

# Carmen

## and the red brick shed

Maite Hernández Presas  
Illustrations: Adolfo Ruiz Mendes



+8





[www.pfizer.es](http://www.pfizer.es)

CARMEN AND THE RED BRICK SHED

Text: Maite Hernández Presas

Illustrations: Adolfo Ruiz Mendes

Design: Cósmica® communication | art | web

© Copyright 2024. Pfizer, S.L.U.

All rights reserved.

---

Madrid, November 2024

**Dedicated to all our colleagues  
who, over 175 years, imagined a  
future of innovation.**



Have you ever asked young kids what innovation means to them? Try it. I did in real life, with the children featured in this story. Their answers made me smile, because they fit perfectly with the ideas in these pages: creating new things, creating surprises, starting an adventure, showing admiration, constantly improving.

Someone I couldn't ask was my grandpa, who also provided inspiration for a key character in the story. But I'm sure he would have answered, "Innovation is imagining."

This is the thread running through the story: imagination and innovation. How we can let our imagination fly to the past, present or future, and try to visualize the changes innovations have brought about over the years or might bring in the future. How people's bravery and determination improve the lives of others. And how a small business, starting out as an adventure, can become a huge, internationally renowned company.

From Pfizer's 175 years of history, we have selected a few moments that help narrate major advances and, why not, curiosities. We have added them to the plot and also to the «Did you know?» sections, to orient readers in time and help them understand the concepts and different events.

The child characters that appear in these pages are the children of Ana, Belén and Maru. They are the ones whose daily work as great communication professionals is to create, plan and work to convey to the public what we are, what we do and how we do it. Such as with this story.

A few years ago, we began our journey into publishing a series of stories written by colleagues at Pfizer, focusing on science and breakthroughs that change patients' lives, reinforcing our commitment to using health outreach as a powerful tool. This is our fifth publication.

I hope that, in reading it, you find yourself surprised and your curiosity aroused.

**Maite Hernández Presas**

Communications Director at Pfizer, Spain



# Carmen

## and the red brick shed

Maite Hernández Presas  
Illustrations: Adolfo Ruiz Mendes

Carmen



Pablo



HUGO



Vega





**Laika**  
3 YEARS OLD / VEGA AND HUGO'S GREYHOUND



**Alma**  
6 YEARS OLD / PEDRO'S SISTER



**Pedro**  
2 YEARS OLD / ALMA'S BROTHER



**Grandpa**  
GRANDPA





**Hi!** My name's Carmen and I'm going to share with you a story that is very special to me.





I heard this story one summer, when I was on vacation with my cousins at my grandparents' house in the village.

In the garden there was a red brick shed where my grandpa very often went and shut himself in.

## Grandpa had a great imagination.

He liked telling us stories, painting with watercolors and, above all, photography. And that little shed is where he had his studio. Although we have long since been living in the digital world, he still loved spending hours in that dark room, discovering the magic of the images as they slowly appeared on paper. That was where he kept all the photos he took and collected.





## One day, when Grandpa wasn't around, my cousins and I sneaked into his shed in the garden.

The first thing we noticed was a huge trunk. Inside were a load of albums and a box of old photos. Pedro, the youngest and naughtiest of us, began rummaging through it all.

We had left the door opened and grandpa caught us at it. He was very angry but understood our curiosity.







**"Did you know that in this box you can see some of the great advances that changed the course of human history?" he asked as he took something out of the trunk.**

"What? Is it a time machine?" asked Hugo, intrigued.

"Don't be silly, Hugo," his sister Vega answered. "It's only a box full of memories."



**Grandpa sat down and invited us to sit in front of him,  
as he was ready to tell us a wonderful story.**

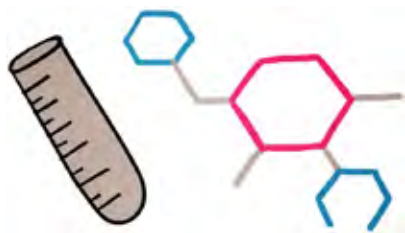
He showed us an old photo. In it was an old building, a horse-drawn carriage and men and women dressed in period clothes. "Let's see if you can guess what this building was." We started to imagine what those walls were hiding.

"It looks like a chocolate factory," answered Alma.

Pedro, who had barely said a word, pointed at the picture and shouted, "I want chocolate!"

We all laughed.





## "No, they didn't make chocolate in there."

Before solving the mystery, I must first tell you about two cousins who had the same name: Charles."

"Cousins like us?" asked Alma.

"Yes. And just as curious and intrepid, I'm sure!" Grandpa laughed. "They were born in Germany two hundred years ago!"

"Wow!" we all said at once, amazed.

"One of them studied chemistry and was an apprentice with an apothecary, which is what they used to call chemists. The other learned about groceries and confectionery."

"He was a cake maker," my brother Pablo deduced.





**"That's right," Grandpa continued. "Well, the two cousins wanted to seek out new opportunities and they had heard about the United States."**

So, in 1848, when one of them was 25 and the other 28, they took the biggest gamble of their lives: they travelled to New York. It took them six weeks to cross the Atlantic Ocean by boat."

"What adventurers!" said Vega.  
"Or, rather, entrepreneurs!"

"And what's that got to do with this photo?" asked Hugo impatiently.



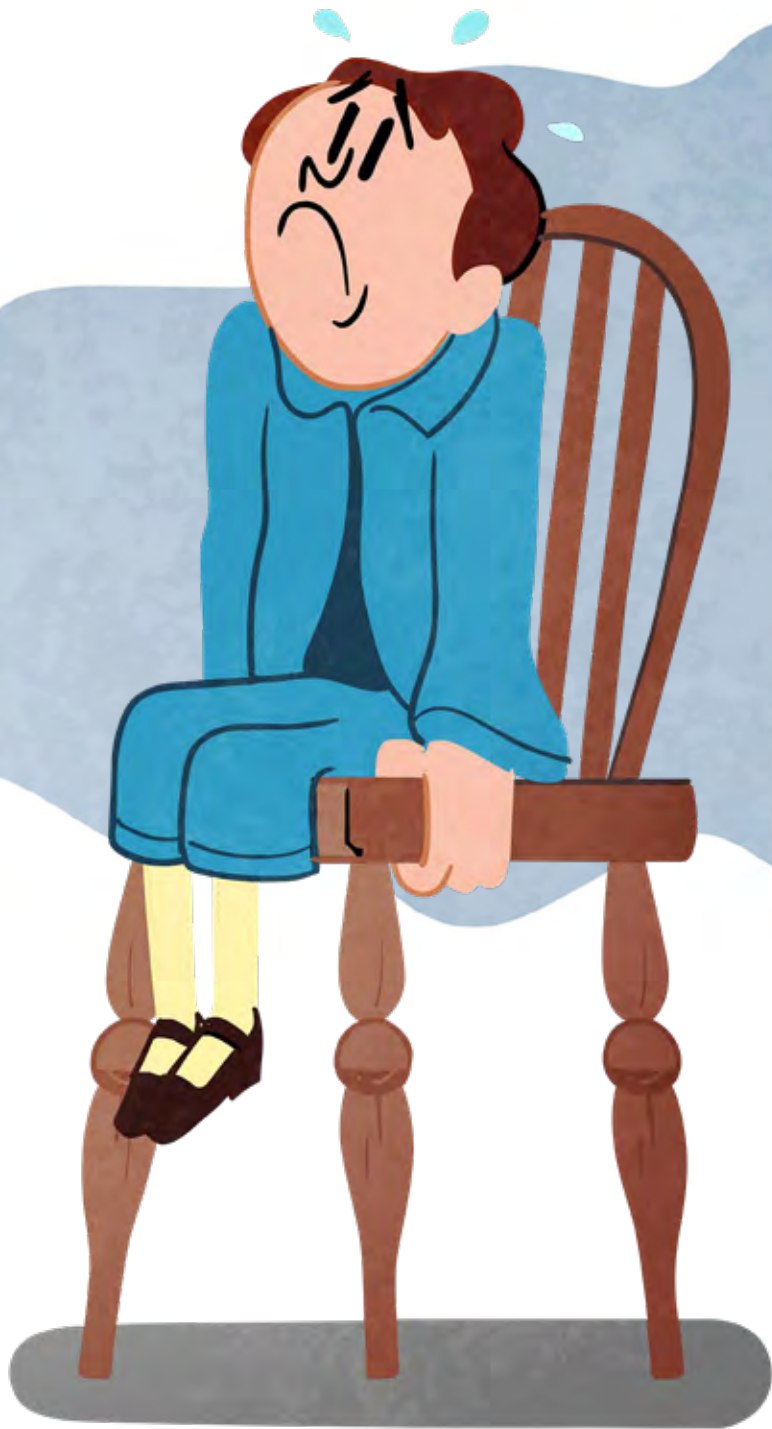
**"Calm down, calm down, I'm coming to that," said Grandpa affectionately.**

