

Using Physics Applets and Simple-to-use Web-based Materials

Compiled by Gerry Blake (IOP Teacher Network Coordinator in Norfolk and Suffolk)
for the ASE Annual Conference January 2009 at the University of Reading.

(Getting Practical; How to Make Science Teaching Come Alive!)

An electronic copy of this Word document is available free of charge @
www.iop.org >Schools and Colleges >Physics Teacher Network >Norfolk and Suffolk

If you know of or find any more excellent applets that are not on this list please email me @
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Top Applet Sites:

No.	Topic ^(Level)	URL	Comment
		http://phet.colorado.edu/index.php	>Play with sims >All Sims (>Thumbnail View)
1	Elect/Mag	Generator/Faraday's Electromagnetic Lab	Generate electricity with a bar magnet!
2	Energy ^(KS3/4)	Energy Skate Park	Conservation of energy with a skater dude!
3	Matter	Gas Properties/Balloons & Buoyancy	Pump gas molecules into box.
4	Motion ^(KS3/4)	Lunar Lander	Classic game simulating motion of a lunar lander.
5	Atomic	Nuclear Physics	Control energy production in a nuclear reactor!
6	Elect/Mag ^(KS4)	Ohm's Law	The sizes of symbols change to match the circuit.
7	Quantum	Photoelectric Effect	See how light knocks electrons off a metal target.
8	Waves	Radio Waves & Electromagnetic Fields	Oscillate the transmitter electron automatically.
9	Waves	Sound	This simulation lets you see sound waves!
10	Waves	Wave Interference	Create an interference pattern with sound or light.
11	Waves	Wave on a String	Watch a string vibrate in slow motion.
12	Atomic	Models of a Hydrogen Atom	How a predicted model matches experiment.
13	Atomic	Rutherford Scattering	Observe alpha particles scattered by nuclei.
		http://jersey.uoregon.edu	
14	General	Astrophysics - Elemental Spectra	Clicking on an element shows its line spectrum.
15	Motion	Mechanics - Momentum	Explore conservation of linear momentum
16	Matter ^(KS3/4)	Thermodynamics - Balloon	Increase temperature and see particle velocities.
		http://micro.magnet.fsu.edu/optics/tutorials	
17	Light ^(KS3/4)	Refraction of Light	Change the media, angle and wavelength of light.
18	General	Powers of Ten	The Universe Within – macro to micro!
		http://micro.magnet.fsu.edu/electromag/java	
19	Elect/Mag	Faraday's Electromagnetic Induction Expt	With two coils wound around a ring of soft iron.
20	Elect/Mag	AC Generator Action	Change the frequency at which the coil turns.
21	Elect/Mag	DC Generator Action	Change the frequency at which the coil turns.
22	Elect/Mag	How a transformer works	Adjust input voltage and number of windings.
		www.colorado.edu/physics/2000/applets	
23	Matter	Evaporative Cooling	See how evaporative cooling works.
24	Waves	The Doppler Effect: Source (and Observer)	Two applets on the Doppler effect with sound.
		www.walter-fendt.de/ph14e	
25	Motion ^(KS4)	Motion with Constant Acceleration	Car with constant acceleration (a, v & x-t graphs)
26	Waves	Standing Wave	Explanation by superposition with reflected wave.
27	Waves	Standing Longitudinal Wave	Shows the harmonics in an open/closed tube. (And www.physics.smu.edu/~olness/www/05fall1320/applet/pipe-waves.html based on this.)
28	Waves	Reflection and Refraction of Light Waves	Explanation by Huygens' Principle.
		www.upscale.utoronto.ca/PVB/All.html	>Flash Animations for Physics.
29	Motion ^(KS4)	Motion Animation	A car with constant acceleration.
30	Motion ^(KS4)	Galilean Relativity	Dropping a ball from the top of the mast.
31	Motion ^(KS4)	The Monkey and the Hunter	As the hunter fires the monkey drops a coconut!
32	Motion ^(KS4)	Racing Balls	Which ball will reach the end of the track first?
33	Motion	Air Track Collisions	Elastic and inelastic collisions on an air track.
34	Motion	Simple Harmonic Motion I (& II)	Circular motion maps simple harmonic motion.
35	Light ^(KS3/4)	Reflection and Refraction	Illustrating refraction and total internal reflection.
36	Quantum	The Double Slit Experiment 1	Feynman Double Slit Experiment for electrons.
37	Relativity	Deriving Length Contraction	Length contraction follows from time dilation.
38	Waves ^(KS4)	Pressure and Displacement Waves	Longitudinal and transverse waves compared.

