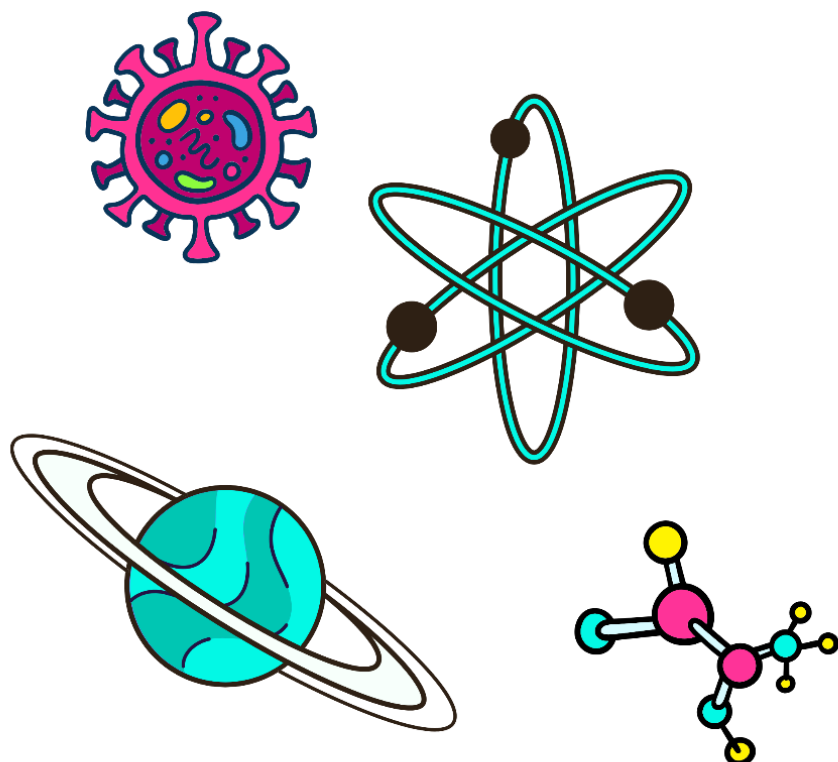




Topic: We Did It In Poland!

Lesson duration: 45 minutes

Target group: students of grades 1, 2, 3 of primary school



General goal

Students will learn about examples of contemporary achievements of Polish women and men – from technological startups, through scientific discoveries, to social innovations and civic activities.

Specific objectives

Information/ knowledge

The Student:

- understands the concepts of invention and innovation and can indicate the differences
- between them using simple examples;
- knows selected Polish innovations and their creators, including InPost Parcel Lockers, the Bionic Pancreas, the Kalman Rover, Vidre+, BLIK, Eye Payment, ElevenLabs;
- knows that Poland is a modern and creative country where solutions that change the world are being developed;
- understands the importance of innovation for improving people's lives and protecting the environment;
- can list examples of future technologies developed in Poland (e.g. 3D printing, artificial intelligence, robotics);
- knows that scientists, entrepreneurs, and young inventors can come from Poland and work globally.

Skills

The Student:

- can recognize Polish innovations by name or illustration;
- can analyze information from worksheets, films, and presentations;
- can search for data needed to complete tasks;
- collaborates in a group or pair, sharing tasks and listening to others;
- formulates conclusions and reflections – can say which innovation is the most interesting and, in their opinion, the most useful;
- connects knowledge with emotions – can express pride in the achievements of Polish scientists and inventors;
- creates their own idea for an innovation that could help people in everyday life.

Attitudes

The Student:

- feels pride in modern solutions created in Poland that support the development of the world;
- believes in their own agency – understands that they too can be a creator of ideas or inventions;
- values cooperation and creativity as essential in teamwork;

- respects the work of scientists, engineers, and innovators – sees them as contemporary heroes;
- develops cognitive curiosity and a desire to learn new things;
- understands the importance of technology and innovation for the common good.

Forms of work:

- individual – completing tasks in the “We Did It In Poland” booklet, participating in a quiz, final reflection;
- in pairs – discussion about inventions and their applications, jointly defining concepts (invention/innovation);
- group – working at task stations on specific innovations, filling out worksheets;
- frontal – watching presentations and films together, summary discussions, knowledge quiz;
- movement-based and interactive – rotating between stations;
- reflective – carpet discussion, sharing observations and emotions after the lesson.

