















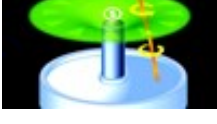
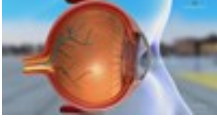










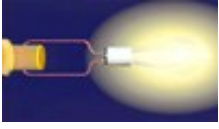
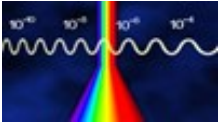




Physics

159 videos

	Year	Rating	Duration
 <p>400 Years of the Telescope: A Journey of Science, Technology and Thought Panoramic visuals and engaging interviews position 400 Years of the Telescope as the must see documentary of the International Year of Astronomy in 2009. Beautifully photographed in 4K digital cinemat...</p>	2008	E	00:57:20
 <p>Advantages and Disadvantages of Friction Series: Friction Friction is an important force in our world and has many advantages and disadvantages. Friction is essential for activities such as writing, driving, and walk, but it also causes damage through wear a...</p>	2016	E	00:06:32
 <p>All about Motion: Displacement, Velocity and Acceleration Everything moves. Even things that appear to be stationary are moving. Displacement, velocity and acceleration assist us in describing this movement by telling us the direction in which an object is t...</p>	2008	E	00:20:21
 <p>Applications of Scalar and Vector Quantities Series: Collisions Calculating scalar and vector quantities is vital to understanding collisions. Using tennis court action, this clip examines various quantities including initial and final velocity, displacement, acce...</p>	2018	E	00:07:04
 <p>Buoyant Force This video will help students learn about the buoyant force exerted by a liquid. The clip will define buoyant force and explain the reason for the occurrence of the buoyant force applied by a liquid o...</p>	2015	E	00:05:27
 <p>Buoyant Force and Floatation This video will help students understand how buoyant force helps an object to float or sink. It explains the various forces that act on an object when it's immersed in a liquid and describes the vario...</p>	2015	E	00:05:04
 <p>Can I Bend Spoons with My Mind? Series: Physics House Are people really capable of bending spoons with their minds? Will Yanick be able to work out the physics behind metal fatigue before he breaks every spoon in the Physics House kitchen?</p>	2016	E	00:06:33
 <p>Catching the Sun: The Physics of Solar Energy As the world increasingly focuses on alternatives to the carbon-emitting fossil fuels that we have relied on for over a century, scientists are continually developing more efficient methods to collect...</p>	2009	E	00:18:10
 <p>Causes of Friction Series: Friction Frictional force comes into play when an object moves across a surface and always opposes motion. This force occurs due to irregularities on the object and surface interlocking.</p>	2016	E	00:04:33
 <p>Collisions: Energy, Force, Momentum and Vectors This classic is one of our most popular and enduring programs. It shows a collection of the world's most spectacular and beautiful collisions analysed in terms of energy, force, momentum and vectors....</p>	1986	E	00:18:22

	<p>Conduction Series: Flow of Heat</p> <p>This video introduces students to conduction. Conduction is the process by which heat energy is transmitted through collisions between neighbouring molecules without the molecules moving from a hot re...</p>	2016	E	00:03:48
	<p>Convection Series: Flow of Heat</p> <p>This video introduces students to convection. Convection is the process by which heat is transferred by the movement of the heated molecules from a hot region to a cold region. It also looks at the ap...</p>	2016	E	00:10:23
	<p>Convex and Concave Lenses Series: Light: Reflection and Refraction</p> <p>Objective: To understand how a ray of light bends or refracts through a concave and convex lens. Learning outcomes - students will be able to: 1. Identify the diverging or concave lens. 2. Understand...</p>	2014	E	00:10:20
	<p>Correction of Hypermetropia or Far-Sightedness Series: Refraction and Dispersion of Light</p> <p>This video will assist students learning about the anatomy of the eye as well as understanding how hypermetropia, or far-sightedness, is corrected through the use of a convex lens.</p>	2015	E	00:06:16
	<p>Correction of Myopia or Short-Sightedness Series: Refraction and Dispersion of Light</p> <p>In this video, students will learn how myopia, or short-sightedness, is corrected using a diverging or concave lens.</p>	2014	E	00:05:21
	<p>DC Electricity: Discovery and Developments</p> <p>This programme looks at the origins of electricity through the first uses of static electricity by the Greeks, Gilbert and onto other popular displays by scientists in the 18th and 19th centuries.</p>	2006	E	00:25:15
	<p>DC Motors</p> <p>Using 3D animation, 'DC Motors' explains the link between electricity and magnetism and how the two can combine to produce movement, the principles of the electric motor, and how useful motion can be...</p>	2007	E	00:25:31
	<p>Defects of Vision: Myopia or Short-Sightedness Series: Refraction and Dispersion of Light</p> <p>The human eye is subjected to various defects, one of which is myopia. In this video, students will learn to identify and describe myopia or short-sightedness.</p>	2014	E	00:03:22
	<p>Density and Relative Density</p> <p>This video will help students understand the concepts of density and relative density and how relative density helps in floating and sinking.</p>	2015	E	00:05:24
	<p>Dispersion of Light through a Prism Series: Refraction and Dispersion of Light</p> <p>Where does a rainbow get its colours from? The answer is from dispersion of light. Students will learn about the relationship between colour and light, and what happens when light is shone through a p...</p>	2016	E	00:03:43
	<p>Driven to Diffraction</p> <p>'Driven to Diffraction' tells the remarkable story of William Henry Bragg and his son William Lawrence Bragg. Part human interest story, part science lesson, part historical journey of discovery, this...</p>	2009	E	00:55:00