39	Waves	Reflections From a Barrier (From Two Barriers)	Superposition as a wave reflects from a barrier.
40	Waves	Standing Waves (<i>Two applets</i>)	With a Node on Both Ends (on One End).
		www.ngsir.netfirms.com	>English
41	Motion ^(KS4)	Kinematics of 1 D uniformly accelerated motion	Via Mechanics page.
42	Motion	Inclined plane	Via Mechanics page.
43	Motion	Conical pendulum	Via Mechanics page.
44	Waves	Formation of beats	Via Light and Wave page.
45	Waves	Interference of water waves I	Via Light and Wave page.
		www.surendranath.org/Apps.html	
46	Waves	Spring Mass Oscillations	Via New Applets >Menu >Oscillations
47	Waves	Beats and Hear the Beats	Via New Applets >Menu >Waves
48	Elect/Mag	Moving Conductor in a Magnetic Field	Via New Applets >Menu >Electricity
49	Light	Fermat's Principle	Via New Applets >Menu >Optics
50	General	Black Body Radiation	Via New Applets >Menu >General
51	Motion ^(KS4)	Apply the Brakes	Via Kinematics page.
52	Motion ^(KS4)	Catch Up	Via Kinematics page.
53	Motion	Boat and River	Via Kinematics page.
54	Light	Young's Double Slit Experiment	Via Optics page.
55	Light	Single Slit Diffraction	Via Optics page.
		www.phy.ntnu.edu.tw/java/index.html	
56	Motion ^(KS4)	Reaction Time Measurements	Via Mechanics page.
57	Motion	Simple Harmonic Motion	Via Mechanics page.
58	Motion ^(KS3/4)	Projectile/Satellite Orbits	Via Dynamics page.
59	Waves	Moving point source (Doppler effect...)	Via Waves page.
60	Waves	Superposition of Pulses	Via Waves page.
61	Waves	Fourier Synthesis	Via Waves page.
62	Waves	Transmission of Wave	Via Waves page. (Huygens)
63	Light	Propagation of electromagnetic wave	Via Electromagnetics page.
64	Light	Thin Lens / mirror	Via Light/Optics page.
65	Light ^(KS3/4)	The world above the water surface (refraction)	Via Light/Optics page.
		http://lectureonline.cl.msu.edu/~mmp/applist	Click 'applets.htm10-Sep-2003'
66	Matter ^(KS3/4)	Diver	Via Rotational Motion, Statics
67	Atomic	Nuclear Chain Reaction	Via Nuclear Physics
		http://demonstrations.wolfram.com	Mathematica Player free download needed
68	Motion ^(KS4)	Weight of a Person Riding in an Elevator	> Physical Sciences > Physics (view all) >Search
69	Elect/Mag	AC Transformers	> Physical Sciences > Physics (view all) >Search
70	Waves	Fourier Synthesis for Selected Waveforms	> Physical Sciences > Physics (view all) >Search
71	Motion ^(KS3/4)	Free Fall on the Solar System Planets	> Physical Sciences > Physics (view all) >Search
72	Motion	Mechanical Work	> Physical Sciences > Physics (view all) >Search
73	Motion	Block on a Frictionless Inclined Plane	> Physical Sciences > Physics (view all) >Search
74	Waves	Superposition of Sound Waves	> Physical Sciences > Physics (view all) >Search
75	Light	Cassegrain (Newtonian Reflecting) Telescope	> Physical Sciences > Physics (view all) >Search
76	Elect/Mag	AC Power Factor Principle	> Physical Sciences > Physics (view all) >Search
77	Quantum	The Photoelectric Effect	> Physical Sciences > Physics (view all) >Search
78	Motion	Shooting a Bullet from a Car	> Physical Sciences > Physics (view all) >Search
79	Quantum	Wave-Particle Duality in the Double-Slit Expt	> Physical Sciences > Physics (view all) >Search
80	Waves	Beats Working	> Physical Sciences > Physics (view all) >Search
81	Energy	Straight Cylinder Engine	> Physical Sciences > Physics (view all) >Search
82	Waves	Wave Interference	> Physical Sciences > Physics (view all) >Search
83	General	Inverse Square Laws	> Physical Sciences > Physics (view all) >Search
		www.freezeray.com/physics.htm	
85	Waves	Transverse and Longitudinal Waves	Change wavelength and amplitude.
86	Waves	The Doppler Effect	Change speed of source.
		www.stmary.ws/physics/home/animations3	
87	Motion ^(KS4)	Projectile Fired Horizontally & Vx	Via Motion in a Plane
88	Quantum	The Photoelectric Effect	Via Modern Physics
		http://chaos.nus.edu.sg/simulations	
89	Light	The Propagation of Light	...at the interface between two different media.
90	General	Brownian Motion	Brownian Motion!
91	Waves	Superposition of waves	Music synthesis.
92	Matter	Space elevator	How strong would the cable need to be?