Methods:

- discussion and guided talk – introduction of concepts, reflection on the importance of innovation;
- brainstorming – jointly searching for examples of Polish achievements;
- task station method (rotational) – independently discovering information about various Polish innovations;
- mini-project – proposing own innovation as an exercise in creative thinking;
- educational games – final quiz consolidating knowledge.

Teaching aids

- multimedia presentation/PDF with photos and short descriptions of Polish innovations;
- information cards with illustrations;
- educational films;
- projector/computer to display video materials;
- knowledge quiz;
- board/flipchart – for writing definitions, examples, and associations;
- crayons, pencils, paper sheets.

LESSON PROCEDURE

PREPARATORY PHASE – INTRODUCTION

Time 5 min.

The teacher, referring to the sense of pride that students discussed in the previous lesson, asks them to think in pairs or groups of 3-4 about what they are proud of today. Something may have happened recently that made them very pleased with themselves. Students' answers may vary greatly, but because this is a task based on the students' general knowledge, it is worth giving them 2-3 minutes as a group to think about it.

Example prompts and guiding questions for the teacher: *In the previous lesson, we talked about pride. We mentioned our own achievements and the achievements of Poles that we are proud of. Some time has passed, so talk in pairs about what you are proud of today. How do you feel with this emotion?*

The teacher asks willing students to share their thoughts with the group.

IMPLEMENTATION PHASE

Time. 35 min.

1. Introduction to the topic (approx. 5 min)

The teacher asks students to think in pairs about what an invention is and what an innovation is.

Information for the teacher:

An invention is an idea for something completely new that did not exist before, e.g., a new type of toy that solves a problem.

An innovation, on the other hand, is an idea that is new but has already been applied in practice to improve something or create something better. For example, if a new, faster way of moving was invented and then improved to make it even faster and better for everyone, that is an innovation.

A simple definition example for children:

Invention: something that did not exist before, e.g., inventing the wheel was an invention because no one had that idea before. It is an idea to solve a problem, e.g., inventing a toothbrush to make it easier to clean your teeth.

Innovation: an idea for how to improve something that already exists, e.g., the car was invented, and then faster, better, and safer cars were created – that is an innovation. It is applying your new idea in practice so that it helps many people.

Example: When someone invented the telephone, they created something that did not exist before. When later someone introduced an innovation by creating a smartphone – improving the telephone by adding new features and capabilities – that was an innovation.

The teacher leads a short class discussion about what innovations are and why they are needed.

1. Presentation (approx. 10 min)

The teacher presents students with photos of Polish innovations (**Appendix no. 1**). Students, based on the name and illustration, guess what the shown innovations are about.

INPOST PARCEL LOCKER – convenient and contactless package pickup. Parcel lockers are special cabinets with many doors. Each compartment can hold a package waiting for its owner. Parcel lockers operate 7 days a week, 24 hours a day. The creator is Rafał Brzoska, founder of InPost. Parcel lockers were created in Poland, making them a Polish invention.

BIONIC PANCREAS – a fully functional, 3D-printed bionic organ. The pancreas is an organ in our body that helps digest food and control blood sugar levels. Sometimes the pancreas stops working properly (for example, in people with diabetes), and then help is needed. The bionic pancreas is a special device “printed” from living cells using a special 3D printer.

MARS ROVER KALMAN – a special robot vehicle built by students of the AGH University of Science and Technology in Krakow. It looks a bit like a small off-road car but has no driver. It can move on its own, explore terrain, and help people in difficult places – for example, in the desert or on Mars.

EYE PAYMENT – a new way to pay for shopping. Instead of giving cash, a card, or a phone, you just look at a special screen. The device recognizes your face and allows you to pay for your purchases.

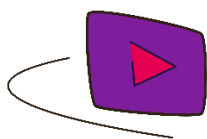
ELEVENLABS – a special computer program that can imitate the human voice. Thanks to it, anything written can be spoken aloud. Imagine a computer speaking to you – in a voice chosen by you.

BLIK – a way to pay without cash or a card. Instead of taking out your wallet, you can pay with your phone or withdraw money from an ATM.

VIDRE+ – a special technology that helps keep fruits, vegetables, and flowers fresh for longer. It works thanks to special stickers placed inside product packaging.

BOOKSY – a phone app that allows booking appointments with hairdressers, beauticians, or physiotherapists 24/7. It works in Poland as well as in the USA, UK, France, and Spain.

The teacher shows students a film about Polish innovations:



2. Exercises – Task Station Method (approx. 20 min)

The teacher's task is to prepare 6 workstations, called stations, where worksheets will be placed (**Appendix no. 2**). The teacher can support younger students by helping them read the instructions and providing additional information.

