



RESOURCES LINK

LEVEL 2 UNIT 14

VERSION 1 JANUARY 2014

SCIENCE

Level 2 and Level 3

WELCOME

Resources Link is an e-resource, provided by OCR, for teachers of OCR qualifications. It provides descriptions of, and links to, a variety of independent teaching and learning resources that you may find helpful.

In Resources Link you will find details of independent resources, many of which are free: where this is the case this has been indicated.

If you know of other resources you would like to see included here, or discover broken links, please let us know. We would also like to hear from you if have any feedback about your use of these, or other, OCR resources. Please contact us at resourcesfeedback@ocr.org.uk.

We leave it to you, as a professional educator, to decide if any of these resources are right for you and your students, and how best to use them.

To give us feedback on, or ideas about the OCR resources you have used, email resourcesfeedback@ocr.org.uk

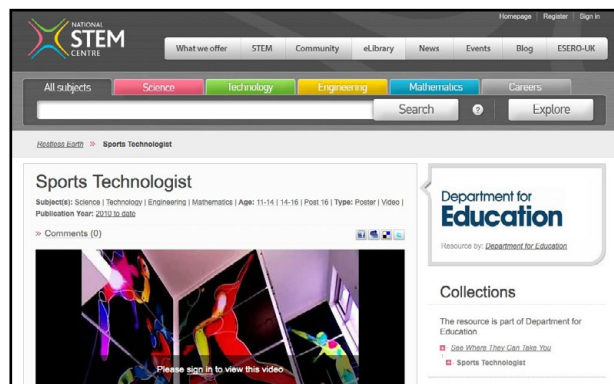
OCR Resources: *the small print*

OCR's resources are provided to support the teaching of OCR specifications, but in no way constitute an endorsed teaching method that is required by the Board and the decision to use them lies with the individual teacher. Whilst every effort is made to ensure the accuracy of the content, OCR cannot be held responsible for any errors or omissions within these resources.

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Sports Technologist



Video of a sports technologist talking about their job.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'

Cost: Free

Format: Website

<http://www.nationalstemcentre.org.uk/elibrary/resource/1039/sports-technologist>

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Physics and sport



An article which considers the contributions of physics to sport.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'

Cost: Free

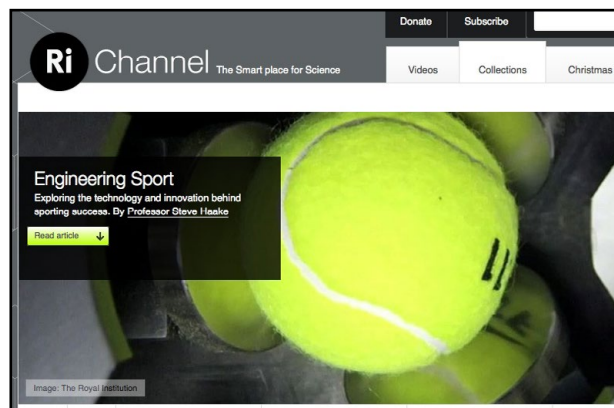
Format: Website

<http://www.iop.org/resources/topic/archive/sport/index.html>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

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A Brief History of Sport



Video from the Royal Institute channel covering the technological and scientific advancements have played a key role in the evolution of sport.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'

Cost: Free

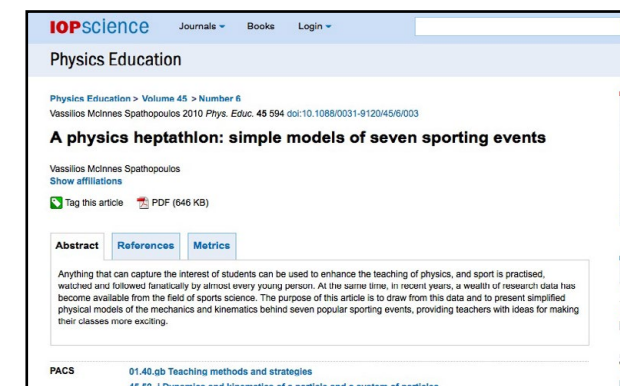
Format: Website

<http://www.richannel.org/collections/2012/engineering-sport/a-brief-history-of-sport>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

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A Physics Heptathlon: Simple Models of Seven Sporting Events



A journal article that provides background information and worked examples of the physics content of unit 14.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'