93	Quantum	Interference - Particles or Waves?	Is an electron a particle or a wave?
94	Relativity	Mass is Relative www.physicslab.co.uk	The mass of an object depends on its speed. Download thumbnail 'All programs in one' or:
95	Waves	Two-slit interference	Click on the thumbnail for the download.
96	Matter	Gas Laws http://physics-animations.com	Click on the thumbnail for the download. Download Physics Animations or
97	Waves	Mechanics >Harmonic Oscillation	Show online (Right click >zoom >full screen) or
98	Space	Mechanics >Satellite Motion	Show online (Right click >zoom >full screen) or
99	Space	Top 10 >Cavendish's torsion-bar experiment or Right click thumbnail > Save Image As	Show online (Right click >zoom >full screen) or Then PowerPoint > Insert >Picture >From File
100*	200* sims	www.colpus.me.uk VPLab:free via IOP INSET www.explorescience.com or www.explorelearning.com or www.hazelwood.k12.mo.us/~grichert/explor_e/dswmedia/interact.htm	Click Simulations >Quick Tour (or Screen Shots) (Limited free use – few per day & 5 min time-out) Browse Gizmos (For free access to some 'Classic Gizmos')
101	Motion	Shoot the Monkey (Classic)	Classic Gizmos (near bottom of page)
102	Motion	Inclined Plane (Simple Machine)	>Grade 9-12 Physics >Motion and force
103	Motion	Fan Cart Physics <small>(see reference 1 below)</small>	>Grade 9-12 Physics >Motion and force
104	Matter	Boyle's Law and Charles' Law	>Grade 9-12 Physics >Fluids
105	Light	Ray Tracing (Lenses)	>Grade 9-12 Physics >Waves, sound, and light
106	Waves	Doppler Shift Advanced	>Grade 9-12 Physics >Waves, sound, and light
107	Quantum	Photoelectric Effect	>Grade 9-12 Physics >Waves, sound, and light
108	Waves ^(KS4)	Earthquake - Determination of Epicenter	>9-12 Earth & space science >Earth's surface...
109	Space	Star Spectra	>9-12 Earth & space sc. >The solar system...
110	Space	H-R Diagram http://web.mit.edu/8.02t/www/802TEAL3D (http://ephysics.physics.ucla.edu/MIT)	>9-12 Earth & space sc. >The solar system...
111	Elect/Mag	The Falling Magnet Applet (fallingmagnet.jnlp)	Via Faraday's Law
112	Elect/Mag	Two Point Charges (pcharges.jnlp)	Via Electrostatics
113	Elect/Mag	Charging a Van de Graff... (vandegraff.jnlp)	Via Electrostatics
		www.int.pan.wroc.pl/gm/javaphysmath or via www.otagophysics.ac.nz/Physics100 or www.phys.hawaii.edu/~teb/optics/index.html or www.physics.uoguelph.ca/applets	Click 'index.html' (>Simulations/ >Gamelan/) (>Intro_physics/ >kisalev/)
114	Light	Single Slit Diffraction	Change light colour and slit width
115	Light	Image Formation by a Converging Lens http://galileoandinstein.physics.virginia.edu	Move the object
116	General	Einstein's Explanation of Brownian Motion	Via Applets!
117	Motion	Two-dimensional collisions	Via Applets!
118	Space ^(KS3/4)	Newton's Cannon on a Mountain	Via Flashlets!
119	Space	Jupiter Slingshot	Via Flashlets!
120	Waves	The Doppler Effect	Via Flashlets!
121	Energy	Carnot Cycle	Via Flashlets!
122	Relativity	Lightclock	Via Flashlets!
123	Light	Young's Interference Experiment www.7stones.com	Via Flashlets! Click 'Math/Science'
124	Various	Almost Full 7physics Tutorial Tool	7stones Virtual Physics
125	General	7stones Graphing Calculator	Scientific calculator with a twist!
126	General	7stones Graphing Calculator	Under 'Calculator' at bottom of page
127	Waves	Longitudinal and Transverse Wave Sums	Under 'Waves'
128	Waves	2D Wave Interference in 3D	Under 'Waves'
129	Waves ^(KS3/4)	Longitudinal and Transverse Wave Lab	Under 'Waves'
130	Matter	Pressure x Volume proportional to Temperature www.seed.slb.com/en/scictr/lab	Under 'Thermodynamics' Click 'Virtual Lab' at bottom of page
131	Waves	Earthquake Epicenters	2000 earthquakes between 1999 and 2003
132	Waves	The Doppler Train	Click picture for simulation
133	Matter	Viscosity Explorer	Click picture for simulation
134	Motion ^(KS3/4)	Galileo Drops the Ball www.ngsir.netfirms.com/englishVersion.htm	Click picture for simulation
135	Motion	Inclined plane	Via 'Mechanics' page
136	Motion	Drop an object onto a moving trolley	Via 'Mechanics' page