The teacher distributes worksheets to the students, who then complete the tasks at each station.

Students are divided into groups of 3-5 and begin independent work on various Polish innovations.

Note for the teacher: Group division depends on the class size. There will be 6 stations, so the ideal solution is for each station to be occupied, ensuring that no one gets bored or waits for their turn. The simplest way is to divide the number of students by 6.

CONCLUDING PHASE

Time 5 min

The teacher gathers the students in one place, and the class completes a quiz together (**Appendix no. 3**) based on the information they have learned.

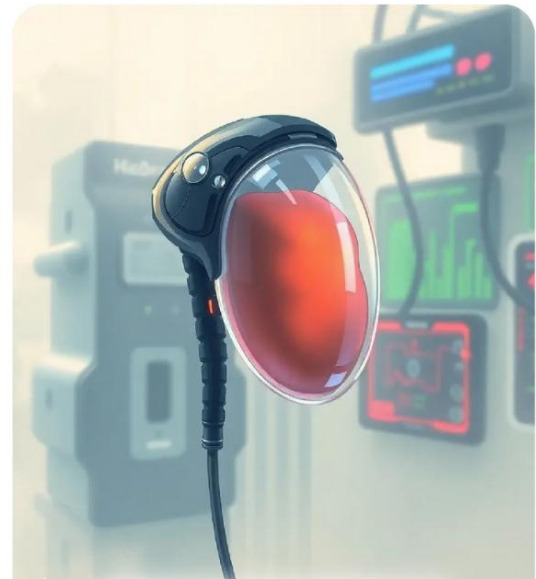
The teacher asks willing students to share their observations about Polish innovations. Which innovation seems the most interesting to them, which one would they like to learn more about, and which one would be useful to them in their daily lives?

Appendix no. 1 – Polish Innovations



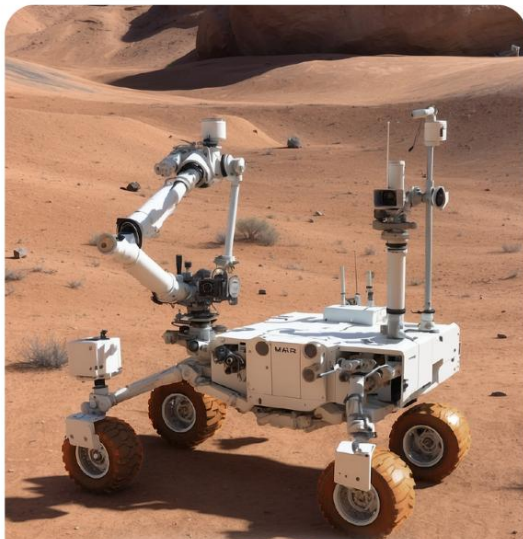
InPost

A revolution in convenient parcel delivery and pickup through Paczkomat® InPost.



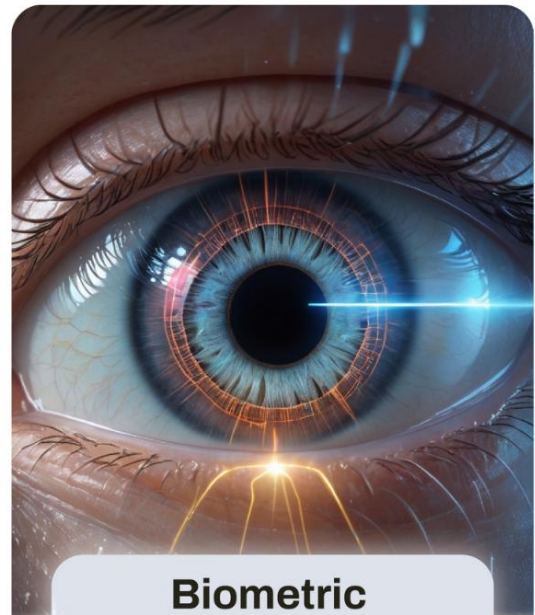
Bionic Pancreas

Fully functional, 3D printed bionic organ.



Kalman by AGH Space Systems

Polish students have built an innovative Mars rover.




Biometric Checkout Program

We have performed world's first payment with a glance.




ElevenLabs

Our technology can generate natural-sounding voices and sounds in 32 languages.




