

<b>Lesson (title): The Effects of Forces</b>	<b>Subject: Physics</b> <b>Topic: Forces</b>
Language competence level A1 <input type="checkbox"/> A2 <input checked="" type="checkbox"/> B1 <input type="checkbox"/> B2 <input type="checkbox"/> C1 <input type="checkbox"/>	Prerequisites / requirements: (e. g.: language or content revision or preparation; use of L1 in specified teaching segments) <b>Revision:</b> Students already know basic vocabulary such as: das Gesicht/der Ball/sich bewegen/ der Körper <b>New:</b> Vocabulary related to the effects of forces is new. This vocab. can be elicited
Class/grade: 6 <sup>th</sup> grade Number of students in class: 11	Age of learners:11 Duration of lesson(s): 80-85 minutes
<b>Content of lesson:</b> The effects of forces	



**Teaching aims/objectives**

Content: Students become aware of the effects of forces through: a. watching a short video b. carrying out experiments  
 Students classify the effects of forces into two general categories: change in the kinetics of bodies and the deformation of bodies.

Communication: Students talk about how forces acting on an object may cause the object to change shape (elastic or plastic deformation), to start moving, to stop moving, to accelerate or decelerate.

Cognition: Students identify the effects of forces; they carry out experiments, and classify the effects of forces into categories.

Culture/ community/ citizenship: Students talk about the effects of forces in everyday life

phase	Content	Objective/ Competence („can-do“ statements)	Student activity	Social form/ setting	Material , media, mobile lab	Language: C2 subject specific terminology	Language: communication & interaction	Teacher activity	Notes, comments on processes & outcomes = including affective outcomes, (self-) evaluation**
time									

<p><b>trigger</b> <b>5 -10 min.</b></p>	<p>the effects of forces</p>	<p>make guesses/talk about forces</p>	<p>Sts first look at the pic. on p. 2 and try to answer Q. 1-2 orally Then they watch the video on you YouTube (without sound!) <a href="https://www.youtube.com/watch?v=XjwO9InuFJk">https://www.youtube.com/watch?v=XjwO9InuFJk</a> and talk about why the ball moved/ what happened when the ball hit the man's face</p>	<p>planary</p>	<p>internet /video/ worksheet p. 2</p>	<p>Verzerrung plastisch, elastsich, sich bewegen werfen bremsen</p>	<p>Sts talk about what they saw in the video: Der Mann hat den Ball geworfen das Gesicht hat sich geändert</p>	<p>Lang T. and Stem T. motivate sts to talk, make guesses and provide input on the topic Then they show the video. Lang. T. keeps a note on BB of the new vocabulary when discussing the questions on p. 2</p>	<p>Sts liked the video and the laughed at the sight of the deformed face</p>
<p><b>introduce new vocab/ scaffolding</b> <b>15-20 min.</b></p>	<p>sts are able to understand vocab. related to the effects of forces</p>	<p>vocabulary: sts can identify the meaning of the words</p>	<p>wsts work in pairs and do matching activity</p>	<p>pairs</p>	<p>worksheet p.3</p>	<p>see worksheet p. 3</p>	<p>sts work together</p>	<p>Both T. go round the class and help if necessary</p>	<p>the vocab. proved to be necessary for the next steps</p>



<p><b>conclusion</b> <b>5-10 min.</b></p>	<p>the effects of forces</p>	<p>to keep a written formulation of the conclusion</p>	<p>sts write their conclusions on the worksheets on p. 4-5 (see Ts notes)</p>	<p>plenary</p>	<p>worksheet p. 4-5</p>	<p>sts write for example: <i>Die Büroklammer bewegt sich, wenn ich Kraft einsetze. Kräfte können den Bewegungszustand der Körper ändern</i></p>		<p>Lang.T. helps with the formulation of the conclusion</p>	<p>sts needed t's help with the formulation</p>
<p><b>transfer generalization application</b> <b>15-20 min</b></p>	<p>the effects of forces</p>	<p>talk about the effects of forces in everyday life situations</p>	<p>sts look at the pic. on p. 1 and p. 6 and make a note of examples of effects of forces in everyday life</p> <p>Sts describe the effects of forces they see on the pics on the SB Notebook and come to the SB and uncover it</p>	<p>pairs or groups</p> <p>plenary</p>	<p>worksheet p. 1 &amp; 6</p> <p>SB Notebook</p>	<p>Die Spieler werfen den Ball Die Männer schieben das Auto ...</p>	<p>bremsen, den Ball werfen, den Bogen anspannen....</p>	<p>Both T. encourage discussion and support the sts</p> <p>Lang. T. monitors</p>	<p>sts participated actively they particularly liked coming to the SB.</p>



<p>Revision ex A i) and ex Aii) if time allows otherwise this part can be carried out in the next lesson. Ex Ai) and ex B. can be set as homework</p>	<p>the effects of forces</p>	<p>classify the effects of forces</p>	<p>sts classify the effects of forces (elastic-plastic deformation-start-stop moving) in ex. Ai.) Then they play the guessing game  revise vocab in ex. B.</p>	<p>pairs ex Ai) or planar y ex. A ii) individual if set for home work</p>	<p>workshe et p.7-8</p>	<p>vocab. encountered during the lesson</p>	<p>sts work together</p>	<p>Both T. go round the class and help sts when necessary.</p>	<p>this part should not be rushed If time is not enough it is worth leaving it for the next lesson. Sts and T. enjoyed the guessing game.</p>
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FL/STEM and the domains of the 4Cs

<p>C1</p>	<p>Content / Learning outcomes</p>	<p>“know” (content): “be able to” (content, communication): “be aware” (content, cognition):</p>
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C2	Communication: Language learning & Interaction	Vocabulary (revisited) Vocabulary (new): subject matter specific (CALP) Vocabulary (new): general (BICS) Structures (focus on grammar) Language functions (information, argumentation, questioning, reasoning)
C3	Cognition / cognitive processing: LOTS & HOTS	Remembering / Identifying Comparing Classifying Predicting Reasoning Synthesizing / creating
C4	Culture / Community	Awareness (of scientific topic as relevant for the culture / community) Involvement (project continuation outside of classroom) Communication (proliferation of scientific results in community)

*\*\*Note: this column refers to the lessons implemented during the school year 2015-2016. The comments concern exclusively the academic hours the lesson was made and because of the uniqueness and diversity of each class, it should not be expected to be exactly the same during another lesson.*