And he continued his story. "Look at the photo and imagine what things were like back then. There were no fridges like there are now: food went off very quickly. And eating meat or potatoes that had gone bad could leave you with parasites in your gut, little bugs that are very bad for your health. People became very ill. There were some medicines and remedies, but they had such an unpleasant taste that most people thought the cure was worse than the disease."

"Like food in the dining hall," said Pablo, pulling a look of disgust.







"These entrepreneurial cousins," continued Grandpa, smiling at Vega, "had a great idea."

"From their experiences as an apothecary and cake maker, they thought, 'What would happen if we developed a medicine with a sweet taste?' And they mixed santonin, the medicine used to treat parasites, with a compound that gave it an almond and caramel flavor, and they also give it the shape of a cone. This made it easier to take, and it worked!"

**SANTONIN  
WITH ALMOND  
AND CARAMEL**



**The amazed look on our faces made Grandpa smile, and he continued his story.**

“On seeing the success of their invention, they bought a humble red brick building in Brooklyn, a district of New York, thanks to a loan of 2,500 dollars from the father of one of them. The building served as an office, laboratory, factory and warehouse. And they founded their own company.”

“The building in the photo,” cried Pablo.





## "In little time, they had over 12 chemical products."

They produced tartaric acid, used in food, a detergent and iodine, which was used as a disinfectant. They had to find solutions because in those days cleaning procedures were not like they are now. There were diseases like dysentery, typhus, malaria and

yellow fever for which treatments had to be found. In addition, there was great demand for products such as quinine, chloroform, camphor and morphine."

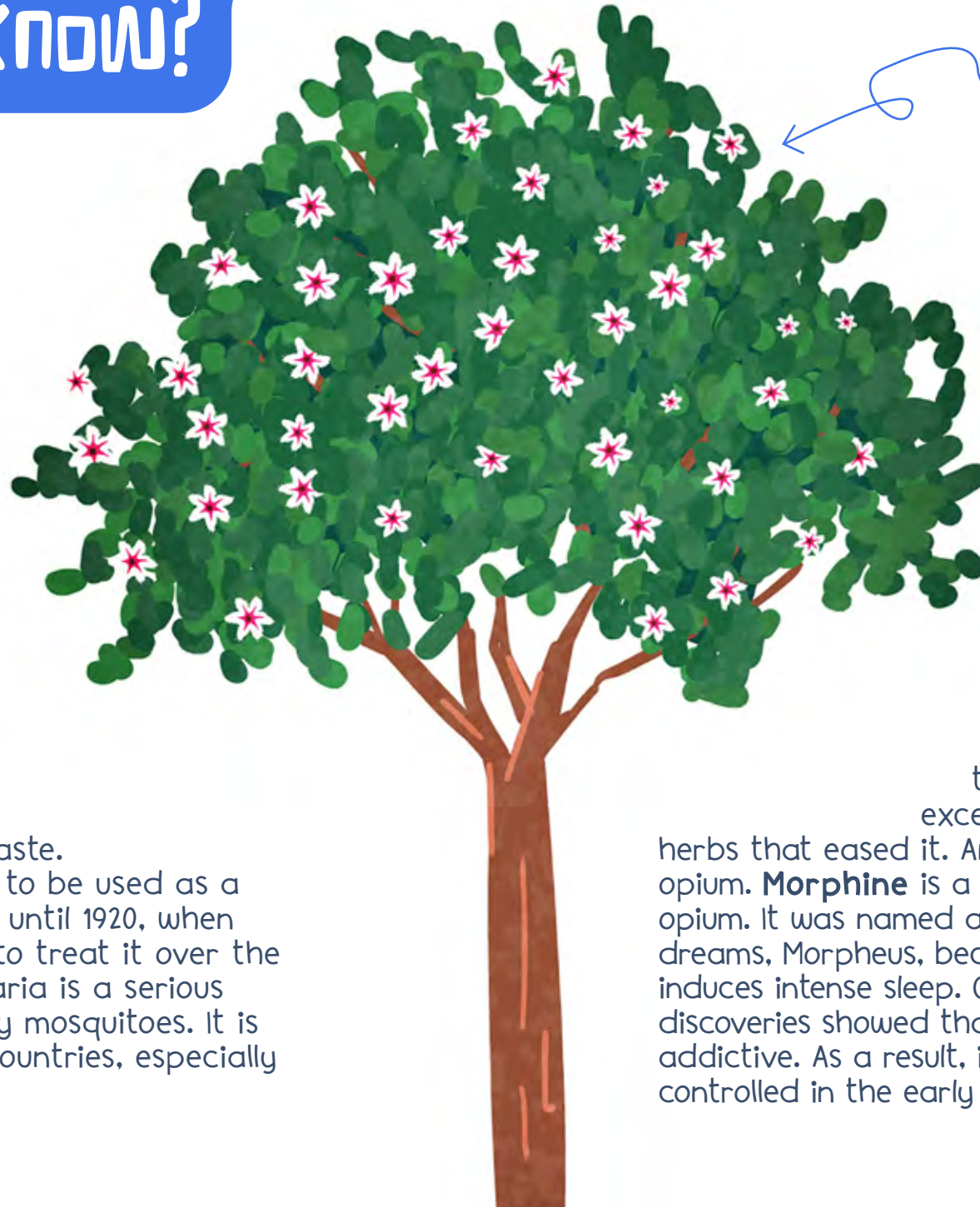
"I don't know any of those," I said, "but they don't sound good at all."



# Did you know?

**Quinine** is a compound extracted from the bark of the cinchona tree, native to South America. Its properties meant that, from the 17th century it was used to treat and also prevent malaria. In the early 19th century, it became an essential ingredient in tonic water, giving it its characteristic bitter taste.

Quinine continued to be used as a treatment for malaria until 1920, when new drugs appeared to treat it over the following decade. Malaria is a serious disease transmitted by mosquitoes. It is still present in many countries, especially in tropical regions.



**CINCHONA**  
OR CINCHONA TREE  
(CINCHONA OFFICINALIS)

**Chloroform** is a colorless liquid compound with several uses. In the past, it was used as an anesthetic for surgery, but not anymore. Today, chloroform is used to manufacture chemical products, coolants and solvents.