		http://www2.biglobe.ne.jp/~norimari/science/JavaApp/e-JavaP.html	
137	Motion	Docking with a space station	And 'Moon landing'
138	Matter	Billiards of Molecules	What's the difference – gas, liquid, solid?
139	Waves	The relations between circular motion, SHM...	Bottom left to change speed
140	Waves	Stationary wave	Bottom left to change speed
141	Waves	Huygen's principle	Bottom left to change speed
		(http://canu.ucalgary.ca) or via (www.ucalgary.ca/~alph/Map/workinprog) http://turing.kingsu.ca/~map/project	(Start) (>CalgaryApplets.html) Go to sample MAP applets
142	Motion	Man on a Ladder	Conditions of stability involving torques and forces
143	Light	Multiple Slit Interference	One-many slit interference
144	Quantum	Hydrogen Atom	Simulation of the S-states of the Hydrogen atom
145	Waves	>Feeling brave? >Waves – Wave phase	Under Sample Applets
146	Relativity	>Feeling brave? >Relativity – Photon Clock	Under Sample Applets
		(http://webphysics.davidson.edu/Applets) but better selected @ http://qbx6.ltu.edu/s_schneider/physlets/main/index.shtml	Physlets
147	Motion	Police Car / Speeder - Part 1a (onscreen), & 3	Via Physics 1: Kinematics – 1D Motion
148	Motion	Falling through a hole in the Earth?	Via Physics 1: Gravity , sweet sweet Gravity
149	Light	Lens/Mirror Optics Bench	Via Physics2: Optics
150	Light	Nearsighted (and Farsighted) Vision model	Via Physics2: Optics
		http://falstad.com/mathphysics.html	
151	Waves	Ripple Tank (2-D Waves) Applet	'Oscillations & Waves' (Change 'setup')
152	Elect/Mag	3-D Magnetostatic Fields Applet	'Electricity & Magnetism' (Change 'Field selection')
		http://higher.ed.mcgraw-hill.com/sites/0070524076/student_view0 or (www.mhhe.com/physsci/physical/qiambattista)	> Interactives
153	Matter	c15 Thermodynamics...	The Law of Thermodynamics and Heat Engines
154	Elect/Mag	c 20 Induction	Induction, Electromagnetic Fields and Generators
		http://mutuslab.cs.uwindsor.ca/schurko/animations	
155	Matter	Molecular Weights, Pressure and ...	In c1 Gases
156	Matter	Heat Capacity of Metal	In c2/3 First Law of Thermodynamics
		http://www.vjc.moe.edu.sg/fasttrack/physics	
157	General	Micrometer	For practice before use
158	Motion	Elastic collision	Re conservation of momentum
159	Light	Young's double slits	Vary parameters
160	Atomic	Radioactivity	Compare decay graphs
161	Waves	Standing waves	Models standing sound waves
162	Elect/Mag	Velocity selector	Deflect a proton/electron in E and B fields