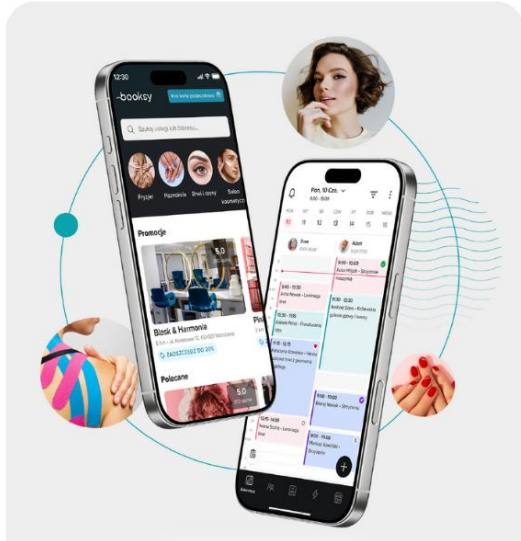
BLIK

Team of financial experts came up with modern virtual payment technology.



VIDRE+

Innovative product packaging to help preserve freshness

Booksy

An innovative online appointment booking and business management system.



InPost parcel locker

Convenient and contactless parcel collection

InPost is a company that helps people send and receive parcels. You've probably seen a Paczkomat® – those are parcel lockers located near shops, schools, and homes. You can drop off or pick up a parcel there – quickly, easily, and at any time of day!

The first Paczkomaty appeared in Poland in 2009. Now there are a lot of them – almost 47,000! They can be found not only in Poland but also in countries like France, Italy, Spain, and the United Kingdom.



EKOzwrot is a way to help our planet. Instead of throwing away things that are still in good condition, you can give them to other people – for free!

How to do it?

1. Pack clothes, books, toys, or other things you no longer need.
2. In the InPost app, select the “Donate to Foundation” button.
3. Put the parcel into a Paczkomat® and send it – you don't pay anything!

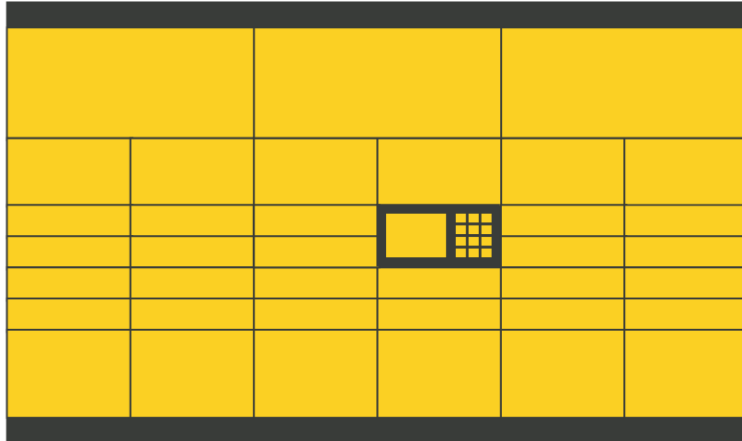
Why is it worth giving away things we no longer use ?

- ✓ We help other people and animals.
- ✓ We protect the environment – nothing goes to waste.
- ✓ Shipping is free!
- ✓ Paczkomaty are nearby – you can get there in just a few minutes.

WHAT CAN YOU DONATE?

- 👕 Clothes and shoes
- 📖 Books
- 🧸 Toys and games
- 📱 Phones, tablets, laptops
- 🔌 Small appliances like hair dryers or irons

InPost parcel locker



1. In which locker will you place the items below? Write the letters in the correct locker.

A. 3 books



B. backpack



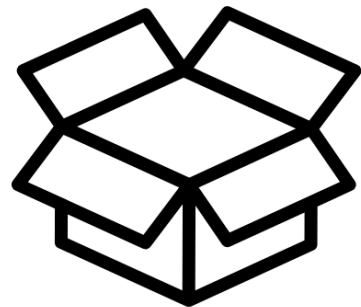
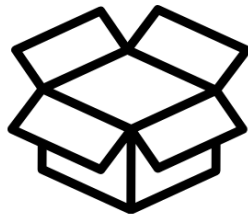
C. tablet



D. basketball



2. Write or draw which of your things that you no longer use you could send via a Paczkomat as part of the EKOzwrot program in the boxes below.



