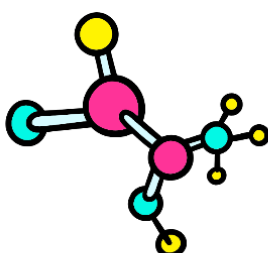
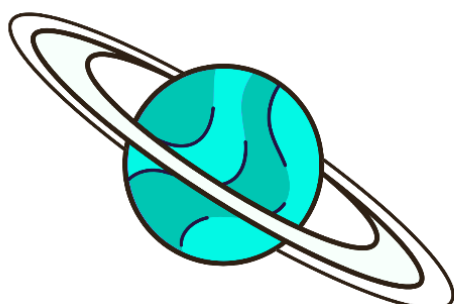
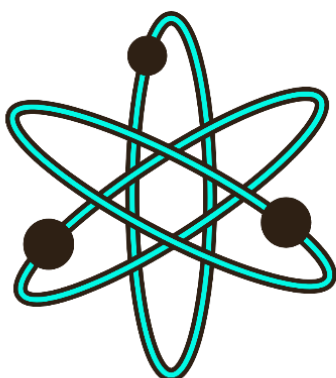
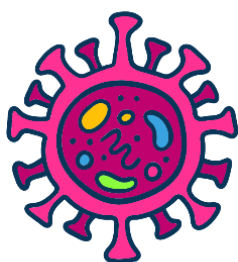


Topic: Poles Can Do It – Innovations That Inspire

Lesson duration: 45 minutes

Target group: secondary school students



General Objective

Students will learn about examples of Polish innovations from different periods and develop critical thinking and comparative analysis skills.

Specific Objectives

The student:

- Defines the term “*innovation*” and explains its significance for social and economic development;
- Provides examples of Polish innovations from various fields (medicine, technology, ecology) and historical periods;
- Searches for and selects information about Polish inventions using available sources;
- Compares and analyzes selected innovations in terms of the problems they solve, their impact on daily life, and design approaches;
- Critically evaluates innovations, discussing their importance, purpose, and long-term consequences;
- Expresses personal opinions about the most inspiring innovations and identifies traits shared by past and present innovators;
- Works collaboratively, presents conclusions, and participates in discussions;
- Strengthens a sense of pride in Polish scientific and technological achievements.

Teaching methods and implementation

The lesson will use various engaging and participatory methods that encourage students to explore and analyze:

- **Methods:** brainstorming, pair discussion, guided dialogue
- **Implementation:** The teacher asks students what Polish innovations they know. Students work in pairs to share ideas, then the class discusses them together. The teacher writes key examples on the board. If students mention mainly foreign inventions, the teacher highlights the richness of Polish innovation, emphasizing that many modern solutions were developed in Poland.

Teaching aids

Additional materials included at the end of the lesson plan enhance engagement by deepening knowledge and developing practical skills, leading to more lasting educational outcomes.

LESSON PROCEDURE

1. Opening exercise – „thematic energizer” – up to 7 minutes

Warm-up: The teacher asks: “*What inventions or innovations do you know that originated in Poland?*” Students think for a moment (they may discuss in pairs), then share ideas aloud.

Students might mention historical figures (e.g., Marie Skłodowska-Curie’s discoveries) or modern technologies (e.g., BLIK, 3D printing). The teacher writes several examples on the board. If students mostly mention foreign inventions, the teacher emphasizes that many modern solutions were developed in Poland.

The goal of the lesson is introduced: to learn about Polish innovations across different fields and understand what makes them unique.

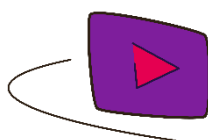
2. Teoretical introduction –up to 10 minutes

What is innovation?

The teacher asks the class how they would define “innovation” and then explains: *it means new or improved ideas, solutions, or technologies that bring value and solve specific problems.*

The teacher highlights the importance of innovation for social and economic progress (e.g., improving quality of life, advancing medicine, protecting the environment). It is also noted that Poland is a country of creative and entrepreneurial people, as shown in the “We Did It in Poland” campaign (<https://wediditinpoland.eu/>), which presents Poland as modern and innovative, inspiring pride in national achievements.

The teacher then shows a short video presenting examples of Polish innovations:



Afterward, the teacher emphasizes that each innovation solves a different problem – from medical to environmental – yet all share Polish creativity and global success, proving that Polish innovations can make the world a better place.

3. Quiz Historia vs. Współczesność – 15 minut

Students form groups of four. **Each group receives two sets of information (printed or written on cards).**

Set A – Inventions from the last 50–100 years (examples):

- Bulletproof vest (Kazimierz Żegleń, Jan Szczepanik)
- Car windshield wipers (Józef Hofmann – though the first prototype was made by Mary Anderson)
- Walkie-talkie (Henryk Magnuski)
- Blue laser (Sylwester Porowski)
- Mobile teleCTG system (Pregnabit) for remote fetal monitoring (Patrycja Wizińska-Socha)
- Perovskite-based flexible solar cells (Olga Malinkiewicz)

Set B – Inventions from the last 10 years:

- Bionic pancreas (Prof. Michał Wszota, Marta Klak PhD, Filip Fertner)
- InPost parcel lockers (Rafał Brzoska)
- SERio – plant-based lupin cheese (Monika Gaszyńska and Michał Gaszyński)
- Photon – educational robot for children (Marcin Joka, Michał Grześ, Maciej Kopczyński, Krzysztof Dziemiańczuk)
- ANS – data compression algorithm used globally in computers and smartphones (Jarosław Duda)

Tasks for groups:

1. Within 7 minutes, students research additional information (online or from teacher-provided materials) about their assigned inventions.
2. Each group compares old and new inventions, analyzing:
 - What problem did each invention solve?
 - Which inventions have a greater impact on daily life?
 - How has the design process of innovations changed?
 - How has the approach to solving problems evolved?

Each group presents short answers. The teacher leads an open discussion: “Which of today’s innovations do you find the most inspiring, and why?” Students share their views — for

example, some admire the bionic pancreas for saving lives, others appreciate InPost lockers for everyday convenience, while others value SERio for environmental impact.

4. Summary – class discussion – up to 5 minutes

The teacher moderates a reflection with critical questions:

- *Do new technologies always mean better solutions?*
 - *What traits do past and present innovators share?*
 - *Which inventions do you consider the most important, and why?*
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ADDITIONAL MATERIALS

Platforma Nauki Website: <https://platformanauki.pl/>

We Did It in Poland Campaign Website: <https://wediditinpoland.eu/>