Cost: Free

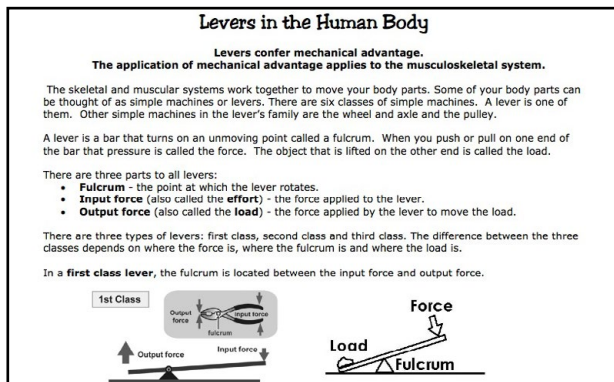
Format: Website

<http://iopscience.iop.org/0031-9120/45/6/003?fromSearchPage=true>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

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Levers in the Human Body



Worksheet providing a simple introduction to identifying different classes of levers in the body.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'– LO1 Understand the application of levers in sport.

Cost: Free

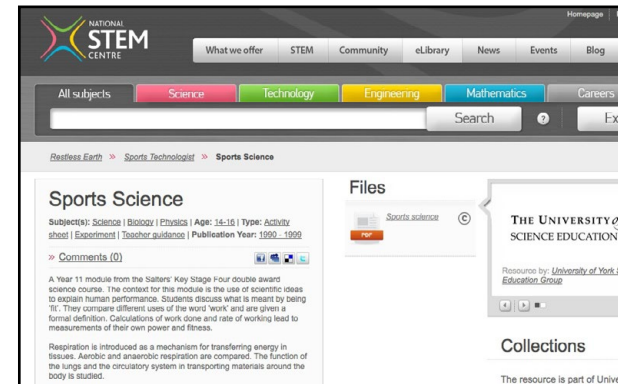
Format: Website

<http://www2.mbusd.org/staff/pware/labs/LeversBody.pdf>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

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University of York Science Education Group Activity Book



Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'– LO1 Understand the application of levers in sport.

Cost: Free

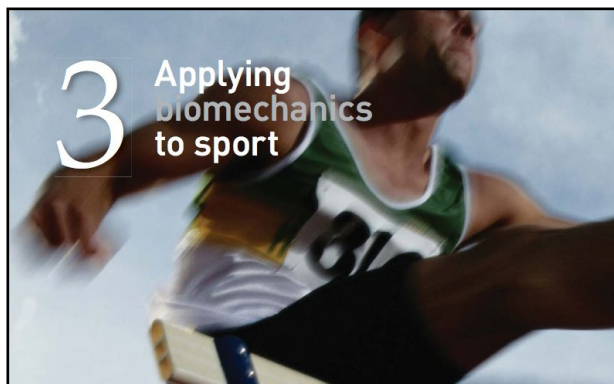
Format: Website – fee registration required

<http://www.rsc.org/Education/Teachers/Resources/jesei/magflip/home.htm>

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Applying Biomechanics to Sport



OUP Health and Physical Education chapter on biomechanics.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO2
Know that forces affect the movement of objects in sport.

Cost: Free

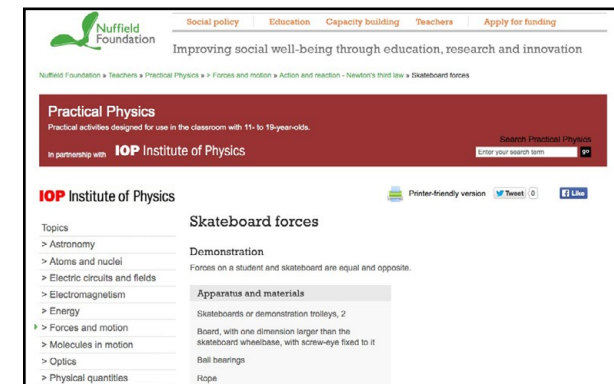
Format: Website

http://www.oup.com.au/titles/secondary/health_and_physical_education/physical_education/queensland/9780195573862/03_RUS_QSPE_3pp.pdf

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Skateboard Forces



Details of a practical demonstration which explores the idea that when two bodies interact they exert equal and opposite forces on each other.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO2
Know that forces affect the movement of objects in sport.

Cost: Free

Format: Website

<http://www.nuffieldfoundation.org/practical-physics/skateboard-forces>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

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What do I Tell my Athlete?