	<p>Effects of Refraction Series: Refraction and Dispersion of Light</p> <p>This video demonstrates what happens when rays of light are refracted. Students will observe and understand the effects of refraction, through a demonstration using water.</p>	2014	E	00:03:12
	<p>Electrical Circuits</p> <p>We use electrical circuits every day. In the home, the car, at work and school – they are a vital part of our lives. This program covers the basics of electrical circuits in detail. It looks at various...</p>	2013	E	00:22:31
	<p>Electrical Safety</p> <p>Electricity is a hazard when our bodies become part of an electrical circuit or an accidental circuit. This program covers: - Generation and distribution of electricity - Circuits - switches, fuses a...</p>	2001	E	00:22:59
	<p>Electricity Series: The Science of Disney Imagineering</p> <p>What powers some of the brightest attractions at Disney's theme parks? Electricity! From lighting the half million bulbs in Magic Kingdom's Spectromagic parade to transmitting electricity through wate...</p>	2009	E	00:31:00
	<p>Electricity Series: Safety Smart Science with Bill Nye the Science Guy</p> <p>Bill Nye the Science Guy is charged up and ready to show kids how to be Safety Smart around electricity. Learn the shocking truth about conductors and insulators and why electricity can be dangerous i...</p>	2008	E	00:25:18
	<p>Electricity Distribution: Network, Line Loss and Transformers</p> <p>This program looks at how electricity is distributed from power stations to the end user. We look at:- Line loss. - Transformers: how they reduce line loss. - The high voltage network. - Connecting th...</p>	2000	E	00:24:03
	<p>Electricity Transmission and Distribution</p> <p>This resource looks at how electricity is distributed from power station to consumers along the National Grid. As well as giving an overview of the entire distribution network, it also looks at how st...</p>	2015	E	00:26:57
	<p>Electricity: How it Works</p> <p>In this video we examine some basic ideas about electricity: from what it is, what it can do, how we use its properties, how we can deliver more and how we can measure things about it.</p>	2000	E	00:13:59
	<p>Electromagnetic Radiation: Wave and Particle Models of Light</p> <p>This programme looks at the various properties of light and scientists' attempts to explain them. In centuries past both wave and particle models have been used to understand, explain and predict the...</p>	2007	E	00:26:13
	<p>Energy Series: The Science of Disney Imagineering</p> <p>What scientific principle is at work in every theme park ride the Imagineers create? It's Energy. The Imagineers reveal the role energy plays in popular theme park attractions such as Epcot's Test Tra...</p>	2009	E	00:24:15
	<p>Energy and Human Beings Series: Energy and Sustainability</p> <p>By learning to control energy, human beings have been able to evolve and live in comfort and safety. But, since the day fire was discovered to this day, how have humans achieved the control of energy?...</p>	2013	E	00:02:42



Energy and the Environment

Series: Energy and Sustainability

2013 E 00:03:29

Did you know that producing energy is probably the most destructive human activity affecting biodiversity? But not every way of producing energy has the same effect. Find out which are the most import...



Energy of Orbital Systems

Series: Gravity and Motion

2017 E 00:08:02

Orbital motion of satellites can be explained mathematically, but orbits – both of natural and artificial satellites – do not always remain constant. This clip examines escape velocity and energy of o...



Energy Rules: The Conservation of Energy and Momentum

This programme examines the many forms of energy, momentum and how they are related. Students are taken through appropriate calculations and introduced to the various concepts.

2006 E 00:22:43



Energy Transfers

Series: Collisions

2018 E 00:06:28

Understanding the relationship between different variable quantities when objects collide enables us to explain and predict their behaviour. This clip looks at quantities including work, force, distan...