1. See the related 'Teaching with Gizmos' movies @ http://explorelearning.blogs.com/help/2005/05/creating_the_ah.html

Other excellent Applets/Animations

	URL	Comment
	Atomic	
163	www.eas.asu.edu/~holbert/eee460/pwr.html	Pressurised Water Reactor
164	www.iop.org/activity/education/index.html	>Teaching Radioactivity >Animations
	Electricity/Magnetism	
165	www.csupomona.edu/~pbsiegel/www/idm/oscope.html	Oscilloscope Simulation
166	http://www.virtual-oscilloscope.org/simulation.html	Virtual Oscilloscope
167	www.article19.com/shockwave/oz.htm	Ohm Zone
	Energy	
168	http://weblogs.asp.net/rajbk/pages/silverlight-four-stroke-engine-demo-page.aspx	Four cylinder four stroke engine
169	www.uwsp.edu/physastr/kmenning/flash/AF_2212.swf	Otto engine cycle
170	www.keveney.com/Engines.html	Animated Engines
171	http://comp.uark.edu/~igeabana/mol_dyn/KinThI.html	Kinetic Theory
172	http://mutuslab.cs.uwindsor.ca/schurko/animations	Ideal Atmosphere (in Chapter 1: Gases)

	General	
173	www.jcrystal.com/steffenweber/JAVA/jpt/jpt.html	Periodic Table
174	www.webelements.com	Periodic Table
	Light	
175	http://ephysics.physics.ucla.edu/physlets/eblackbody.htm	Blackbody Radiation
176	http://ephysics.physics.ucla.edu/physlets/optics.html	Optics Work Bench (alternative link to 149 above)
177	www.shermanlab.com/science/physics/optics/ThinLens.php	Thin Converging Lens
178	http://vsg.quasihome.com/interfer.htm	Young's Double Slit Interference
179	www.ba.infn.it/~zito/museo/esp71/Specchio.html	Reflected image
180	www.dartmouth.edu/~chemlab/info/resources/applets.html	See Atomic Spectra
	Matter	
181	www.phrenopolis.com/perspective/atom	Hydrogen atom to scale
182	http://aspire.cosmic-ray.org/Slessons.php	>Gas Particles in Motion >Student Labs
	Motion	
183	www.jsheduction.com/4p1.html	Sudden stop, no seat belt, no air bag
184	www.stoppingdistances.org.uk	Try the Simulator
185	www.funderstanding.com/k12/coaster	Roller Coaster
186	www.et.byu.edu/~wheeler/benchtop/sim.php	Water Rocket
	Quantum	
187	http://lppp.lancs.ac.uk	Lancaster Particle Physics
	Relativity	
188	http://gregegan.customer.netspace.net.au/APPLETS/20/20.html	>c ?
	Space	
189	www.nikon.com/about/feelnikon/universcale/index.htm	Universcale – From the nanoworld to the universe
190	http://4d2u.nao.ac.jp/english/4d2unav.html	4D2U Navigator – Plus images and movies
191	www.fourmilab.ch/cgi-bin/Earth/action?opt=-p	Earth View
192	http://janus.astro.umd.edu/SolarSystems	Solar System Visualizer
193	http://heasarc.gsfc.nasa.gov/docs/cosmic	The Cosmic Distance Scale >Begin
194	www.mhhe.com/physsci/astronomy/applets/Hr/frame.html	Stellar Evolution and the H-R Diagram
195	www.mhhe.com/physsci/astronomy/applets/Blackbody/frame.html	Blackbody radiation and stellar luminosity
196	http://bcs.whfreeman.com/universe6e	See Animations and Videos
	Waves	
197	http://id.mind.net/~zona/mstm/physics/waves/waves.html	>Standing Wave >Standing Waves 1-On a string
198	www.kettering.edu/~drussell/Demos/doppler/doppler.html	Click image of sonic boom and see MPEG movie
199	www.eserc.stonybrook.edu/ProjectJava/WaveInt/index.html	Interference of Sinusoidal Waveforms
200	www.cs.brown.edu/exploratories/freeSoftware	> Signal Processing > Nyquist Limit