Rover Kalman

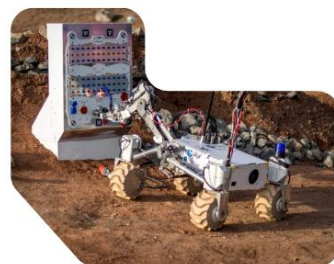
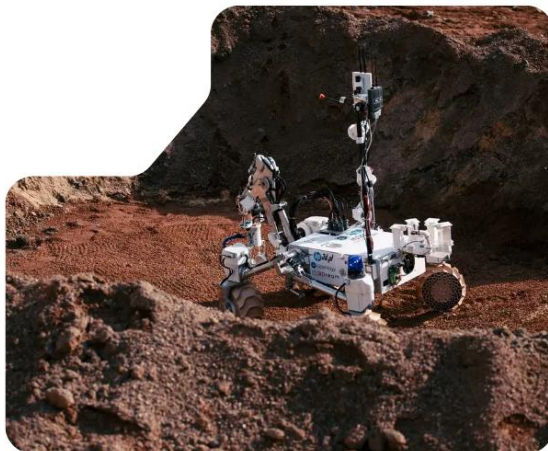
Polish students have built an innovative planetary rover

Kalman is a rover that can move on its own and helps people explore space. It was built by Polish students who wanted to create a machine for discovering new places – such as Mars and the Moon!

Kalman has:

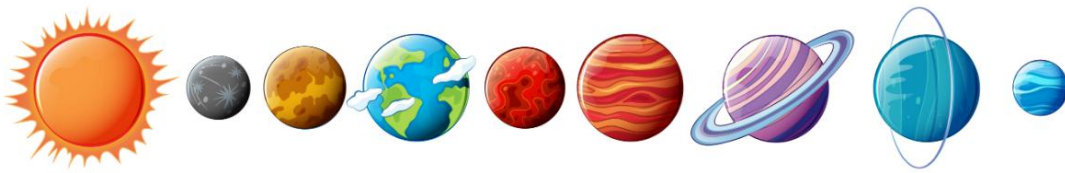
- a lightweight “body,” which allows it to drive easily over rocks and sand,
- an arm with a gripper and a camera to pick up objects and examine them closely,
- interchangeable parts, so it can be repaired or upgraded when needed.

This robot studies soil, analyzes samples, looks for signs of life, and can assist astronauts in their work. Kalman is very smart – it has already won many robotics competitions! It’s a true Polish space hero! Maybe one day it will travel with astronauts to uncover the mysteries of the universe...

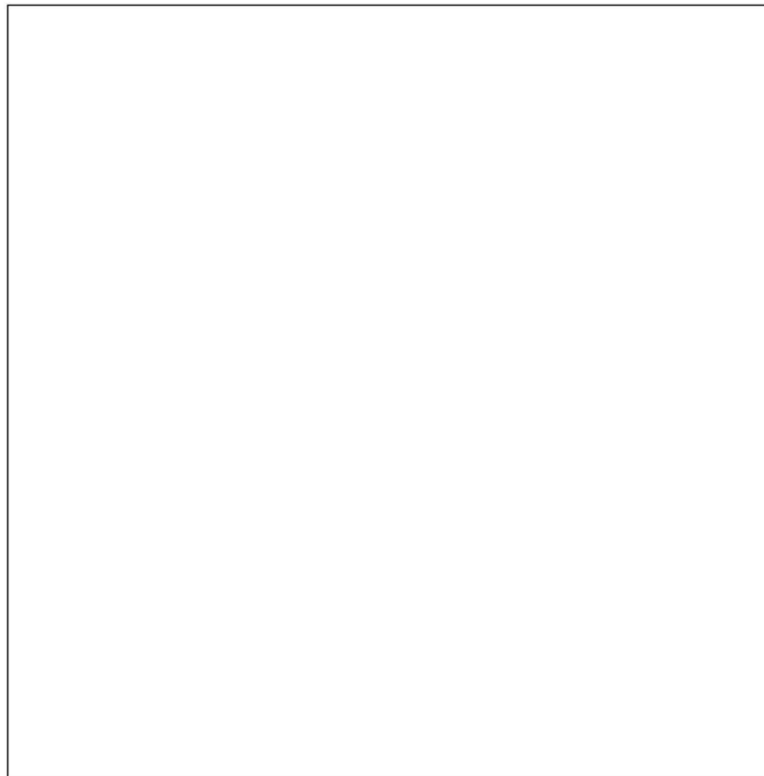


Rover Kalman

1. Mars is the fourth planet from the Sun – mark it on the picture. Which planet from the Sun is Earth? Draw the Moon orbiting around the Earth.



