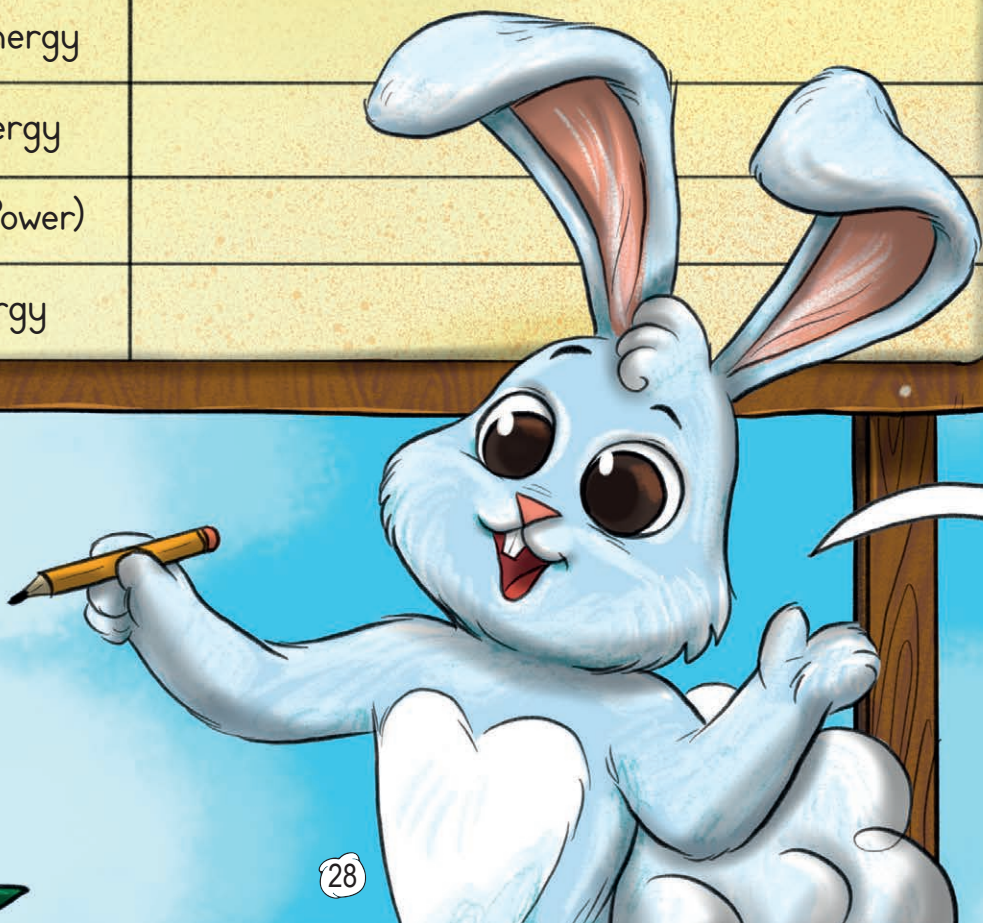
PLAYTIME

Yes, energy is necessary for us all. We need energy to sustain our daily life, to illuminate our home at night, to get warm in cold weather in winter, to make use of our means of transport. And it's also very important to save energy which is first of all hard to acquire. From whatever source it has been derived, we should not waste energy. To turn off the lights that are unnecessarily on, to strengthen the isolation of our home and to get warm using less energy, to ride a bicycle instead of a car, if possible. Alright then, how do we get this energy?

In fact, the real question is this:
How do we succeed in acquiring this energy "without harming our world"? That's when we encounter "renewable", in other words "sustainable" energy. It has another name: "clean energy".
Let's take a look at the table on the neighboring page and see how many renewable energies there are.



TYPES OF ENERGY	PROJECT
Solar Energy	Papuduk's Flower Project
Wind Energy	The Owl's Kite Project
Wave Energy	The Turtle and Fish Joint Project
Hydraulic Energy	
Geothermal Energy	
Hydrogen Energy	
Tidal Energy (Power)	
Biomass Energy	



You would remember
some projects in the science fest.

My house with flowers is included in the scope of
"solar energy", the owl's kite in the "wind energy" and the
joint work of the turtle and the fish in the scope of
"wave energy". I've placed these projects in a table for you.