Energy: The Engine of All Things

Series: Energy and Sustainability

2013 E 00:02:29

What's in the motion of a wave, in a fire, or in the kick of a ball? What makes plants grow, allows us to move or turn on a light bulb? Learn about energy and find out what is in everything that surro...



Episode 1: Forms of Energy

Series: Shedding Light on Energy

2018 E 00:28:43

In Forms of Energy we introduce students to the different types of energy that affect their lives daily and describe how energy can change from one form to another. We also explore one of the most imp...



Episode 1: Speed

Series: Shedding Light on Motion

2014 E 00:23:49

In this episode, presenter Spiro Liacos introduces students to the concept that speed is a measure of how far something travels in a given amount of time, looks at how speed varies in a sprint, explai...

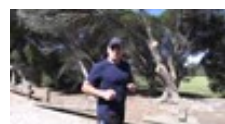


Episode 2: Acceleration

Series: Shedding Light on Motion

2016 E 00:23:33

In this episode, we introduce students to the concept that acceleration is a measure of how quickly something changes its speed. We join James Bond as he falls out of an aeroplane without a paracute,...



Episode 2: Measuring Energy

Series: Shedding Light on Energy

2018 E 00:34:35

In this episode, we look at the 'joule', the unit for energy. We look at how much energy is stored in different foods by comparing apples and oranges (normally a no-no) and we discuss how much energy...



Episode 3: Energy Efficiency

Series: Shedding Light on Energy

2018 E 00:30:24

In this episode, we introduce students to the concept of efficiency, which is a measure of how much useful energy you get out of something compared to the amount of energy that you put into it. We ans...










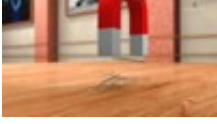














Episode 3: Relative Motion













Series: Shedding Light on Motion






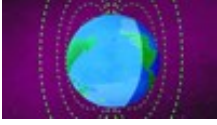





2014 E 00:23:11

In this episode, we introduce students to the concept that the movement of an object is always relative to something else. We call it 'sunrise' but does the sun really rise? Can we stand still AND m...

	<p>Episode 4: Graphing Motion Series: Shedding Light on Motion</p> <p>In a 100-metre sprint, when do athletes reach their highest speed? When do they accelerate at the highest rate and at what point, if any, do they stop accelerating? In Graphing Motion, we look at how...</p>	2016	E	00:28:22
	<p>Episode 5: Graphing Free Fall Series: Shedding Light on Motion</p> <p>In Graphing Free Fall, we continue looking at graphs but pay particular attention to how graphs help us to understand the motion of objects that are either falling straight down or which have been lau...</p>	2016	E	00:20:22
	<p>Episode 6: Newton's First Law Series: Shedding Light on Motion</p> <p>In Newton's First Law, presenter Spiro Liacos is 'thrown forward' in a head-on collision, 'thrown backwards' when his tram takes off, and 'thrown to the side' when his car suddely turns a corner. But...</p>	2017	E	00:38:09
	<p>Episode 7: Newton's Second Law Series: Shedding Light on Motion</p> <p>In Newton's Second Law, we answer the most important question that has ever been asked: how does a magician pull a table cloth out from under a dinner set? No, seriously, we look at the simple yet pow...</p>	2017	E	00:39:52
	<p>Episode 8: Newton's Third Law Series: Shedding Light on Motion</p> <p>In Newton's Third Law, we look at that most poetic of all Laws: For every action there is an equal and opposite reaction. How does a rocket engine work? Why do guns recoil when fired? How do our muscl...</p>	2017	E	00:33:18
	<p>Extraordinary Electromagnetism</p> <p>Nearly two hundred years after Faraday wowed his audience by demonstrating electromagnetic induction, this programme takes a variety of exciting and contemporary examples through which to explain the...</p>	2015	E	00:25:14
	<p>Flow of Heat Series: Flow of Heat</p> <p>This video is designed to demonstrate the different ways in which heat can be transferred, and show how heat from a body at a higher temperature is transferred to one at a lower temperature. The video...</p>	2016	E	00:04:09
	<p>Fluids Series: The Science of Disney Imagineering</p> <p>What bit of science do the Imagineers turn to when they want to make a splash? Fluids! In this program, the Imagineers demonstrate how they use fluids to their advantage in constructing rides and attr...</p>	2009	E	00:27:01
	<p>Force and Motion</p> <p>Surely you've often heard the words force and motion, but do you know what they are and how they work? Through a variety of materials including games and dynamic activities, students will discover and...</p>	2015	E	00:03:17
	<p>Force and Pressure</p> <p>In this programme, students will be introduced to the different types of force pressure that exist in our world. They will learn about contact and non-contact forces, atmospheric and liquid pressure,...</p>	2015	E	00:42:45
	<p>Forces and Motion: The Physics of Car Crashes</p> <p>Bring Newton's three laws of motion to life with this programme that uses extraordinary slow motion HD footage filmed during car crash testing to explore how energy is distributed during the fractions...</p>	2015	E	00:25:58