201	http://cnyack.homestead.com/files/modulation/modam.htm and http://cnyack.homestead.com/files/modulation/modfm.htm	- Amplitude Modulation - Frequency Modulation
202	http://www.phys.unsw.edu.au/jw/hearing.html	Test your own hearing (What is a decibel?)

Extras:

URL	Comment
Fun and Games	
www.sciencemuseum.org.uk/launchpad/launchball	Launchball
www.miniclip.com/games/magic-pen	Fun game
http://fantasticcontraption.com	Another fun game
www.noradsanta.org	Tracks Santa
www.intuitor.com/moviephysics	Stupid Movie Physics
www.fun-motion.com	Crayon Physics
www.fun-motion.com	Bridge Builder
www.fun-motion.com	Armadillo Run Demo
www.n.ethz.ch/student/mkos/pinguin.swf	Smack the Pingu!
http://improbable.com/ig/winners	Ig Nobel Prize winners
Images	
http://nasaimages.org	Copyright free images
www.rense.com/general72/size.htm	The size of our world
www.cpepweb.org	jpeg & pdf charts are free
www.pp.rhul.ac.uk/hep/hep_handouts.html	Particle Physics posters
http://fusedweb.llnl.gov/CPEP	Fusion Energy Education
http://skymaps.com/downloads.html	Monthly Sky Maps
www.schoolphysics.co.uk	Great diagrams
www.countingthoughts.com	>Free resources >Physics images
http://antwrp.gsfc.nasa.gov/apod	Astronomy Picture of the Day (Click 'Index')
http://hubblesite.org/gallery	Click Education... for http://amazing-space.stsci.edu link
www.sciencephoto.com	Science Photo Library
Programs	
www.physclips.unsw.edu.au/site_map.htm	Physclips >Downloads (Zip) (www.physclips.unsw.edu.au)
www.worldwidetelescope.org	Free Microsoft program
cripe03.rug.ac.be/Vidshell/Vidshell.htm	Video analysis
www.cabrillo.edu/~dbrown/tracker	Video analysis
www.visualsimulations.co.uk/simulations.php	AtomScope
www.shatters.net/celestia	Celestia space simulation
www.stellarium.org	Stellarium
http://public.gettysburg.edu/~marschal/clea/CLEAhome.html	Project CLEA
http://orbit.medphys.ucl.ac.uk/orbit.html	Orbiter – Space Flight Simulator
www.adamauton.com/warp	Relativity Simulator
http://klub.chip.pl/mpytel/spek_eng.htm	Spektrus emission spectra
http://audacity.sourceforge.net	Audacity
www.enzim.hu/~szia/emanim	E-M wave animations
http://bridgecontest.usma.edu	West Point Bridge Design – Click 'Download'
www.officeofroadsafety.wa.gov.au	Search 'Braking Distance Game'
http://imagine.gsfc.nasa.gov/docs/teachers/lifecycles/stars.html	Download PowerPoint Life Cycles of Stars (with notes)
Revision	
www.s-cool.co.uk	Select level then subject
www.antonine-education.co.uk	Click on the logo to enter the site
www.schoolphysics.org	Revision Physics
www.bbc.co.uk/schools	>Secondary Science >Bitesize
Tools	
www.chutedesign.co.uk/design/stat.htm	Graph paper/protractors
http://incompetech.com/graphpaper	More graph paper
www.vendian.org/mncharity/dir3/paper_rulers	Some printable paper rulers
Tutorials	
http://hyperphysics.phy-astr.gsu.edu/hbase/hph.html	HyperPhysics
www.particledetectives.net	LHC Project Simulator (See also www.lhc.ac.uk)
www.crocodile-clips.com/absorb/AP5/sample/020301.html	EMF and Internal Resistance
www.acoustics.salford.ac.uk/schools	Sounds Amazing
www.isvr.soton.ac.uk/SPCG/Tutorial/Tutorial/StartCD.htm	Sound Waves
http://edu.larc.nasa.gov/connect/machine.html	NASA Sound Machine
www.wonderville.ca	Wonderville!
http://home.clara.net/darvill	Andy's Science Site