2. Design your own rover. Which planet do you want it to be sent to?





Pay-eye payment

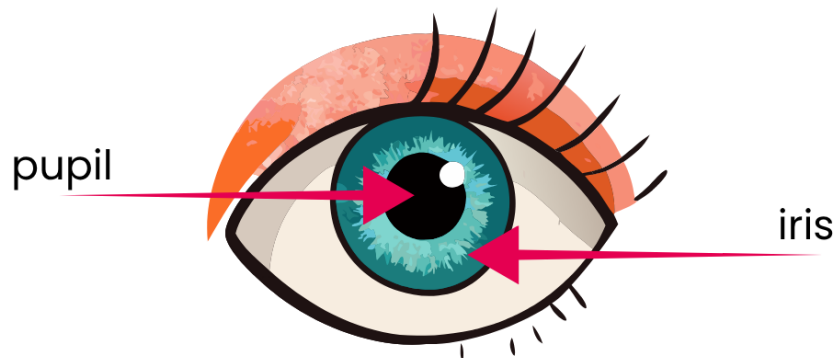
The first biometric payment based on the fusion of iris and facial recognition was made in Poland!

Imagine you're shopping and... you don't need to take out your wallet or phone! All you have to do is look into a camera, and the computer recognizes your face and eyes – and pays for you!

This is a new, very modern way to pay. It makes shopping faster, more convenient, and safer. You don't need to carry cash, a card, or a phone – everything happens in just a few seconds!

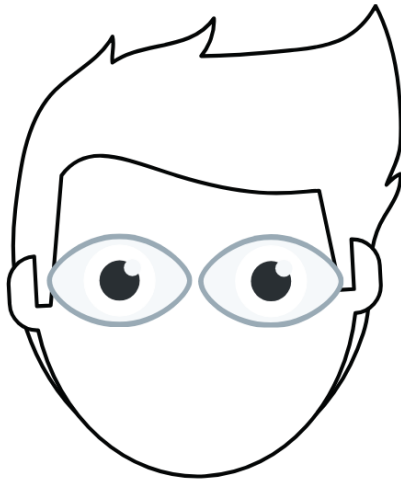
This solution was tested for the first time in Poland! And it turned out that most people who tried payment with a glance were very satisfied!

Who knows – maybe in a few years we'll all be paying with our eyes, and the checkout will recognize us with just one look!



Pay-eye payment

1. Point to the iris and the pupil.
Color the iris.



2. Write what your eye color is.

.....

3. What do you think people will be able
to pay with in the future?

.....

.....

.....

4. Mark whether the given sentence is TRUE (✓) or FALSE (✗).

	✓	✗
You also need a special card for payment with a glance.	<input type="checkbox"/>	<input type="checkbox"/>
The camera recognizes your face and eyes.	<input type="checkbox"/>	<input type="checkbox"/>
Payment with a glance is a method of payment that was created in Poland.	<input type="checkbox"/>	<input type="checkbox"/>
Payment with a glance takes longer than payment by card.	<input type="checkbox"/>	<input type="checkbox"/>
To pay with your eyes, you first need to remember a special password.	<input type="checkbox"/>	<input type="checkbox"/>



ElevenLabs

A global leader in the generative audio artificial intelligence sector that originates from Poland

ElevenLabs is a Polish company that created smart technology capable of speaking with a voice that sounds just like a real human! That means the computer can read, speak, and even respond – just like we do!

Thanks to this technology, you can:

- record audiobooks read by an artificial narrator,
- make a game or cartoon character speak with a natural voice,
- help people who cannot speak – the computer can speak for them.

The ElevenLabs technology knows as many as 32 languages, so it can speak not only Polish but also English, Spanish, Japanese, and many other languages of the world!

It's a bit like the computer has gotten its very own voice!



In the world of new technologies, a “unicorn” is a company that has achieved enormous success and is worth more than one billion dollars.

Such companies are rare—just like real unicorns.

Eleven Labs

1. Your best friend is a unicorn.
What name would you give it?



.....

2. Finish the sentences about your friend — the unicorn

My unicorn speaks and

When it speaks, it sounds like

It helps people who

3. Create your own language.

Invent your own language – give it a name.

Write 5 words in your new language and explain what they mean in Polish.

1.
2.
3.
4.
5.