For centuries, we had almost nothing to take away pain, except for a few medicinal herbs that eased it. Ancient civilizations used opium. **Morphine** is a substance derived from opium. It was named after the Greek god of dreams, Morpheus, because the substance induces intense sleep. Over the years, scientific discoveries showed that it was highly addictive. As a result, its use began to be controlled in the early 20th century.



**Grandpa, now all enthusiastic, continued telling us his story. We could see how pleased he was to share it with us.**

“A few years later, they announced a new product: citric acid. This was used in

food and soft drinks, because it is a natural preservative and also adds a slightly sour flavor.”

“So soft drinks like mom lets us drink sometimes already existed then?” asked Vega.

“Yes, they were first manufactured at that time, and they quickly became very popular. But today we’ll have a nice cold lemonade to combat this heat,” said Grandpa.



## "Citric acid was extracted from oranges and lemons, but there were supply problems which threatened production."

So new ways of obtaining it had to be found. It was the company's own employees who realized they could extract it from sugar."

"That's cool," said Hugo, "I love how they used their imagination to solve a problem!"



# Did you know?

Citric acid has been used throughout history for a wide variety of purposes. It is used in the food industry as a preservative in foods and beverages, as flavoring, especially in sweets and soft drinks, and as a natural antioxidant, adding it to the packaging in numerous food products.

It also has medical and therapeutic applications. It helps prevent oxidation of other compounds and lengthens the shelf life of medicines.

It is also used in cleaning agents, cosmetics and body hygiene products.

**DEEP TANK TO  
PREPARE LARGE QUANTITIES OF  
CITRIC ACID**





## "Over the next few years, the company improved its fermentation process

to produce acid and vitamins by developing huge, deep tanks to prepare large amounts of penicillin.



**But that's another story... And in this heat,  
why don't we go for a dip in the river?"**

"Yeahhh, but carry on with your story afterwards, Grandpa," I insisted.





# It was nighttime and there was a festival in the village. Fireworks lit up the sky.

Pedro was scared and Alma tried to calm him down, but didn't know how.

Grandpa arrived with his box of photos to keep us entertained. We sat round him in the garden, and he carried on with his story.

"Look, here's a photo of some soldiers from World War II." He showed it to us.



"Where did you get it?" I asked him.

"As I like collecting old photos, my father got me an original."

Almost in tears, Pablo said, "Grandpa, I don't like wars, they're bad."

"You're right Pablo, but I'm sure what I'm about to tell you will make you feel better."



## "Let's see, have you heard of the Scottish Scientist Alexander Fleming and Penicillin?"

"I think we studied him in school," I answered.

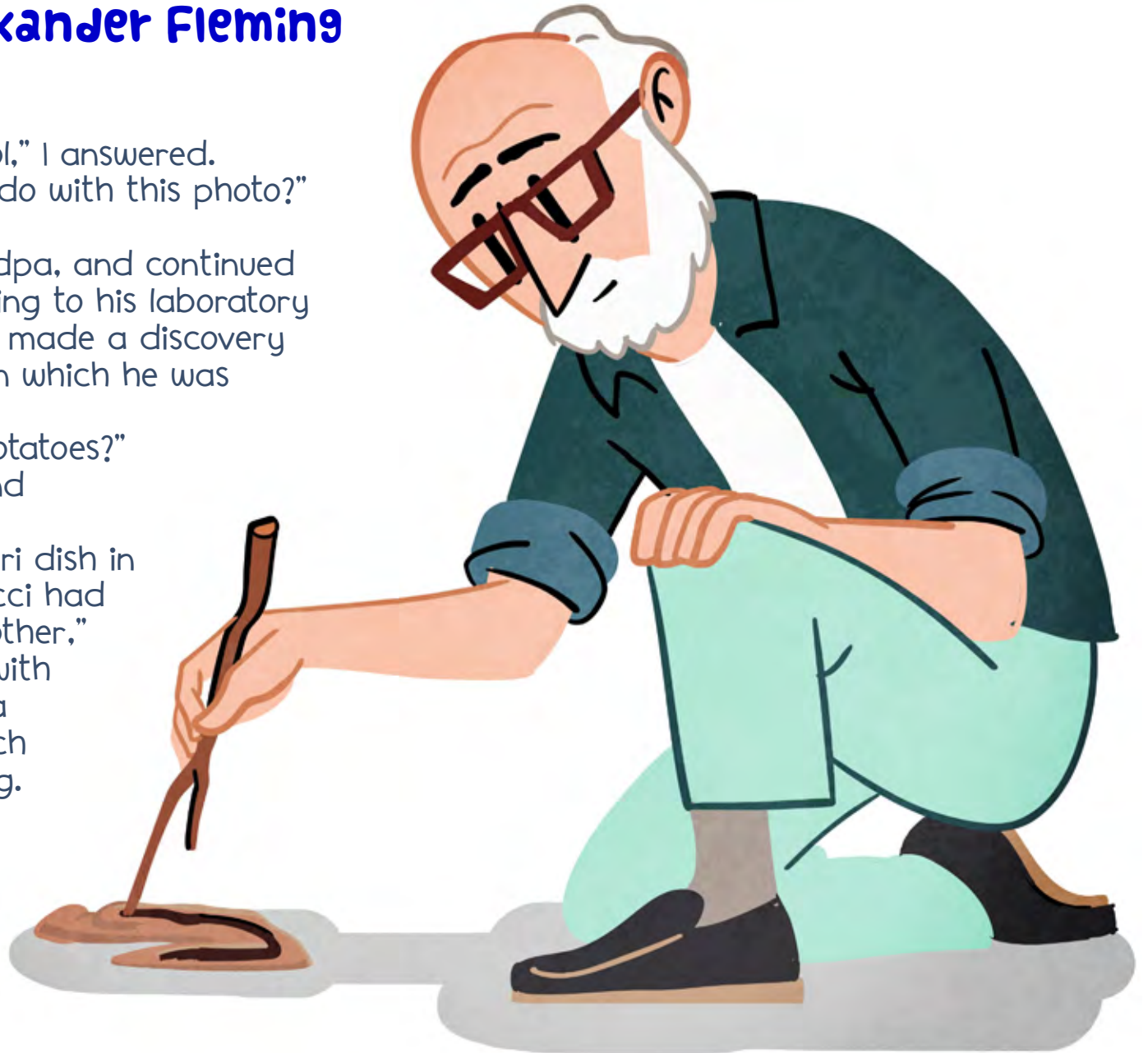
"And what has penicillin got to do with this photo?" asked Vega.

"Don't be impatient," said Grandpa, and continued his story. "In 1928, soon after returning to his laboratory after a vacation like yours, Fleming made a discovery while examining some Petri dishes in which he was growing microorganisms."

"Growing?" asked Pablo, "like potatoes?"

