

Module 4 – Patents in Physics

Lesson Plan

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(*) Action: C = Creation, I = Insert, U = Update, R = Replace, D = Delete

REFERENCED DOCUMENTS

ID	Reference	Title
1	2020-1-UK01-KA201-078934	IPinSTEAM Proposal
2		

APPLICABLE DOCUMENTS

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1		
2		

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1. The invention school fair

1.1 General Information

Patents refer to the legal title attributed to an invention with an innovative and inventive character and with the potential to be applied to the industry¹. Teaching the concepts of patents in Physics inventions and the importance to protect an invention is an added value for students.

1.1.1 Brief Description

The following lesson plan entitled “*The invention school fair*” aims at promote and improve the students’ knowledge on key concepts of patents and its application within the field of Physics and identify the importance of protecting inventions in the field of Physics. Moreover, this lesson plan aims at promoting the critical thinking of the students on a practical situation regarding the application of patents to inventions.

1.1.2 Learning Objectives – Intellectual Property in STEAM topics

The students will be able to:

- Understand the key concepts of patents and its application within the field of Physics
- Identify the importance of protecting inventions in the field of Physics
- Identify the criteria that an invention needs to present to be patentable
- Understand the process of applying for a patent
- Cooperate with their peers to discuss the importance of protecting inventions in a practical situation and the process of applying to patents

1.1.3 Links to curriculum

The following lesson plan is linked to the STEAM subject “Physics”, more specifically to the importance of Patents in Physics inventions.

1.1.4 Duration

1 hour for a classroom of 20-25 students.

¹ https://ec.europa.eu/growth/industry/strategy/intellectual-property/patent-protection-eu_en

1.1.5 Extra materials required

For the following lesson plan, the following material is required:

- Computer with Internet connection
- Youtube video “*What is a Patent? How many types of patents? What is the Patentability Criteria?*” available at <https://www.youtube.com/watch?v=xP3bZzS5QUg>
- Additional readings provided by the teacher

1.2 Step-by-step instructions

1.2.1 Introduction or orientation

A video regarding patents is presented to the class:

<https://www.youtube.com/watch?v=xP3bZzS5QUg>

The teacher presents more information regarding the patents, particularly information regarding the European patent and the importance of protecting inventions in the field of Physics and asks the students to share their opinion, previous knowledge and potential questions.

1.2.2 Preparation or conceptualization

Then, the teacher divides the class in 10 groups of 2/3 students and asks the class to recreate a role-play scenario where they are in an Invention School Fair.

Five groups will recreate the inventors and have to present an invention in the field of Physics able to be patentable. The remaining 5 groups will act as visitors of the fair and have to advice the inventors to apply to a patent to protect their invention, presenting them the benefits, the types of patents and the process.

1.2.3 Investigation

Each group investigates online the readings suggested by the teacher during 15 minutes in order to be better prepared for their task.

After that, the role-play starts. Each group of visitors interacts with a group of inventors. The inventors present their invention and the visitors advice the inventors to apply to a patent to their invention.

1.2.4 Conclusion

The teacher summarizes the main points of the lesson and asks the class to present their questions and share their opinion regarding the importance/benefits of patents and what do they think of the application process.

1.3 Key questions for knowledge testing

Question 1: What are the three types of patents?

[Utility, Model, Design] [**Utility, Design, Plan**] [Utility, Design, Invention]

Question 2: Design patents usually apply for new and useful processes.

[True] [**False**]

Question 3: European patents applications usually comprise the filled request, the description of the invention, abstract, drawing, and claims.

[**True**] [False]

Question 4: One of the main criteria for an invention been patentable is to be useful for the industrial sector.

[**True**] [False]

Question 5: The European Commission is introducing a patent package that aims to assure a unified protection across Europe.

[**True**] [False]

2. Additional resources

2.1 Further reading

https://ec.europa.eu/growth/industry/strategy/intellectual-property/patent-protection-eu_en

<https://www.epo.org/index.html>

<http://documents.epo.org/projects/babylon/eponet.nsf/0/8266ED0366190630C12575E10051>

[F40E/\\$File/how_to_get_a_european_patent_2020_en.pdf](F40E/$File/how_to_get_a_european_patent_2020_en.pdf)

[European Patent Guide](#)

2.2 Appendix

Attach or include here any additional items such as student worksheets, hand-outs that accompany this lesson plan

References

https://ec.europa.eu/growth/industry/strategy/intellectual-property/patent-protection-eu_en

<https://www.epo.org/index.html>

[http://documents.epo.org/projects/babylon/eponet.nsf/0/8266ED0366190630C12575E10051F40E/\\$File/how_to_get_a_european_patent_2020_en.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/8266ED0366190630C12575E10051F40E/$File/how_to_get_a_european_patent_2020_en.pdf)