Hey... We couldn't fill the table in the neighboring page, could we?
Oh yes, now I remember. My tour of the stands was cut in half by
the announcement made. Now how would you like to complete my
half-made tour in your imagination? How would you say? Well, first
of all you have to make a proper research in the internet. You
should learn what the energy sources mentioned above are and
how it's done, because you couldn't have an idea about something
until you have knowledge about it. After acquiring this information,
it's your turn to imagine. I want you to design a separate project
for every kind of energy left blank in the table. While doing this
you must pay attention to select the right places where you will
benefit from the renewable energy sources and not to harm the
migratory routes of birds, the woods and the fields. I wish you
success in this research, learning and imagining process.



LET'S ANSWER

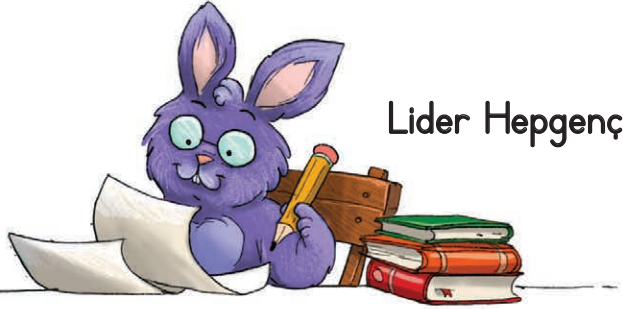
1. A very hard question is next. Are you ready? How many kinds of renewable energy are there, come and count them?
2. You know how excited I was to participate in the science fest. I liked the idea of being an inventor very much. Speaking of inventors, who is called an inventor? What do inventors do?
3. If you could have used one or several of the kinds of renewable energy at home or in school, what kinds would you have put into good use and in what way?
4. We keep saying "renewable energy". Why does the world need renewable energy?
5. I have an idea crazy enough to fly but in order to fly some more, I need your help. Just think that we got renewable energy from space! Meteors, gravity force of planets, other planets themselves... How do you think we could do it?
6. Even though renewable energy is so useful for the world, people continue using kinds of energy harming nature like coal and petrol. What can we do to persuade people to lay aside kinds of "energy harming environment" that they are using now and pass over to types of "renewable energy"?

Tolga Öztoran



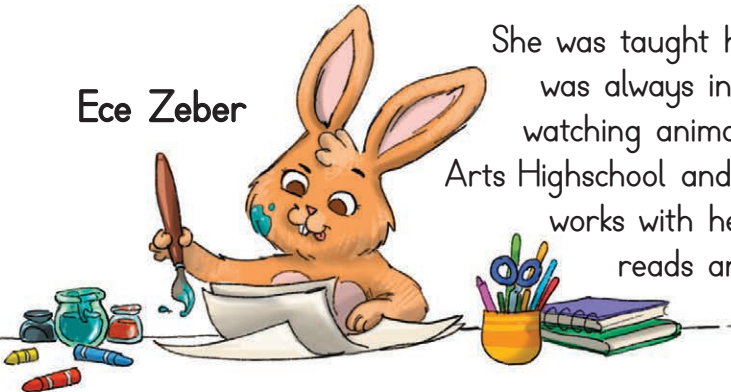
Born in Istanbul in 1977, he graduated from Sakarya University and worked in event companies. He dedicated half of his life to the freedom struggle of stray animals. He shot short films, made radio programs, trained children. He was chosen as Difference Maker by the Sabancı Foundation. He lives in Istanbul and shares his home with a great number of disabled animals.