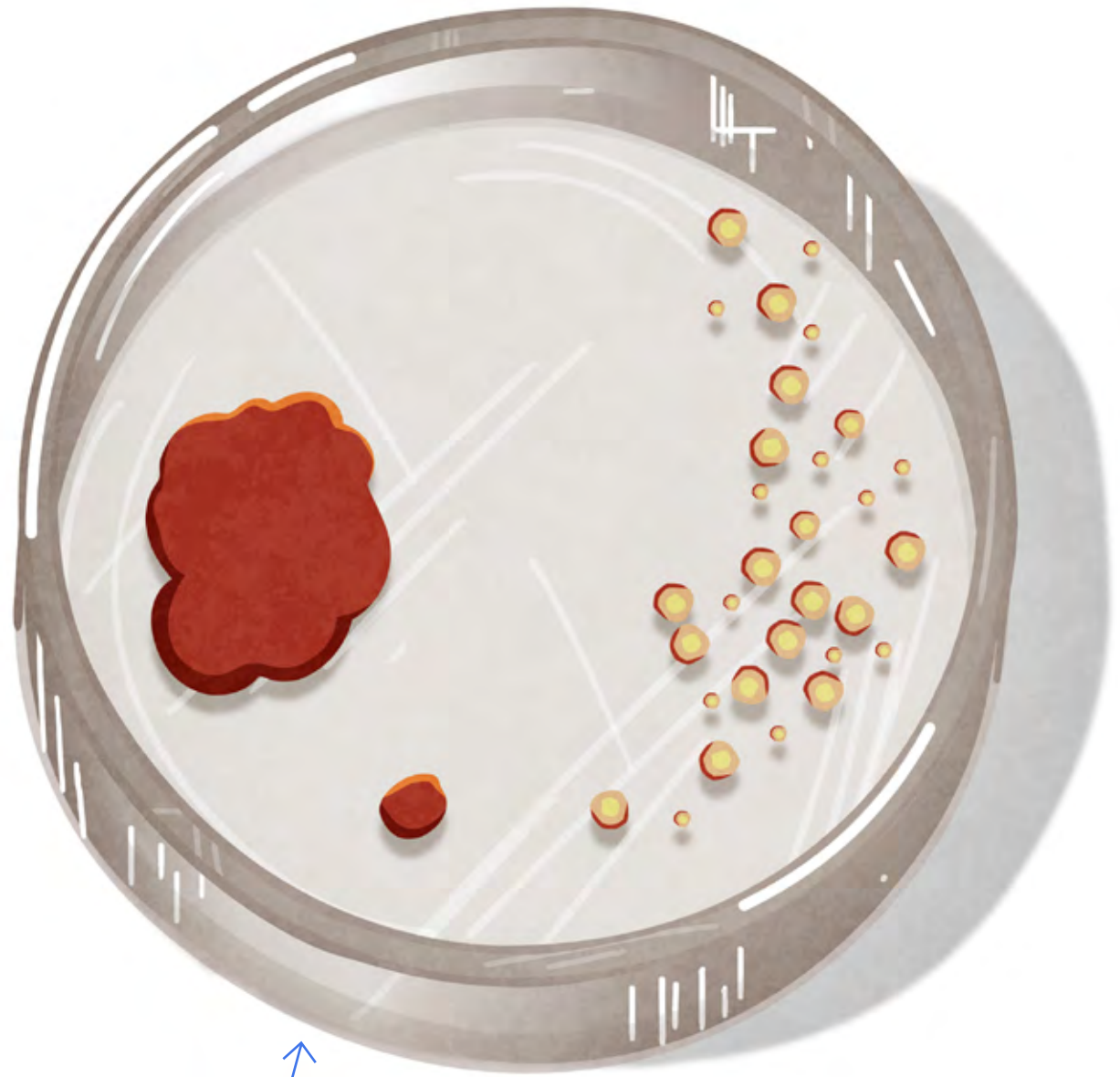
Grandpa laughed at his joke and picked up a stick.

"Let me explain. He found a Petri dish in which a bacteria called staphylococci had contaminated one area but not another," he said while drawing in the sand with the stick. "In the contaminated area there was a fungus, Penicillium, which was stopping bacteria from growing. He even found that the fungus killed them."



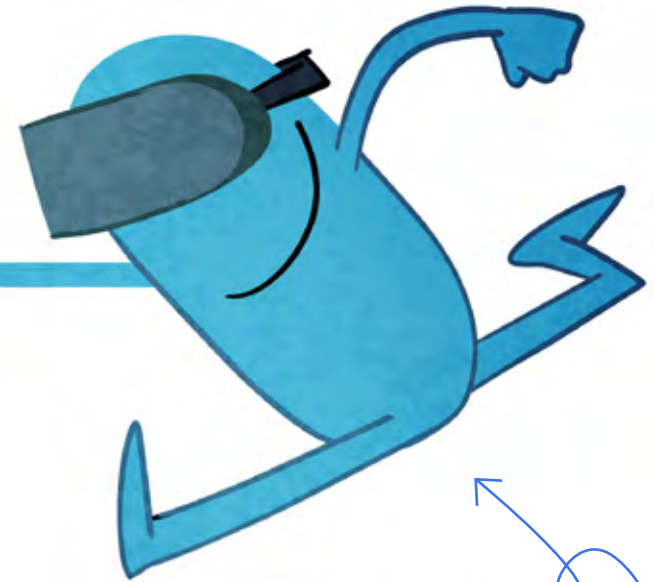
# Did you know?

A Petri dish is a transparent receptacle with a lid made of glass or plastic. It is used in microbiology to grow cell cultures, observe seed germination and examine the behavior of bacteria and other organisms. It is named after the microbiologist Julius Richard Petri, assistant to Robert Koch, the Nobel Prize winner who discovered the tuberculosis bacillus. The Petri dish was fundamental to the discovery of penicillin, marking the start of the age of antibiotics. Previously, diseases like pneumonia, gonorrhoea, rheumatic fever, scarlet fever, meningitis and diphtheria were very difficult to treat. Doctors even had trouble finding a solution for an infected wound.



PETRI DISH

BACTERIA



PENICILLIN

**"Although his discovery was promising, Fleming found that the small quantities of Penicillium obtained from cultures were not stable."**

Furthermore, when he was able to use penicillin on people, he doubted it would stay in the human body long enough to kill the bacteria. So, he thought it would never be an important antibiotic. It was little used for years, until a team of researchers from Oxford University demonstrated the life-saving properties of penicillin. In 1940, various trials were started and

their success led to the search for a method to manufacture the medicine in large quantities. However, as with citric acid years earlier, there were problems in the mass production of penicillin."

"And the cousins' company was first to find the solution?" asked Hugo.

"You're not far off," said Grandpa.



# Did you know?

Realizing the value of penicillin, the United States government asked pharmaceutical companies to find a way to increase the supply of penicillin to cure soldiers injured at the front. In 1943, the government wrote to them, «You are urged to impress upon every worker in your plant that penicillin produced today will be saving the life of someone in a few days or curing the disease of someone now incapacitated. Put up slogans in your plant! Place notices in pay envelopes! Create an enthusiasm for the job down to the lowest worker in your plant.»

In fact, there would not have been enough penicillin for the Normandy landings in 1944 if it had not been for the joint effort of engineers, chemists, microbiologists, mycologists, government agencies and chemical and pharmaceutical product manufacturers, who rose to the challenge.



**NOTE: THE PENICILLIN  
PRODUCED TODAY WILL BE SAVING THE  
LIFE OF SOMEONE IN A FEW DAYS**



**"In the company of our story they knew that penicillin could save the lives of many soldiers' wounded on the battlefield,**

so they decided to take a risk: they reduced production of their own products to focus on penicillin. In September 1943, they bought an old ice factory in Brooklyn and turned it into the first large-scale penicillin factory in the world. It was opened on March 1, 1944. Do you remember what I told you this morning about the large tanks?"

"Yes, the ones for making soft drinks," I pointed out.

"Well, they were used to ferment products," Grandpa corrected me. "The new plant contained fourteen 8,000-gallon tanks. The company ended up producing five times more than their original estimate and became one of the main suppliers. Thanks to this, many soldiers going to front carried the medicine with them in their medical kit, to prevent wounds from getting infected. The company also manufactured other antibiotics and vitamins using deep tank fermentation techniques."