	<p>Forms of Energy</p> <p>Energy is never created nor destroyed – just transferred from one form to another. It's one of the most fundamental concepts in physics, but can be one that students find challenging when first introd...</p>	2013	E	00:12:58
	<p>Friction</p> <p>Series: The Science of Disney Imagineering</p> <p>Do Walt Disney Imagineers encounter resistance in their work? Of course they do... when it comes to friction! Here the Imagineers showcase how different types of friction- static, kinetic, and rolling...</p>	2010	E	00:27:51
	<p>Frictional Force</p> <p>Series: Friction</p> <p>Students will learn about friction in this video. Frictional force is a force that slows down moving objects or prevents stationary objects from moving. It acts between a pair of surfaces in contact a...</p>	2016	E	00:04:59
	<p>Good and Bad Conductors of Heat</p> <p>Series: Flow of Heat</p> <p>This video teaches students to identify examples of good and bad conductors of heat. They will also learn how both good conductors and good insulators are used in different situations.</p>	2016	E	00:07:43
	<p>Gravitation and Kepler's Laws of Motion</p> <p>Series: The Physics Tutor</p> <p>This program teaches the concepts of the gravitational field and gravitational force and introduces Kepler's Laws of Planetary Motion. Jason Gibson works out problems, one step at a time, which demons...</p>	2008	E	00:35:19
	<p>Gravity</p> <p>Series: The Science of Disney Imagineering</p> <p>What is the force that puts the thrill in thrill rides? Gravity, of course! One of the biggest challenges for Imagineers in designing theme park attractions, like Disney's Rockin' Roller Coaster and T...</p>	2008	E	00:25:35
	<p>Gravity</p> <p>Series: Bill Nye the Science Guy</p> <p>Have you ever wondered what holds the ocean on the Earth? Or what makes the Earth round? Perhaps you've thought about what holds humans to the ground? Host Bill Nye provides the explanation for these...</p>	1995	E	00:24:18
	<p>Gravity and Air Resistance</p> <p>Have you ever wondered why things fall to the ground? Or why we're stuck to the ground? In this teaching unit students will use logical reasoning and reflection to learn all about gravity, which is a...</p>	2015	E	00:03:26
	<p>Gravity: History of Ideas</p> <p>Early geocentric to modern heliocentric models. This program follows the path of the ancient Greeks, Renaissance Europeans and British in their search for an understanding of the properties of the un...</p>	1999	E	00:24:07
	<p>Heat</p> <p>Series: Bill Nye the Science Guy</p> <p>Way cool scientist Bill Nye really radiates in this sizzling episode. Learn what heat is and about its three forms: conduction, convection, and radiation.</p>	1995	E	00:27:10
	<p>History of the Race to the Moon</p> <p>For thousands of years people have looked up at the moon and dreamed about getting there. It was only at the beginning of the last century that the dream looked possible because of ideas developed by...</p>	2001		00:19:57