Lider Hepgenç

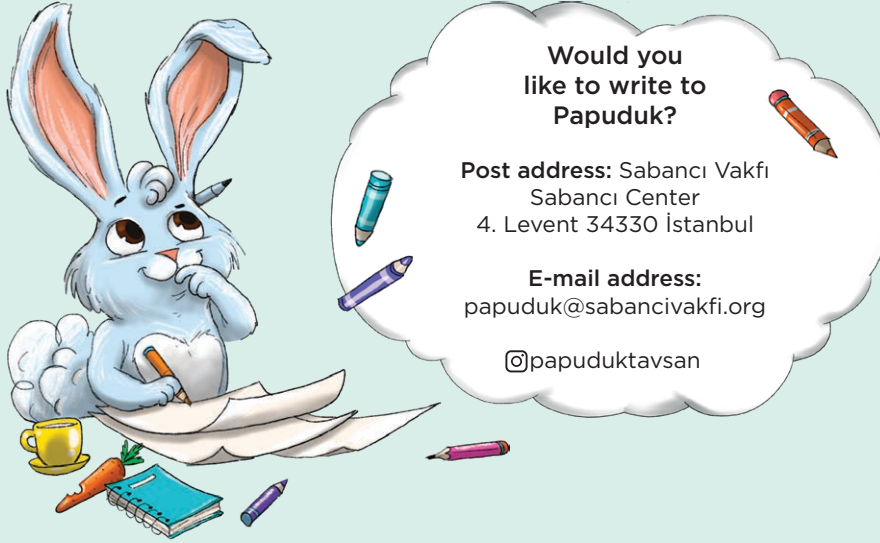


He was born in Izmir in 1987. While serving as sergeant, he decided to let go of his military career and go ahead with his life as creative drama instructor. Ever since, he has carried on creative drama work with children in museums, bookstores, and schools, also writing children's books. He tries to lead a life full of games with his son Adem, his cats Sütlaç and Sufle.

Ece Zeber



She was taught how to draw by her mother and father. She was always interested in drawing, also reading books and watching animation films. She studied Art at Balıkesir Fine Arts Highschool and Animation at Anatolia University. Now she works with her husband from home in Eskişehir. She still reads and illustrates children's books and fantasizes.



Papuduk and Renewable Energy

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Publication Coordinator: Selda Çilingir

Editor: Didem Demir

Graphical Adaptation: Veli Okulan

Consultant: Prof. Dr. Feyza Çorapçı

Tekir Kitap

Kılıçalı Paşa Mahallesi

Altın Bilezik Sokak Pera Ap.

No: 9 Daire: 2

Beyoğlu / İstanbul

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Certificate Nr: 47769

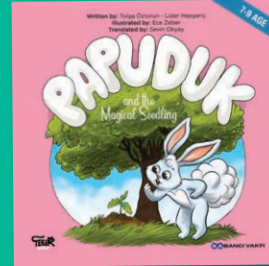
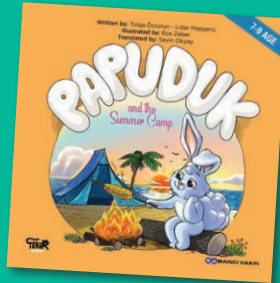
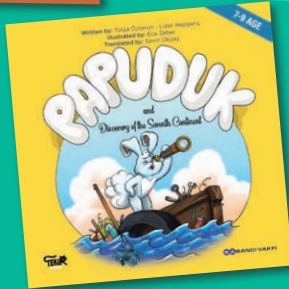
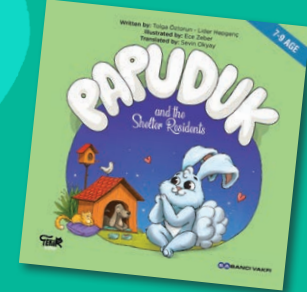
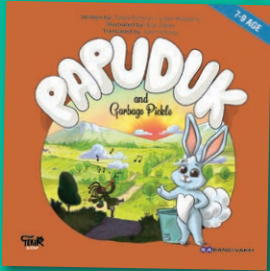
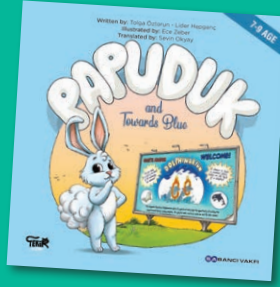
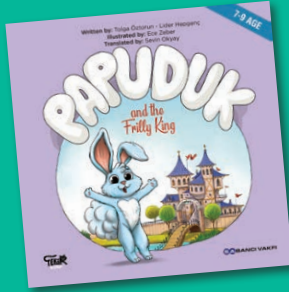
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SABANCI VAKFI





You will love Papuduk who embarks on a new adventure in each book to dissuade people from acts that harm animals and nature.