**Pedro curled up in my lap and yawned. Grandpa looked at his watch.**

**"Gosh, it's late! It's time for bed."**

"No, please, continue the story, it's very interesting," Hugo pleaded.

"I'll continue tomorrow, there's still a lot to tell. Now's it's time for bed."

The next day, while the younger children entertained themselves with water fights, the older ones played a strategy board game in which the board was a map. Grandpa took the opportunity to continue his story.

"Did you know that after the war, the cousins' company started to expand throughout the world? They opened offices in Brazil, Canada, Japan, United Kingdom and Italy and hired employees of all nationalities. They also opened dozens of research centers and factories."

"Like the red brick one in the photo you showed us?" I asked.

"No, much more modern, with large pieces of machinery, laboratories and state-of-the-art technology."







**"And what did they research in those laboratories?" asked Vega.**

**Grandpa answered proudly.**

"New antibiotics for infections, vaccines to prevent diseases, medicines for joint, heart and respiratory problems, to alleviate pain, even to fight cancer and rare diseases. They came to produce over 700 medicines for over 600 million patients or, in other words, for one in six people in the world. But don't think they only manufactured medicines, they also worked with other organizations to provide grants and training programs for less well-off people, and the company's own employees volunteered to participate in projects."

"And did they also reach Spain?" asked Hugo.

"Of course!" Grandpa said.



**When we had finished dinner, Alma said: "Can we continue our journey in the time machine? I'd like to see your old photos, Grandpa."**

"Of course, I love how much you want to know the stories behind them," Grandpa said with a smile. We all headed for the red brick shed. Pedro rummaged through the box and picked out a photo of some military trucks.

"And this photo, Grandpa?" asked Pablo, remembering what he had told us on the night of the fireworks. "You weren't in the war, were you?"



**"No, child, this photo is very recent, even you were already born. I took it in December 2020, when Spain received the first vaccines for COVID 19.**

I bet you didn't know that the first vaccines had a military escort when they arrived in Spain?"

"I didn't, but I remember that time perfectly. We didn't go to school for many months, taking classes on the computer, what a pain," said Vega.

"Yes, little one, it was a very difficult time for many people", recalled Grandpa sadly, but with gentleness. "And the company the cousins founded was one of the first to help get us back to normal."





**"Let me tell you the story of a married couple, Germans of Turkish origin, who were both scientists."**

Grandpa's eyes lit up once again. "They were researchers into the technology used for these vaccines (messenger RNA) and they partnered with the cousins' company. This partnership boosted research and large-scale production of

the vaccine, as had previously happened with penicillin and citric acid."

I had never seen Grandpa looking so serious and thrilled telling us a story, as if he'd experienced it up close. He continued.

"The development of the vaccines to prevent COVID-19 in 2020 was possible thanks to an unparalleled effort by many people, organizations and companies, who came together to overcome the crisis affecting the whole world!"

# Did you know?



Messenger RNA (mRNA) was discovered in 1961. Research on how to deliver mRNA into cells was carried out in the 1970s. However, it wasn't until the end of 2020, in the midst of the COVID-19 pandemic, that the first mRNA vaccines were approved and used on millions of people.

# Did you know?

For more than two centuries, scientists have worked to find vaccines to protect us from diseases.

At the end of the 19th century, the British physician, Edward Jenner, noticed that women who milked cows and caught cowpox were protected from the more serious and deadly smallpox. Jenner decided to inoculate fluid from cowpox pustules into an eight-year-old boy, James Phipps. He then injected him with the human smallpox virus and found the child was neither infected nor had any symptoms.

The French physician Louis Pasteur developed a new generation of vaccines for cholera and rabies, among other diseases. They were called “vaccines” in honor of Jenner’s experiments with cows, whose Latin name is *vacca*.





## ROUTE OF THE BALMIS EXPEDITION



Some years later, Francisco Javier Balmis, a Spanish military physician, assisted by his colleague José Salvany, found a way to keep the vaccine active: inoculating healthy people and passing it from arm to arm. This meant it could be taken to distant places.

This led King Charles IV of Spain to back a charity mission known as the Balmis Expedition.

Balmis needed people who had not had smallpox or been vaccinated. So he gathered 22 orphan children who, under the care of the nurse Isabel Zendal, set off for America.

During the crossing, a different child was inoculated every two weeks. With this procedure they managed to travel around the world and vaccinate the population in just two and a half years.

This feat is considered a landmark in the history of medicine.

**"As well as the vaccine itself, the way it was packaged, stored and distributed was also very important, and rather complicated."**

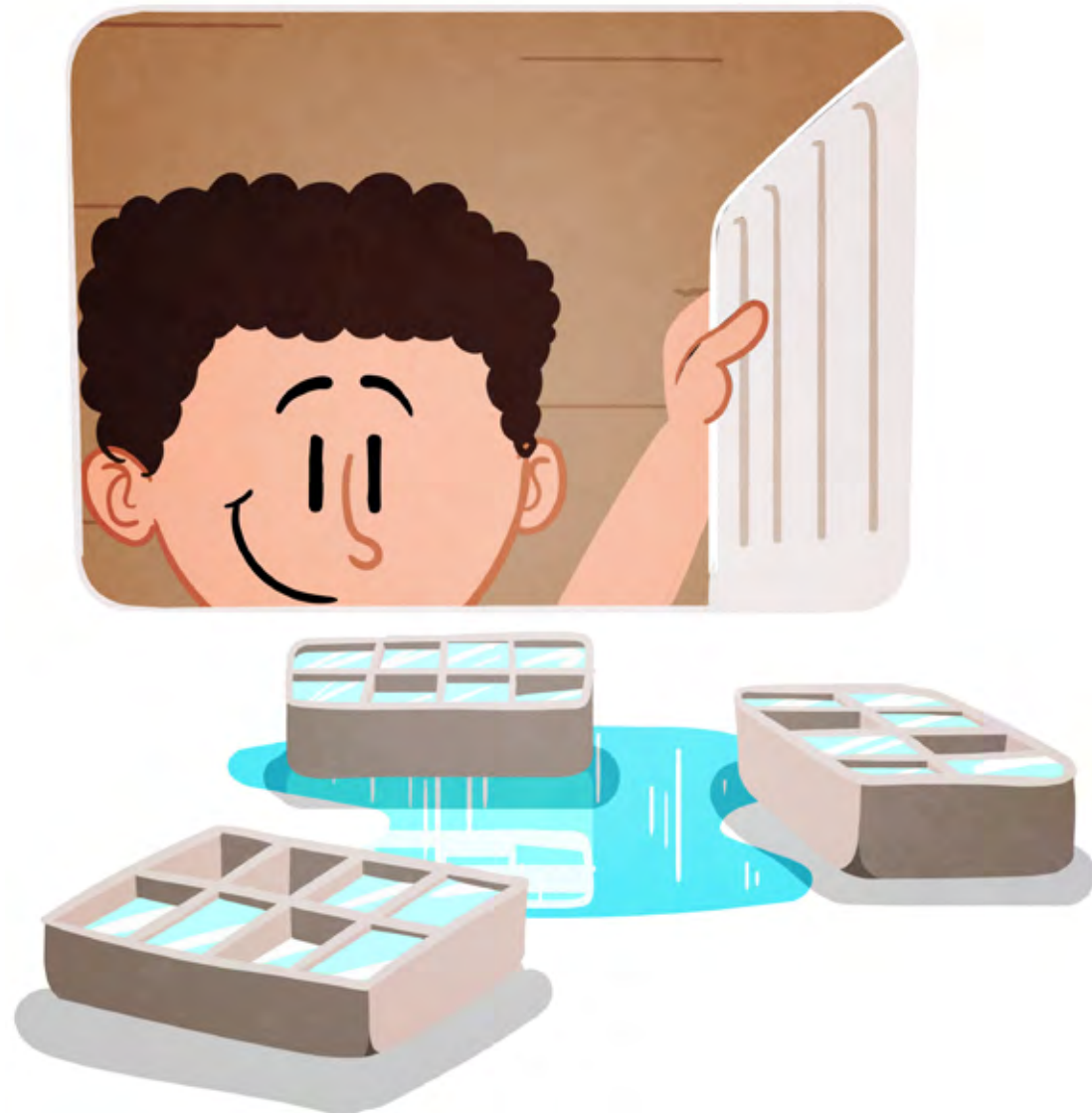
"Once again, great innovations to find solutions!" said Hugo.