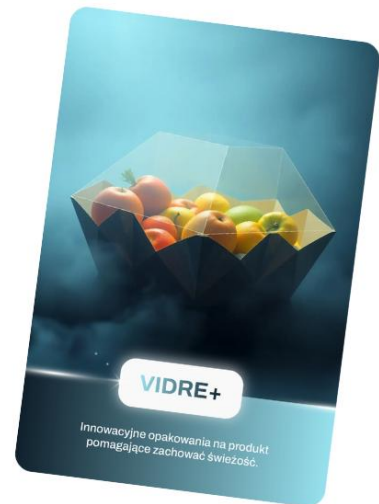


Vidre+™

Innovative packaging for products that helps keep them fresh

Did you know that fruits and vegetables can “go bad” if they sit for too long?

The company Vidre+™ came up with something that helps them stay fresh-looking and tasty for longer! It's a special sticker or packaging that keeps fruits, vegetables, flowers, and plants from wilting or spoiling too quickly. Thanks to this, we have less waste, and food doesn't get wasted.



Vidre+™ technology is like an invisible helper that takes care of our food and our planet. Thanks to it, apples stay crunchy, tomatoes juicy, and flowers beautiful for longer.

Avocado

It's a great example of the Vidre+™ technology in action!

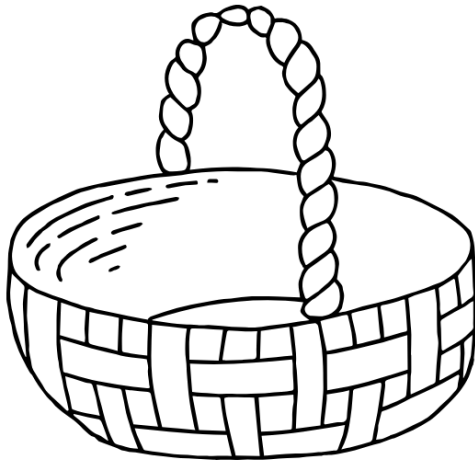
The result?

- 100% green fruit even after 46 days
- Extended shelf life
- Slower ripening
- Delayed softening
- Prevention of pulp damage

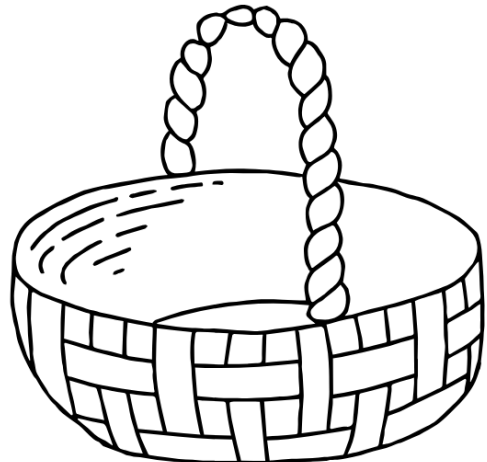


Vidre+™

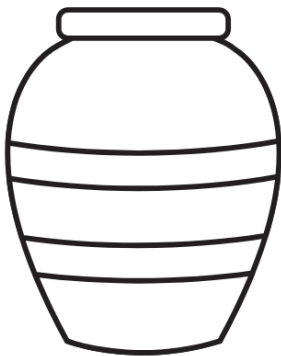
Draw your favorite products that Vidre+ will help stay fresh for longer:



FRUITS



VEGETABLE



FLOWERS



POTTED PLANTS



Bionic* Pancreas

fully functional 3D-printed organ

There is a small organ in our body called the pancreas. It helps with digestion and makes sure there's the right amount of sugar in the blood. However, sometimes the pancreas stops working properly – that's when a person gets diabetes.

Scientists in Poland have found an extraordinary solution! They created a bionic pancreas – a living pancreas printed with a special 3D printer. It's made of living cells and can produce insulin, a substance that helps keep blood sugar levels normal.

It's the first invention of its kind in the world! Thanks to the bionic pancreas, people with diabetes will be able to live healthier lives in the future – without insulin injections.

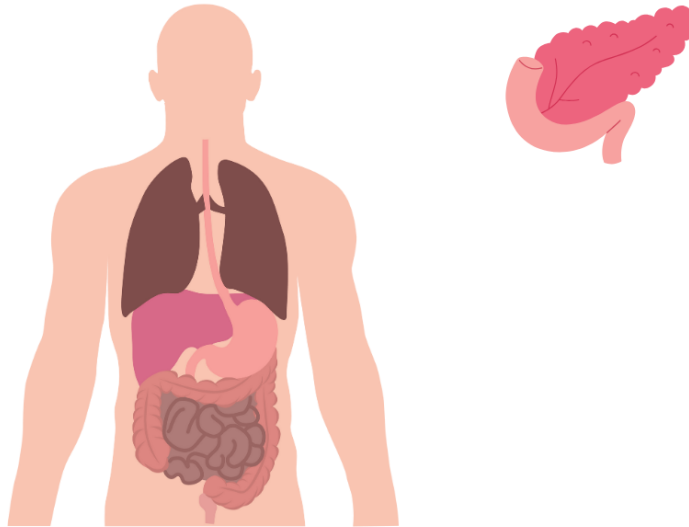


How is a bionic pancreas made?