Royal Institute channel video which shows how a diving coach uses force plate data to help them feed back to their athletes and improve their movements.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO2
Know that forces affect the movement of objects in sport.

Cost: Free

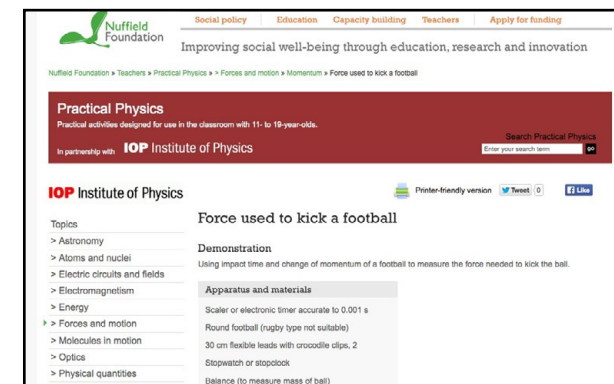
Format: Website

<http://www.richannel.org/collections/2012/engineering-sport#/what-do-i-tell-my-athlete>

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Force Used to Kick a Football



Details of a demonstration about using impact time and change of momentum of a football to measure the force needed to kick the ball.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO2
Know that forces affect the movement of objects in sport.

Cost: Free

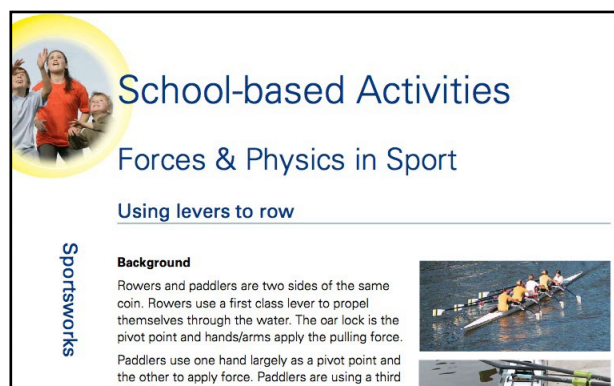
Format: Website containing a video

<http://www.nuffieldfoundation.org/practical-physics/force-used-kick-football>

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School-based Activities – Forces & Physics in Sport



An activity pack based on forces in sport.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO3
Know how to vary the effect of friction on moving objects.

Cost: Free

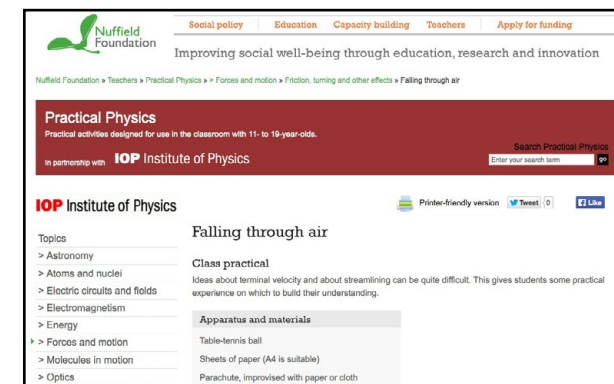
Format: Website

<http://museumvictoria.com.au/pages/2613/sportsworks-activities-forces-and-physics.pdf>

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Falling Through Air



Details of a class practical on terminal velocity and streamlining.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO3
Know how to vary the effect of friction on moving objects.

Cost: Free

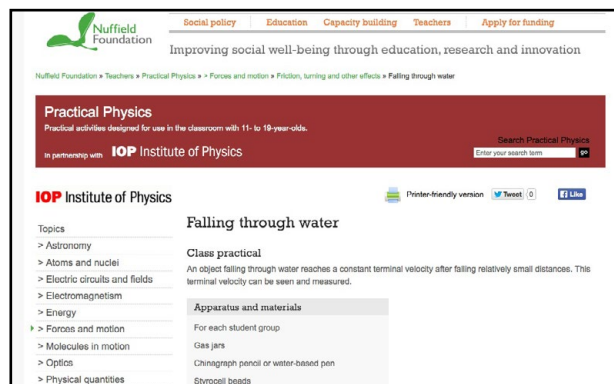
Format: Website

<http://www.nuffieldfoundation.org/practical-physics/falling-through-air>

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Falling Through Water



Details of a class practical on terminal velocity and streamlining.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'- LO3
Know how to vary the effect of friction on moving objects.