Vega made fun of her brother. "What do you mean innovation? Vaccines have been around for ages!"

"Excuse me, smartass, but obtaining a vaccine for such a dangerous virus and sending it to so many people in such a short time... I'm sure you haven't seen that before," answered Hugo.



**"Hugo's right, everyone worked tirelessly to solve a worldwide problem as quickly as possible," said Grandpa.**



"They had to manufacture special containers to store and transport the vaccines in the right conditions wherever they were sent. They used dry ice to keep them at many, many degrees below zero."

Alma, trying to imitate her older cousins, said,

"Dry ice? How cool! I bet the ice factory they bought shortly after starting the company gave them the idea."

Pablo walked over to a small freezer in the corner of the red brick shed and looked the ice cubes.

"Is this dry ice?" he asked.

Grandpa burst out laughing. He loved how his grandchildren listened so attentively to his stories.

"No, that's not dry ice. Dry ice can get as cold as  $-70\text{ }^{\circ}\text{C}$ . Freezers in homes are usually at  $-18\text{ }^{\circ}\text{C}$ . The special containers that transported the vaccines had sensors, to detect changes in temperature, and devices like satnavs. Like air traffic control towers, they could monitor the routes of all their boxes, their exact location and their temperature, to make sure they arrived safely at their destination."



# Did you know?

## COLD CHAIN

The term «cold chain» refers to the system that allows a product to be transported under very specific refrigeration conditions from the site of manufacture to the place of administration.

The global roll-out of new vaccines required a huge increase in the logistical capacity of companies to ensure the cold chain. They had to combine two incredibly complex factors: storage and transport.



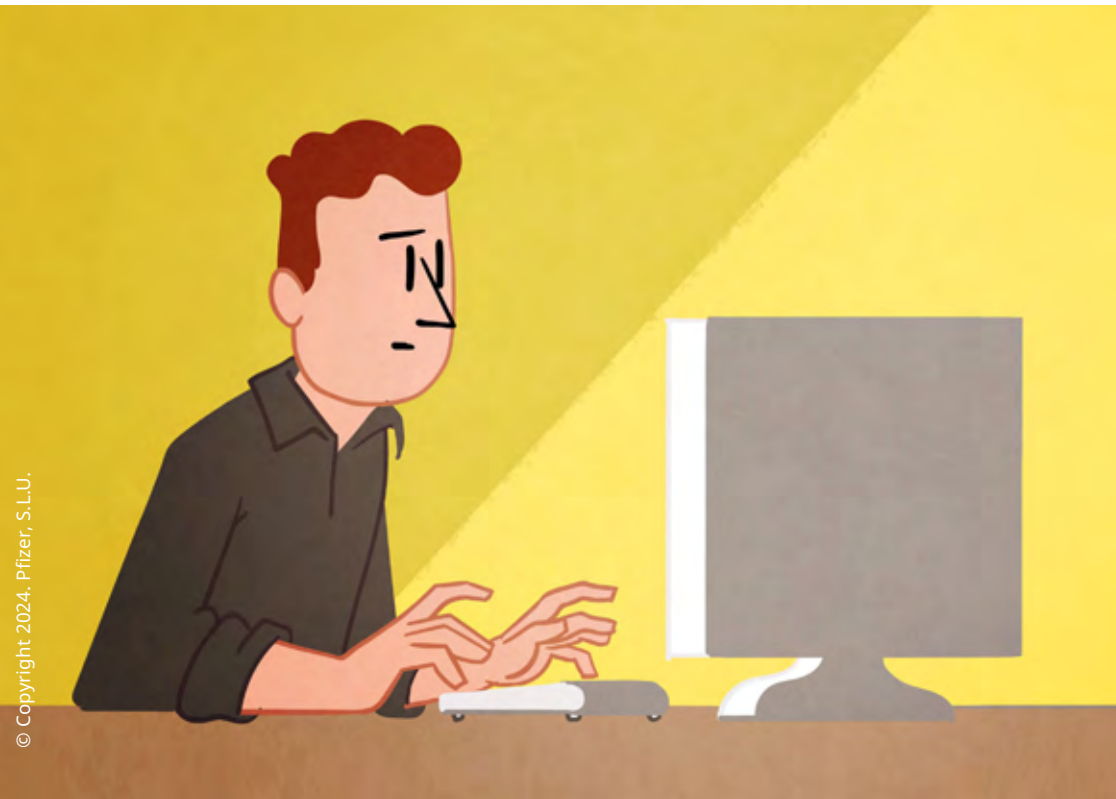
**"Gosh, Grandpa, it's a good job they found solutions to such big problems," said Hugo with an admiring look.**

Grandpa nodded proudly.

"And how do you know so many stories about the cousins Charles and everything they achieved Grandpa?" asked Vega.

"Because I've worked in their company all my life."

"Wowww!" we all shouted in amazement.





## It was late and Pedro had fallen asleep on Grandpa's knees.

"I think it's time to sleep," he announced, carrying Pedro to his bed.

Enthusiastically, I said, "Grandpa, I want you to tell us more interesting things."

Everyone else joined my request.

"Yes please!"  
they repeated.





**"Children, children, we'll carry on tomorrow. Telling you about 175 years of history takes a long time, and the summer is not that long!"**

Hugo whispered in his sister Vega's ear,  
"I bet the next thing Grandpa explains will be the best so far."



## We went to bed. Grandpa's stories had made such an impression on me that I had a very special dream

I dreamt I was older, working in the two cousins' company and doing research in the laboratory. I saw Petri dishes, microscopes, computers and large tanks like freezers. I was wearing a white coat and telling groups of children what my Grandpa had told us in the red brick shed in the garden, explaining to the kids how, in the company founded by Charles Pfizer and Charles Erhart, we all worked together to help defeat such complicated diseases as cancer.