Bionic Pancreas

1. In the illustration below, you can see the pancreas. Look at the internal organs of the human body. Find the pancreas in the human body and mark it.



2. Design a superhero who helps sick people.

Next to your drawing, write:

- the hero's name and what their power is,
- one sentence about how they help.



QUIZ

1. CAN YOU SEND A LIVE ANIMAL, SUCH AS A CAT OR A DOG, VIA A PARCEL LOCKER?

YES

NO

2. THE PANCREAS IS...

- A. AN ORGAN IN THE HUMAN BODY
- B. A POLISH INVENTION
- C. SMALL DUMPLINGS WITH VEGETABLES

3. THE KALMAN ROVER WAS CREATED TO WORK ON WHICH PLANET?

- A. MERCURY
- B. MARS
- C. JUPITER

4. THE IRIS IS A PART OF THE...

- A. PLANT
- B. HAND
- C. EYE

5. VIDRE+ HELPS EXTEND THE FRESHNESS OF FRUITS, VEGETABLES, FLOWERS, AND...

- A. POTTED PLANTS
 - B. GARDEN PLANTS
 - C. FIELD PLANTS
-

Bibliography

Bioniczna Trzustka. Innowacje. We Did It In Poland. Dostęp: 07.09.2025.

<https://wediditinpoland.eu/innowacje/bioniczna-trzustka/>

BLIK. BLIK – nowoczesna technologia płatności wirtualnych. Dostęp: 07.09.2025. <https://www.blik.com/>

ElevenLabs. Innowacje. We Did It In Poland. Dostęp: 07.09.2025.

<https://wediditinpoland.eu/innowacje/elevenlabs/>

ElevenLabs. Światowy lider w sektorze generatywnej sztucznej inteligencji audio. ISBtech.pl. Dostęp: 07.09.2025.

<https://www.isbtech.pl/2024/11/elevenlabs-zainwestuje-44-mln-pln-w-rozwoj-polskiego-ekosystemu-ai/>

BLIK. We Did It In Poland. Dostęp: 07.09.2025. <https://wediditinpoland.eu/innowacje/blik/>

Fundacja WłączeniPlus. Płatność spojrzeniem. We Did It In Poland. Dostęp: 07.09.2025.

<https://wediditinpoland.eu/innowacje/platnosc-spojrzeniem/>

Fresh Inset. VIDRE+™ – innowacyjne naklejki chroniące świeżość owoców i warzyw. Dostęp: 07.09.2025.

<https://freshinset.pl/produkty>

InPost. Paczkomat® InPost. We Did It In Poland. Dostęp: 07.09.2025.

<https://wediditinpoland.eu/innowacje/paczkomat-inpost/>

InPost. O InPost – Paczkomaty, Kurier, Przesyłki Kurierskie. Dostęp: 07.09.2025. <https://inpost.pl/o-inpost>

Łazik AGH Kalman. Innowacje. We Did It In Poland. Dostęp: 07.09.2025.

<https://wediditinpoland.eu/innowacje/lazik-agh-kalman/>

Mastercard Polska. Rozwiązania płatnicze, bezpieczeństwo transakcji, innowacje. Dostęp: 07.09.2025.

<https://www.mastercard.pl/pl-pl.html>

Ministerstwo Nauki i Szkolnictwa Wyższego. Polacy wydrukowali pierwszą na świecie bioniczną trzustkę z naczyniami. Gov.pl. Dostęp: 07.09.2025. <https://www.gov.pl/web/nauka/polacy-wydrukowali-pierwsza-na-swiecie-bioniczna-trzustke-z-naczyniami>

Varroa Stopper. O nas – geneza projektu, autorzy, wartości. Dostęp: 07.09.2025. <https://varroastopper.pl/>

VIDRE+. Innowacje. We Did It In Poland. Dostęp: 07.09.2025. <https://wediditinpoland.eu/innowacje/vidre-plus/>