

## Newton and his laws

*TOPIC* : physics, Newton's laws, motion, gravitation

*LEVEL* : upper intermediate/advanced

*Time* : 45 minutes

*Objectives:*

- to learn or revise vocabulary connected with Newton's laws
- to learn about the principle of motion
- to develop reading, speaking and listening comprehension skills
- to enable students use the Internet to gather specific information

*Language functions:*

- to exchange ideas about physics
- to understand a written text and listening material
- to communicate in English

*CLIL:* Physics, IT Technology

*MATERIALS:* websites, worksheets

For this lesson, you will need:

- Computer with Internet access

STAGE	AIMS	PROCEDURE	MATERIALS/ RESOURCES	TIME
<b>WARM UP</b>	-to get students interested in the topic  -to encourage them to work in pairs	<b>PAIR WORK</b>  Sts work in pairs. They are given a handout (worksheet 1) with some questions on physics. They take turns and ask each other questions. They are encouraged to ask follow up questions to get more details.	Worksheet 1	5 min
<b>MAIN PART OF THE LESSON</b>	- to develop reading comprehension, vocabulary, and summarizing skills	<b>READING COMPREHENSION</b>  Sts are told that they are going to read a text on Isaac Newton. They go the following website: <a href="http://www.biography.com/people/isaac-newton-9422656">http://www.biography.com/people/isaac-newton-9422656</a>  and read about this great physicist and mathematician. After accomplishing the task, they have to do one reading comprehension exercise (worksheet 2). When they finish, students compare answers with the rest of the class.	Worksheet 2  <a href="http://www.biography.com/people/isaac-newton-9422656">http://www.biography.com/people/isaac-newton-9422656</a>	10 min

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	<p>-to develop listening skills</p> <p>- to develop some terminology connected with physics</p> <p>-to enable students to explore the importance of Newton's laws</p>	<p><b>LISTENING</b></p> <p>Sts are asked what they know about Newton and his laws. They should have some basic knowledge gained at physics lessons so they should be able to define it in their own words.</p> <p>Sts are told that they are going to watch and listen to a short video about Newton and his three laws of motion. It is in a form of a cartoon. They are given a handout (worksheet 3) with some sentences they have to complete while listening. After they finish, they compare the answers with the rest of the class.</p>	<p>Worksheet 3</p> <p><a href="http://ed.ted.com/lessons/joshua-manley-newton-s-3-laws-with-a-bicycle">http://ed.ted.com/lessons/joshua-manley-newton-s-3-laws-with-a-bicycle</a></p>	<p>10 min</p>
	<p>-to revise vocabulary</p> <p>- to revise basic knowledge about motion</p>	<p><b>ONLINE QUIZ</b></p> <p>Sts go to the following website:</p> <p><a href="http://www.softschools.com/quizzes/science/newtons_laws/quiz384.html">http://www.softschools.com/quizzes/science/newtons_laws/quiz384.html</a></p> <p>where they find a self- check online which will test their knowledge of Newton's Three Laws of Motion. They will also be tested on their ability to apply Newton's three laws to real life examples.</p> <p>They complete the answers. If they find it difficult they can surf the Internet to find the answers or translate unknown vocabulary.</p>	<p><a href="http://www.softschools.com/quizzes/science/newtons_laws/quiz384.html">http://www.softschools.com/quizzes/science/newtons_laws/quiz384.html</a></p>	<p>15 min</p>
<p><b>WRAP - UP/ CLOSURE</b></p>	<p>-to revise vocabulary which sts came across during the lesson</p>	<p><b>WORDSEARCH PUZZLE</b></p> <p>Students get a handout (worksheet 4) with a word search featuring words related to physics and Newton's laws. If time does not allow to do it in the classroom, they will do it as their homework.</p>	<p>Worksheet 4</p>	<p>5 min</p>

### SOURCES:

<http://www.esldiscussions.com/p/physics.html>

<http://www.biography.com/people/isaac-newton-9422656>

<http://ed.ted.com/lessons/joshua-manley-newton-s-3-laws-with-a-bicycle>

[http://www.softschools.com/quizzes/science/newtons\\_laws/quiz384.html](http://www.softschools.com/quizzes/science/newtons_laws/quiz384.html)

[www.busyteacher.com](http://www.busyteacher.com)