**The end**



P

U

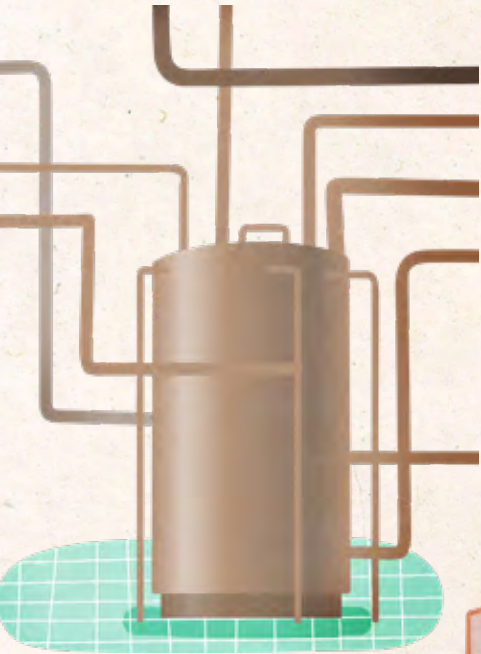
Z

Z

L

E

S



G	U	M	T	S	N	H	I	R	O	I	Y	Q	K	L	B
A	N	I	L	L	I	C	I	N	E	P	I	E	J	A	E
V	U	C	A	Q	N	E	F	W	D	A	O	P	C	C	A
R	A	R	I	X	O	U	N	Z	Y	F	Z	T	A	V	B
U	W	O	B	J	T	I	A	F	I	U	E	O	M	E	A
W	V	S	M	G	N	H	E	N	S	R	O	E	U	T	O
L	U	C	F	C	A	D	B	D	I	Y	S	R	U	Y	S
V	R	O	X	V	S	I	C	A	O	S	X	H	A	Q	R
P	K	P	A	E	H	A	K	P	E	G	O	P	Z	N	Q
Q	L	E	I	P	O	U	D	N	Z	H	G	P	F	M	J
W	S	O	N	T	O	C	G	P	A	I	J	E	N	I	K
P	K	A	C	U	D	E	X	O	U	T	Z	Y	E	X	H
E	T	P	E	T	R	I	D	I	S	H	P	G	I	C	L
H	U	G	S	R	L	I	M	L	Y	N	F	E	U	F	B
O	A	O	N	S	U	F	O	J	B	E	U	Q	E	A	X
C	A	A	E	C	O	L	D	C	H	A	I	N	K	D	C

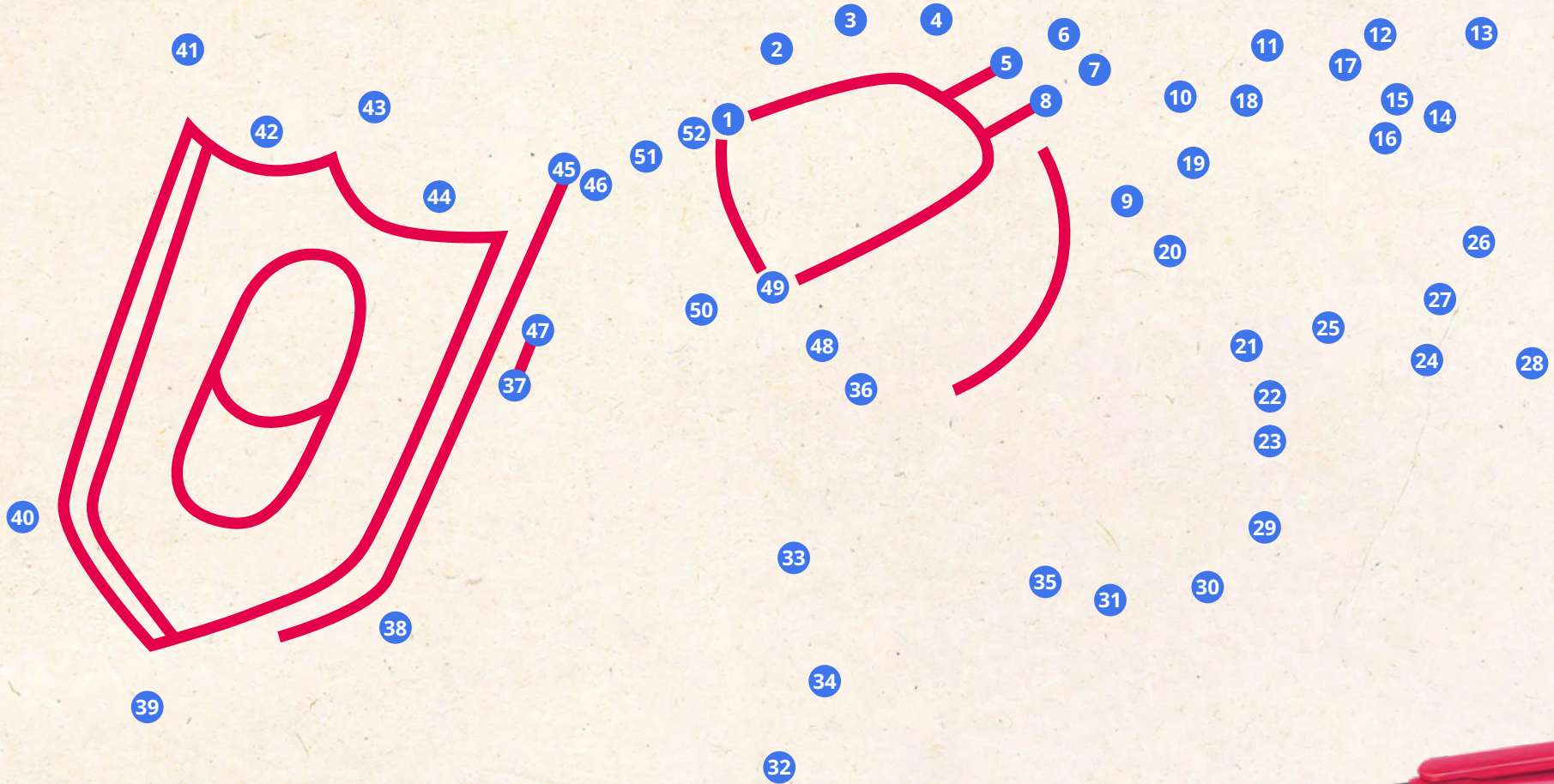


# WORD SEARCH

Find the names of the eight drawings in the grid. Remember you can read them in all directions.



P U Z Z L E S



## DOT TO DOT

Join the numbers in the right order, starting with 1, and find out who cures you of bacterial infections.



P

U

Z

Z

L

E

S



## SPOT THE DIFFERENCE

Show off your observation skills by finding the eight differences between these two drawings.



P U Z Z L E S



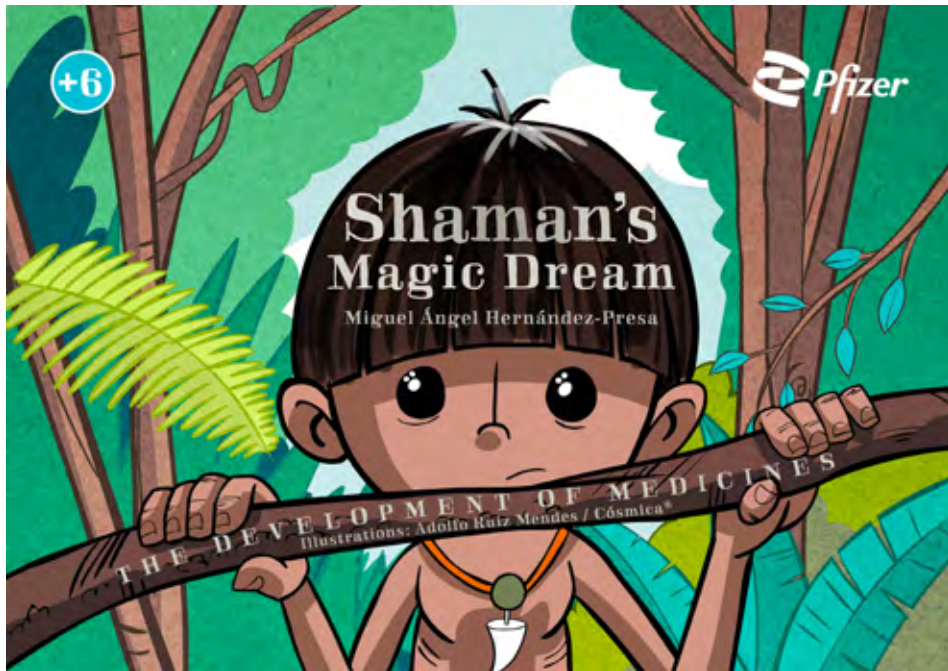
# DEVELOP YOUR CREATIVITY

This page is left blank for you to draw your own time travel machine.