www.windpower.org/en/tour.htm	Wind energy guided tour
www.kungfuscience.org	Kung Fu Science
www.newscientist.com/specials.ns	New Scientist Specials
http://schools.matter.org.uk/a-level.html	A-level tutorials
www.phy.bris.ac.uk/allegory	Physics by Allegory (Quantum, Particle Phys, Cosmology)
http://particleadventure.org	The Particle Adventure (Also see Interesting Physics Sites)
www.colorado.edu/physics/2000	Physics 2000
www.astronomynotes.com	Nick Strobel's Astronomy Notes
www.thirteen.org/hawking	Stephen Hawking's Universe
www.phys.unsw.edu.au/einsteinlight	Einstein Light
www.classroomspace.org.uk	>Modules >Optics
http://www.globalwarminginteractive.com	Global Warming Interactive – CO ₂ Fx
www.insidestory.iop.org	Inside Story: Physics in Medicine
http://aspire.cosmic-ray.org/labs/star_life/starlife_main.html	Star Life Cycle
http://lgfl.skool.co.uk	See KS4 Physics and Physics Toolkits
http://jvsc.jst.go.jp/find/rikigaku/english/index.htm	The Physics of Amusement Parks
www.crocodile-clips.com/en/Physics	Absorb Physics for GCSE/A-level. See 'Sample units'.
http://science.discovery.com/interactives/interactives.html	Science Channel Interactive Library
Videos	
www.physclips.unsw.edu.au	> Site map & downloads (See Programs above)
http://hyperphysics.phy-astr.gsu.edu/hbase/hph.html	Search 'Video/Demo Index'
http://eepybird.com/dcm1.html	Diet Coke & Mentos video
http://embryo.soad.umich.edu/resources/morph.mov	The first 8 weeks! (See also http://embryo.soad.umich.edu)
www.photron.com	High speed video
www.iihs.org/videos	Understanding Car Crashes – Watch the trailer
www.dft.gov.uk/think	Road Safety – Click 'See our ads'
http://www.redlake.com/gallery/videos/VIT.aspx	See 'Barrier crash test'
www.collidingparticles.com	LHC movies from STFC
http://dingo.care2.com/cards/flash/5409/galaxy.swf	The Galaxy Song – Eric Idle
http://blog.wired.com/wiredscience	Search 'Top 8 LHC' 'All Wired'
http://blog.wired.com/wiredscience	Search 'Top 10 amazing' 'All Wired'
www.bbc.co.uk/learningzone/clips	BBC Learning Zone Clips
www.gyroscopes.org/1974lecture.asp	RI Christmas lecture
www.planet-scicast.com	Short films
www.ted.com	Some great talks
http://bcs.whfreeman.com/tiplerphysics5e	See Demonstrating & Applied Physics (Plus the 6e edition)
www.hep.uiuc.edu/home/mats	Mats Selen – 'Whys Guy'
http://sprott.physics.wisc.edu/wop.htm	Clint Sprott's Demos
www.teachers.tv	Search 'Demonstrating Physics' particularly
www.stmary.ws/physics	Videos (& animations)
www.youtube.com	Search 'Rollerblade bottle'
www.youtube.com	Search 'Radioactive phone?'
www.youtube.com	Search 'Large Hadron Rap'
www.youtube.com	Search 'Dr Quantum' (Flatland and Double Slit Experiment)
www.youtube.com	Search 'Candle Cannon'
www.youtube.com	Search 'Ship floating on nothing!'
www.youtube.com	Search 'Sound sources - high speed film'
www.youtube.com	Search 'Earth to America!'
www.youtube.com	Search 'Powers of Ten' (Eames' original video)
www.metacafe.com	Science & Tech videos
www.vidipedia.org	Another video site
www.pbs.org/wgbh/nova/programs	Nova videos
http://rt210.sl.psu.edu/phys_anim/Phys_anim.htm	Penn State – Animations for Physics and Astronomy
http://ocw.mit.edu/OcwWeb/hs/physics/physics/index.htm	MITOpenCourseWare AP Physics
www.atomicarchive.com/mediamenu.shtml	Atomic Archive Videos
http://coolcosmos.ipac.caltech.edu	Ask an Astronomer Videos
http://videos.howstuffworks.com/science	See Physical Science
www.periodicvideos.com	The Periodic Table of Videos
Useful extras	
www.scienceonstage.ie/resources.html	Best of Science on Stage
http://simple.wikipedia.org/wiki/Physics	Simple Wiki

