









[www.physicsconcepts.co.uk](http://www.physicsconcepts.co.uk)

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Contents of the USB memory-stick/back-up CD-ROM

	Copyright-free Handouts	stdnt_boyle.doc stdnt_hooke.doc stdnt_moments.doc stdnt_newton.doc stdnt_ohm.doc tchr_boyle.doc tchr_hooke.doc tchr_intro.doc tchr_moments.doc tchr_newton.doc tchr_ohm.doc	Word 2000 student and teacher worksheets that can be edited as required. N.B. normally printed off by school or college.
	Demos	ct_adv.swf ct_basic.swf ct_high.swf ct_inter.swf  ct_password_remove.swf hooke_demo.swf plug.swf	Circuit Trainer Flash demos, from advanced, basic, higher and intermediate. Password removal Hooke simulation Three-pin Plug
	autorun	autorun.txt	Autostarts when running from a CD
	Circuit Trainer	CircuitTrainer.exe	CIRCUIT TRAINER PROGRAM
	Physconcepts	physconcepts.exe	PHYSCONCEPTS PROGRAM
	Icon	physicon.ico	Icon when running from a CD
	Licence Agreement	USB_Licence_Agreement.txt	Unlimited site licence details
	Installation Instructions	USB_PC_CT_Install.doc	Printed copy in the DVD box

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2. Hooke's Law
3. Boyle's Law
4. Ohms' Law
5. Newton's Laws
6. Moments

## *Recommended Websites and Products*

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

[www.bbc.co.uk/schools/revision/index.shtml](http://www.bbc.co.uk/schools/revision/index.shtml)

[www.promethean.co.uk](http://www.promethean.co.uk)

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

[www.philipharris.co.uk](http://www.philipharris.co.uk)

[www.cgpbooks.co.uk](http://www.cgpbooks.co.uk)

*Other sites are mentioned in the text.*

# **Introduction to Physconcepts**

## **Teacher notes are written in blue.**

*Physconcepts is written in Macromedia Director with some Flash incorporated. The program is saved as an exe (executable file), so it should run as a stand-alone. All the handouts and teacher's notes (in Windows 2000) are on the USB/CD-ROM or can be downloaded from the Internet copyright-free. This means that they can be modified, photocopied etc. as required (but not for profit!) However, they are designed to be used with the Physconcepts program, and can also be projected onto a screen or any interactive white-board. There is usually quite a bit of space on each page to add your own ideas. Obviously the teaching order is your choice, and as the notes are free, any feedback or ideas sent to [info@physconcepts.co.uk](mailto:info@physconcepts.co.uk) would be greatly appreciated.*

### **The Programs**

**Hooke's Law** *Extension directly proportional to load.*

**Boyle's Law** *Volume inversely proportional to the pressure.*

**Ohm's Law** *Current directly proportional to the voltage.*

*Current inversely proportional to the resistance.*

**Maths Tutor** *Introduction to rearranging  $a = b \times c$*

**Moments** *Uses  $a \times b = c \times d$*

*The equation symbols change size, helping the idea of proportionality.*

**Newton's Laws** *An introduction to the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> laws.*

**Differentiation** *Various references are made in the text to areas that are suitable for more able or less able students.*

**Visually Impaired Students** *Every effort has been made to make the screenshots as clear as possible, and the handouts can be modified for individuals. For students with a high level of visual impairment a screen reader can be used. See [www.macromedia.com](http://www.macromedia.com)*

**Quizzes** *'The art of teaching is asking the right questions'. The quizzes are written to encourage whole class participation when used on a whiteboard, and also for individual learning when used singly by students. Answers are given with indications for possible discussions.*

**Practicals** *Students should be encouraged to write their own methods.*

**Hooke's Law** *is a standard practical using springs that will be a 'hands on' version of the program experiment.*

**Boyle's Law** *is designed around the Philip Harris apparatus that can be demonstrated to a class.*

**Ohm's Law** *can be used with any 'clip together' apparatus such as Locktronics, together with resistors of  $1k\Omega$ ,  $2k\Omega$  and  $3k\Omega$ .*

**Moments Experiment** *uses a metre rule, retort stand and weights.*