Other  
stories in  
the collection!



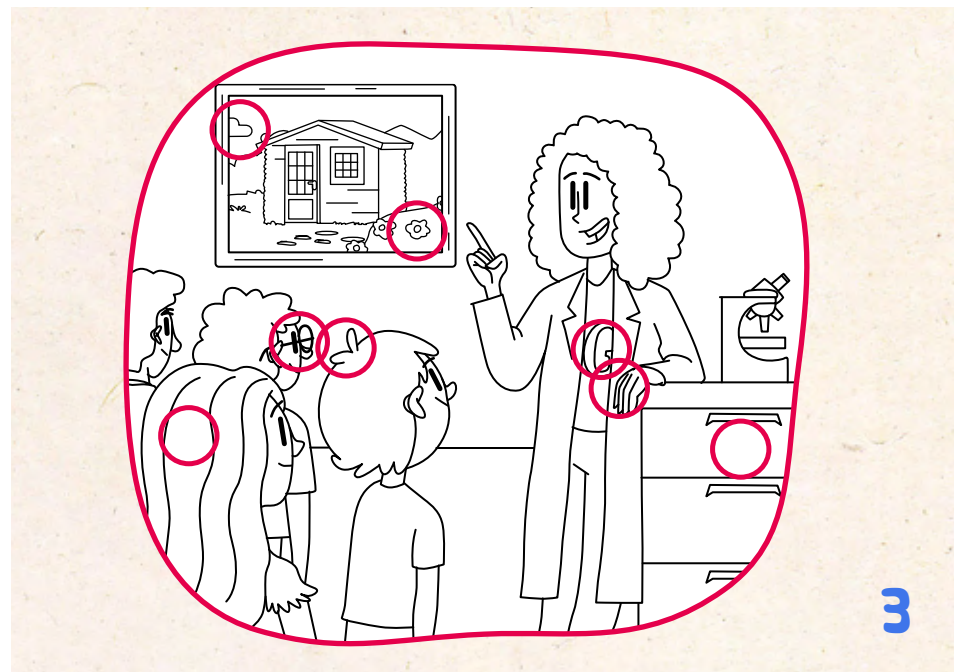
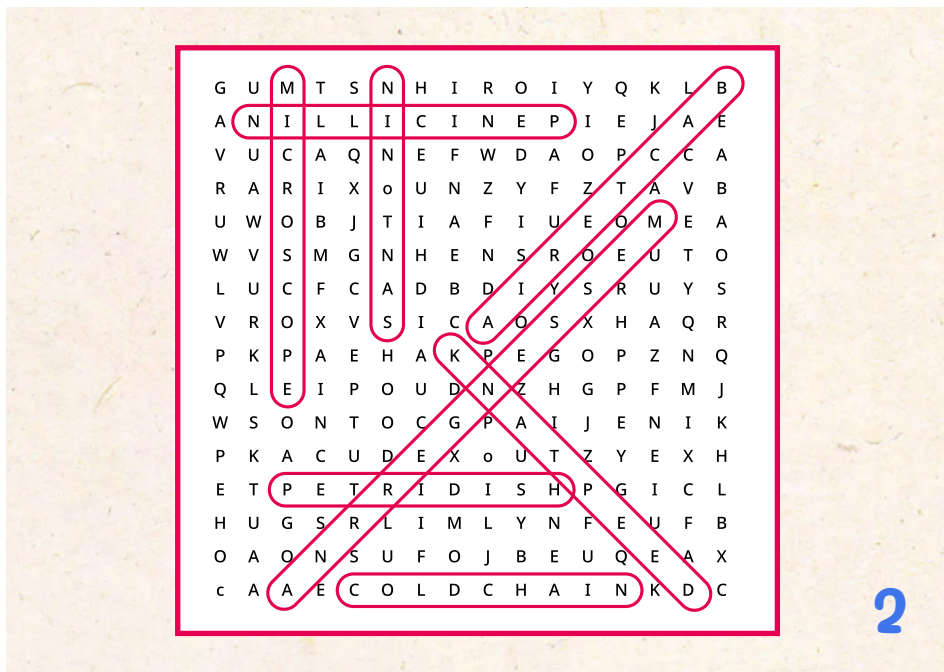
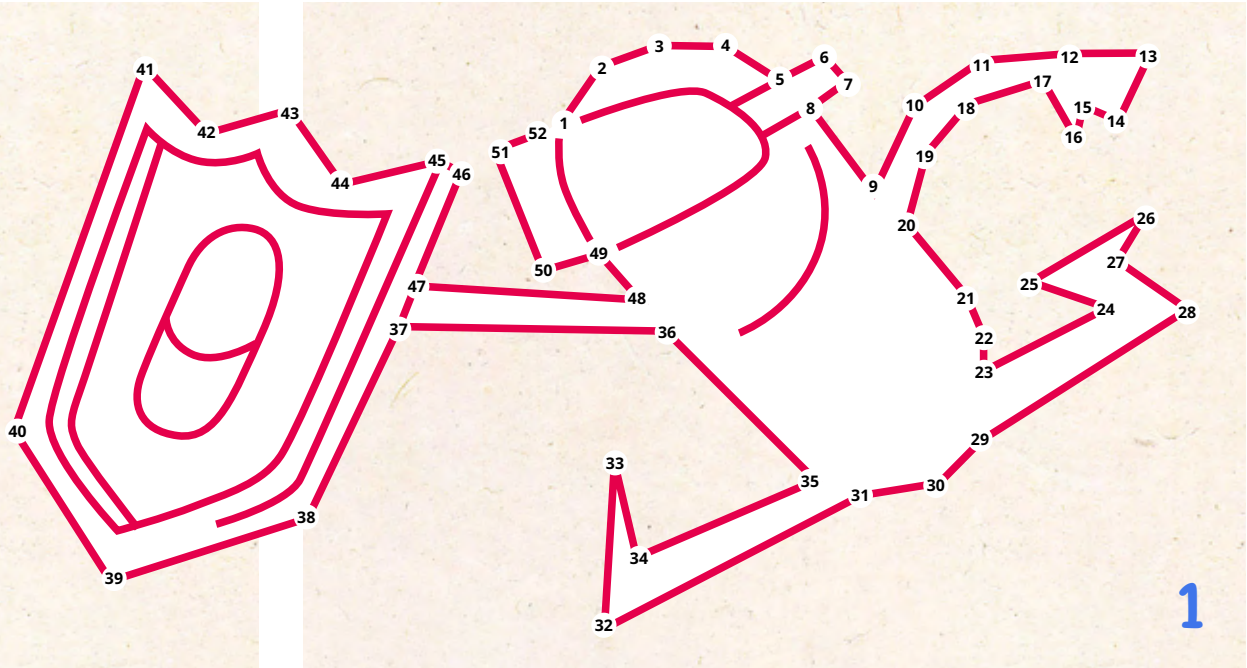






# SOLUTIONS TO THE PUZZLES

1. Dot + to Dot
2. Word Search
3. Spot the Difference





[www.pfizer.es](http://www.pfizer.es)





[www.pfizer.es](http://www.pfizer.es)