

Physics

Level: upper -intermediate (B2)

Time: 45 minutes

Aims:

- To learn about famous experiment
- To learn about famous physicists
- To learn about physics branches
- To develop reading skills
- To develop speaking skills
- To use the Internet to look for information
- To do an experiment

Language functions:

- To describe physics
- To talk about famous scientists
- To talk about famous discoveries related to physics
- To describe an experiment
- To discuss the influence of physics on our daily life.

CLIL: Physics and IT

Materials: Worksheets and web pages

Experiment: 2 vases, water, food colouring, flowers (white roses).

STAGE	AIMS	PROCEDURE	TIME	MATERIALS
Warm –up activity	The aim of this task is to get students interested in the topic and to get them to talk about physics and our everyday life. .	Start your lesson by asking your students a question: Why is the sky blue? Allow some time for a short discussion and then tell your students that today's topic is physics. Tell your students to go to page : http://www.physics.org/article-questions.asp?id=108 And read a short answer to the question about the colour of the sky. Explain any difficult words.	5-6 min	http://www.physics.org/article-questions.asp?id=108
Main part of the lesson	To get students interested in the topic and to check/develop their knowledge about the history of physics.	1. Introduction: Show your students a short video about the history of physics by BBC. http://vimeo.com/69381331 Ask your student to write down any names they recognize in the video. (There are famous physicists mentioned that student should be familiar with such as Newton, Einstein).	10 min	

	<p>To encourage thinking in an alternative way.</p>	<p>2. Physics can be fun! Ask your students to go to page : http://www.brainpickings.org/index.php/2011/10/19/open-university-thought-experiments/ And watch 6 short films about 6 famous thought experiments in 60 seconds. These funny animated films present famous thought by scientist in a clear, funny and interesting ways. Allow some time for a short discussion and feedback from your students.</p>	10 min	<p>http://www.brainpickings.org/index.php/2011/10/19/open-university-thought-experiments/</p>
	<p>To learn some facts about famous physicists and their discoveries.</p>	<p>3. Branches of physics. Ask your students to name any branches of physics they can. Make a list of possible ideas on the board. Then go to page: http://education-portal.com/academy/lesson/what-is-physics-definition-branches-fundamentals-topics.html#lesson and tell your students to read a short part about branches of physics. Make sure your students make a proper list in their notebooks and then do task – worksheet A</p>	10 min	<p>http://education-portal.com/academy/lesson/what-is-physics-definition-branches-fundamentals-topics.html#lesson</p>
	<p>To conduct an experiment</p>	<p>4. Famous scientist Ask your student to name any famous physicists they know. Try to make a top 10 list. Allow some time for a short discussion. Then go to page: http://famousphysicists.org/ and check the list you're your students. .</p>	5 min	<p>http://famousphysicists.org/</p>
		<p>5. Experiment: Tell your students to go to page: http://www.physics.org/marvinandmilo.asp?id=70 and read a short story about Marvin and Milo and their experiment: Roses are blue. Tell your students to try this experiment at home and observe the results.</p>	3-4 min	<p>http://www.physics.org/marvinandmilo.asp?id=70</p>
Wrap-up	<p>To summarize the material covered during the lesson. To talk about the project.</p>	<p>Tell your students to prepare a webquest about famous physicists. Each group gets one scientist to research. Students can work in the same groups as they did during the lesson. Allow 2-3 weeks to do the project.</p>	2 min	

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Sources:

<http://www.physics.org/article-questions.asp?id=108>

<http://www.brainpickings.org/index.php/2011/10/19/open-university-thought-experiments/>

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<http://education-portal.com/academy/lesson/what-is-physics-definition-branches-fundamentals-topics.html#lesson>

Credits:

Films: Physics - Short animation, which was part of the Science Club series on BBC2 hosted by Dara O Briain,

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And <http://www.open.edu/openlearn/history-the-arts/culture/philosophy>