Cost: Free

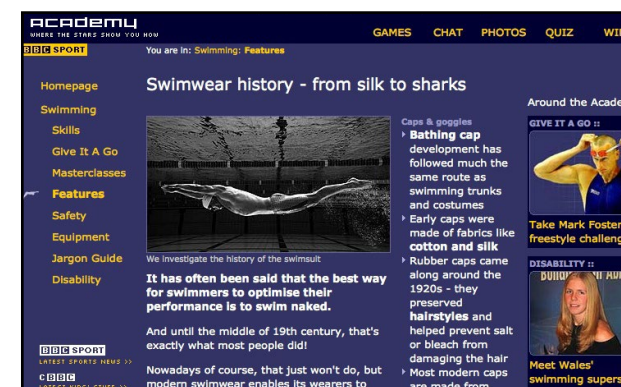
Format: Website

<http://www.nuffieldfoundation.org/practical-physics/falling-through-water>

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Swimwear History - From Silk to Sharks



Article about how swimwear has changed overtime.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'- LO3
Know how to vary the effect of friction on moving objects.

Cost: Free

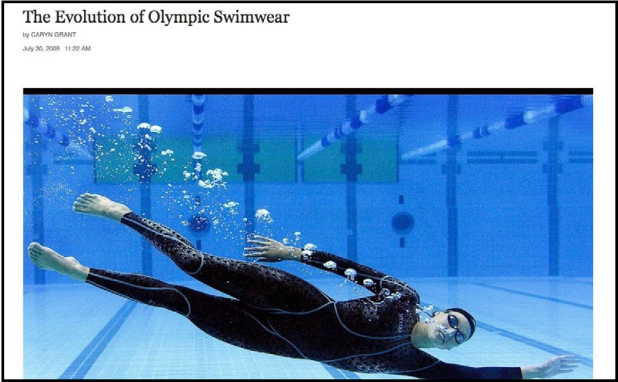
Format: Website

http://news.bbc.co.uk/sportacademy/hi/sa/swimming/features/newsid_3909000/3909817.stm

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The Evolution of Olympic Swimwear



A history of competitive swimsuits.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO3
Know how to vary the effect of friction on moving objects.

Cost: Free

Format: Website

http://www.npr.org/blogs/pictureshow/2009/07/the_evolution_of_olympic_swimw.html

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Olympic Swimwear Developed From Shark Skin



An article about high-performance swimwear.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO3
Know how to vary the effect of friction on moving objects.

Cost: Free

Format: Website

http://www.nhm.ac.uk/about-us/news/2004/aug/news_4044.html

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The Physics of Spin in Sport



This is an interactive resource which provides information on the dynamics of flight for different projectiles in sport: a cricket ball, golf ball, football, tennis ball, Frisbee and a shuttle cock.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO3
Know how to vary the effect of friction on moving objects.

Cost: Free

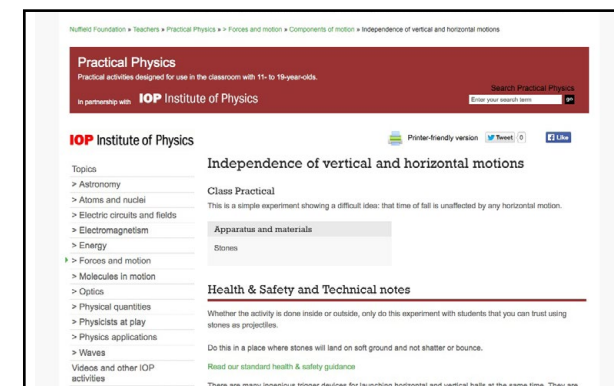
Format: Website – fee registration required

http://www.bbc.co.uk/science/earth/atmosphere_and_climate/atmosphere#p00gbf6k

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Independence of Vertical and Horizontal Motions



Details of a class practical to address the difficult concept that time of fall is unaffected by any horizontal motion.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport' – LO4
Know how physics can be used to predict and improve techniques in sport.