www.mutr.co.uk (5% discount for SEP/TEP 'associates')	www.sep.org.uk and www.tep.org.uk resources
www.vendian.org/mncharity	Various: on the scale of things
www.sciencesigns.ac.uk	Science sign language
www.teachersdomain.org	See 'Science' >
www.practicalphysics.org	Practical Physics
www.sciencelearningcentres.org.uk	See Physics resources
www.issen.org.uk/cd.htm	Inclusive Science & SEN
www.npl.co.uk	See 'Educate + Explore'
www.schoolscience.co.uk	ASE links to resources
www.kayelaby.npl.co.uk/toc	Kaye & Laby Tables
www.cimt.plymouth.ac.uk	Maths (>MEP >A-Level)
www.jlab.org/~cecire/garden	Fermi Problems
http://mathforum.org/workshops/sum96/interdisc/sheila3.html	Fermi Questions Library
http://faraday.theiet.org	IET Faraday
www.iop.org/activity/education/index.html	Institute of Physics
http://advancingphysics.iop.org	Click 'Support Materials'
www.ase.org.uk	The Association for Science Education
www.scienceinschool.org	Download Science in School issues
www.sciencelearningcentres.org.uk	Science Learning Centres
www.planet-science.com	With links to resources (incl. www.sycd.co.uk Science Year)
www.exploratorium.edu	Click 'Educate' (Also search 'auroras')
http://cern.ch (>LHC2008 >What is the LHC)	See also >Education >Teaching Resources
www.teachingmedicalphysics.org.uk	Medical Physics Teaching Materials
http://btc.montana.edu/ceres	CERES Project >Educ Activities eg Expanding Universe
www.stemdirectories.org.uk	Download The STEM Directory <i>Science</i> 2008/9
www.aps.org/studentsandeducators/index.cfm	PhysCentral, Phys to Go, comPADRE(>K-12>Phys Front)
www.abc.net.au/science/surfingscientist/teachstuff.htm	Surfing Scientist
www.upd8.org.uk	Contemporary activities – worksheet based.