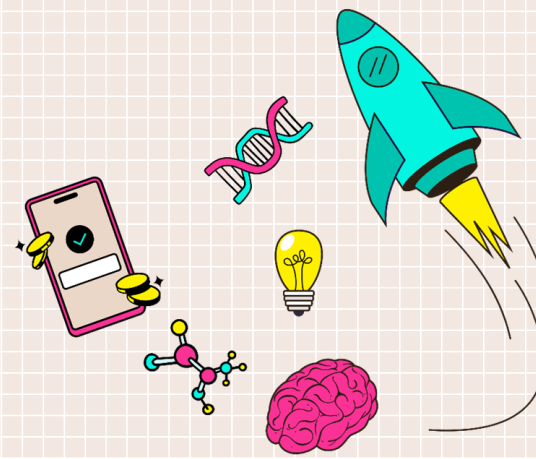


# Poles Can Do It – Innovations That Inspire

## Scenario for Students



**Lesson Duration:** 45 minutes

**A scenario for upper  
secondary school students**

**A lesson plan in flipped learning – prepared for students  
who want to lead a class for their classmates on their own!**

### General objective



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

### Specific Objectives



- 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

Opening exercise – „thematic energizer”	7 min.
<p><b>Warm-up:</b> The teacher asks: <i>“What inventions or innovations do you know that originated in Poland?”</i> Students think for a moment (they may discuss in pairs), then share ideas aloud.</p> <p>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.</p> <p><b>The goal of the lesson is introduced:</b> to learn about Polish innovations across different fields and understand what makes them unique.</p>	
<b>1. Teoretical introduction – up to 10 minutes</b>	



## 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.

## 2. History vs. Modern Times Quiz – 15 minutes

Students divide into groups of four. Each group receives two sets of information (described on separate sheets).

**Before the lesson, the following sets will need to be printed or rewritten!**

<b>Summary – class discussion – up to 5 minutes</b>	<b>5 min.</b>
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The person leading moderates the discussion, encouraging students to engage in critical analysis by asking questions such as: Do new technologies always mean better solutions? What traits connect innovators from the past with contemporary ones? Which inventions do you consider the most important and why?

## Additional materials

- **Platforma Nauki website:** <https://platformanauki.pl/>
- **We Did It in Poland campaign website:** <https://wediditinpoland.eu/>

## Suggestions for adaptations for the teacher

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#### **ENERGIZER + BRAINSTORMING**

##### **Challenge:**

- Students' shyness, reluctance to speak.
- Difficulty in spontaneously recalling examples.

##### **Adaptation**

- **Safe pairs mode**  
Instead of public speaking – discussion in pairs → write down two examples → only then share with the whole class.
- **Prompt cards**  
Cards with keywords placed on desks:  
medicine – ecology – transport – finance – communication – the first answer is created by choosing a category, not starting from scratch.
- **Alternative format**  
Students write their answers on sticky notes and place them on the board – the person leading reads the group's choices aloud.

#### **DEFINITION OF INNOVATION – ABSTRACT CONTENT**

##### **Challenge:**

- Concepts such as: social value, long-term impact, economic development.

##### **Adaptation**

#### **3P definition model: PROBLEM → IDEA → PRACTICE**

- Students relate each example only to these three steps.

**Sentence templates:**

"This innovation solves the problem of..."

"Its value lies in..."

"People benefit from it by..."

**Visual note**

Instead of a written description – arrows or icons showing problem–person–solution.

**VIDEO – DRAWING CONCLUSIONS****Challenge:**

- Working at a high level of interpretation.
- General reflections instead of analysis.

**Adaptation**

- **Closed-ended questions instead of an essay:**

What motivated the protagonists?

- money,
- helping people,
- passion,
- a personal problem.

What challenge did they overcome?

- lack of resources,
- lack of belief,
- lack of technology.

**One conclusion = one sentence**

Each pair writes down only one reflection instead of a full analysis.

**"History vs. Modern Times" quiz – comparative analysis****Challenge:**

- Comparing data.
- Cause-and-effect thinking.
- High information load.

## **Adaptation**

### **Division of roles within groups:**

- information selector
- note-taker (records conclusions)
- speaker
- timekeeper

### **Simplified table template:**

- problem
- solution
- effect

Students fill in only this table – without creating descriptive texts.

### **Reducing the workload:**

Each group analyzes 1 historical + 1 modern innovation instead of the full sets.

- Ready-made answer options for difficult questions:
- Designing today is more: team-based / technology-driven / environmentally focused.

### **Class discussion – argumentation**

#### **Challenge:**

- Difficulty forming an opinion.
- Stress about speaking in front of others.

## **Adaptations**

### **Sentence starters:**




"I believe this innovation is important because..."

"I agree with ... because..."

"I have a different opinion – I think that..."

## Non-verbal option:

Students vote using cards:

-  I agree
-  I'm not sure
-  I have a different opinion

Volunteers explain their vote.

## Universal principles for complex tasks

- Divide one task into three smaller steps.  
Essay → table → bullet point → multiple-choice selection.
- Discussion → pair discussion → voting → teacher summary.
- Allow oral, written, or visual responses.
- Fixed group roles reduce cognitive overload.

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