Cost: Free

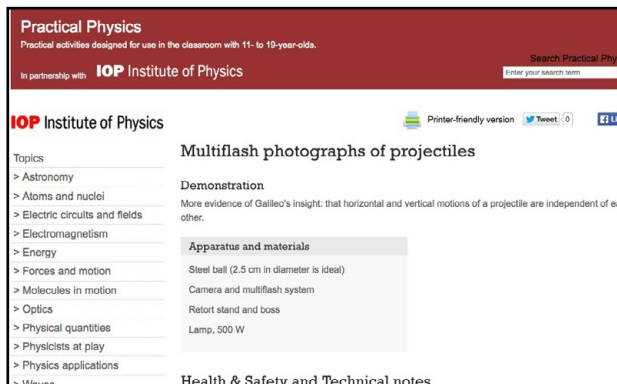
Format: Website

<http://www.nuffieldfoundation.org/practical-physics/independence-vertical-and-horizontal-motions>

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BBC Mutlflash Photography of Projectiles



Details of a demonstration to show that horizontal and vertical motions of a projectile are independent of each other.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'– LO4 Know how physics can be used to predict and improve techniques in sport.

Cost: Free

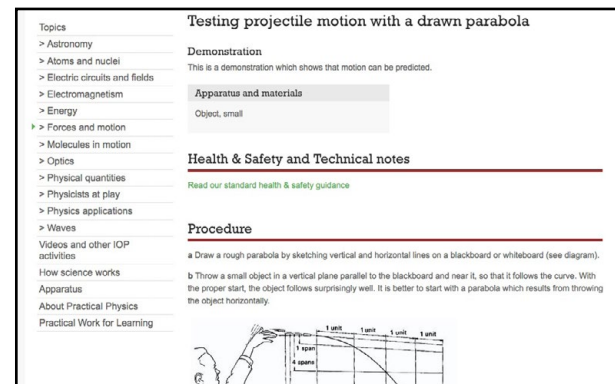
Format: Website

<http://www.nuffieldfoundation.org/practical-physics/multiflash-photographs-projectiles>

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Testing Projectile Motion With a Drawn Parabola



Details of a demonstration to show that motion can be predicted.

Supports: Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'– LO4 Know how physics can be used to predict and improve techniques in sport.

Cost: Free

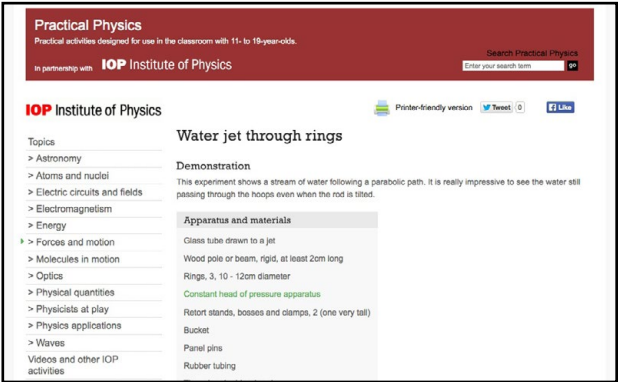
Format: Website

<http://www.nuffieldfoundation.org/practical-physics/testing-projectile-motion-drawn-parabola>

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Water Jet Through Rings



Details of a demonstration to show how a stream of water following a parabolic path.

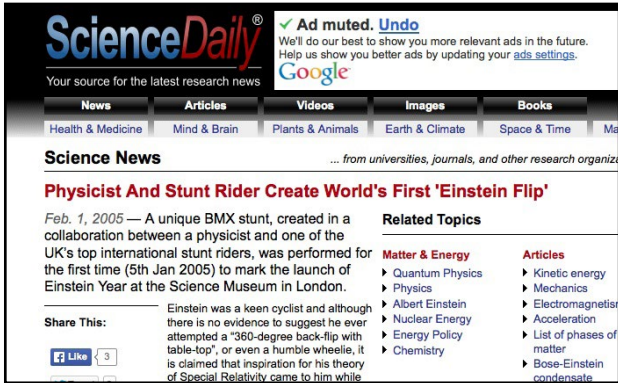
- Supports:** Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'– LO4 Know how physics can be used to predict and improve techniques in sport.
- Cost:** Free
- Format:** Website

<http://www.nuffieldfoundation.org/practical-physics/water-jet-through-rings>

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Science News - Physicist And Stunt Rider Create World's First 'Einstein Flip'



News article.

- Supports:** Cambridge Technicals Science Level 2 Unit 14 'Physics in sport'– LO4 Know how physics can be used to predict and improve techniques in sport.
- Cost:** Free
- Format:** Website

<http://www.sciencedaily.com/releases/2005/01/050131225346.htm>

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- Levers in the Human Body
- University of York Science Education Group activity book

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- What do I Tell my Athlete?
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- Mutliflash photography of projectiles



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- Water jet through rings
- Science News – Physicist And Stunt Rider Create World's First 'Einstein Flip'





SCIENCE

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