	<p>How Do I Hear My Stereo? Series: Physics House</p> <p>How do we hear music coming from a speaker? Join Yanick in Physics House as he investigates how vibrations are made in a speaker, and how sounds travels through different mediums to bring the sweet so...</p>	2016	E	00:05:47
	<p>How Sound Waves Travel Series: Waves</p> <p>Objective: To learn how sound waves travel. Learning Outcomes: 1. Tell what sound waves are. 2. Explain how sound waves travel.</p>	2013	E	00:03:22
	<p>Image Formed by a Concave Lens Series: Refraction and Dispersion of Light</p> <p>What image is formed by a concave lens? This video will explain that the size, the position, and the nature of the image formed by a concave lens does not change even when the object is at different p...</p>	2014	E	00:02:49
	<p>Images Formed by a Convex Lens Series: Refraction and Dispersion of Light</p> <p>In this in-depth video, students will learn about size, the position, and the nature of the image, which depends upon the distance of the object from the convex lens.</p>	2014	E	00:14:11
	<p>In Focus: The Synchrotron - An Introduction</p> <p>A synchrotron produces highly specialised light and is used in a number of emerging scientific fields. This easy-to-follow programme provides an introduction to this fascinating machine.</p>	2003	E	00:29:24
	<p>Interference of Light: A Property of Waves</p> <p>Clear, inspiring visuals and animations. * Interference of waves in water. * Young's twin slit experiment. * Colour of soap films. * Coherent and incoherent light. * Newton's rings, used in the polish...</p>	1991	E	00:19:02
	<p>Introducing Energy Series: Energy and Sustainability</p> <p>The idea of energy is presented to encourage students to ponder what energy is and how it can be seen in their world.</p>	2013	E	00:01:11
	<p>Introduction to Electricity</p> <p>This programme introduces the concept of electricity to the student who has used this source of energy all his or her life but has never really understood where it comes from and how it works. It give...</p>	2008	E	00:25:23
	<p>Levers</p> <p>This video covers the different types of levers and their examples. Included are the class 1 lever, class 2 lever and class 3 lever.</p>	2014	E	00:04:50
	<p>Levers and Pulleys Series: The Science of Disney Imagineering</p> <p>How do the Imagineers make elephants fly? Actually, it's simple...simple machines, that is! Here, the Imagineers give a new look at how levers and pulleys were utilized to create attractions such as D...</p>	2008	E	00:28:58
	<p>Light and Sound Series: Science Building Blocks Series</p> <p>This programme is the ideal introduction to waves - with an emphasis on sound and light.</p>	2005	E	00:29:20
	<p>Light Fantastic: An Introduction to the Wonders of Light</p> <p>In this program we look at some of the amazing properties of light we all experience, that form the basis for our understanding of what light is. It is produced from sources, passes through transparen...</p>	1997	E	00:19:55

	<p>Light Optics Series: Bill Nye the Science Guy</p> <p>You won't believe your eyes when Bill Nye the Science Guy reflects, refracts, bends, bounces, absorbs, and pulls light waves to show how things can be seen in different ways. Using lenses, mirrors, an...</p>	1995	E	00:24:48
	<p>Light, Phase and Matter Series: The Advanced Physics Series</p> <p>Dr. Catherine Low discusses difficulties students have with models and concepts of light and matter. Catherine Bell discusses the importance of phase in understanding the behaviour of waves.</p>	2007	E	00:54:39
	<p>Magnetic Force Series: Science Building Blocks Series</p> <p>This programme uses experiments, graphics and footage of applications of magnets and electromagnets to introduce junior secondary students to the concepts of magnets and magnetism.</p>	2005	E	00:25:23
	<p>Magnetism Series: Bill Nye the Science Guy</p> <p>In this attracting and not-too-repelling program, Bill Nye shows all kinds of unexpected places where magnets can be found. In fact, the Earth itself is a huge magnet! Find out how to make a compass a...</p>	1995	E	00:26:33
	<p>Magnetism Series: The Science of Disney Imagineering</p> <p>Which attractive force propels the launch of Rock n' Rollercoaster® at Disney's Hollywood Studios? Magnetism! In this program, the Walt Disney Imagineers demonstrate how they use magnets of all types...</p>	2009	E	00:24:48
	<p>Magnetism</p> <p>What is magnetism used for? What is its relation to electricity and technological development? Why is Earth considered a big magnet? In this learning unit, students will discover the characteristics o...</p>	2015	E	00:03:53
	<p>Magnets and Electricity</p> <p>This program is an introduction to magnetism and electricity. It looks at the basic principles of these two topics by showing hands-on demonstrations of experiments. Topics covered include compasses,...</p>	1987	E	00:22:38
	<p>Measurement and the Search for Relationships</p> <p>Learn how mathematical relationships can be investigated experimentally and how to write the report. This program uses case studies to show how the physical world can be described by mathematical rela...</p>	2008	E	00:20:41
	<p>Measurement and Uncertainty</p> <p>The importance of error and uncertainty in scientific measurement. Show case studies of students estimating and reporting the uncertainties in their measurements. The program deals with these question...</p>	2007	E	00:23:18
	<p>Methods of Heat Transfer</p> <p>This programme takes students on a lively journey through the mechanisms and practicalities of heat transfer, explaining the mechanisms of conduction, convection and radiation and introducing the conc...</p>	2007	E	00:23:46
	<p>Microwave Ovens: Cooking with Light</p> <p>The programme explains how food is cooked in a microwave oven, from a physics point of view. Beginning with an introduction to the electromagnetic spectrum and microwaves in particular, the programme...</p>	2006	E	00:19:36



Millikan's Oil Drop Experiment

1991 E 00:20:35

Two experiments are described and filmed . * Using static drops to balance mg against nqe. * Plotting voltages on drops. * Falling drops give size of drop. * Reasons for experimental error. * Millikan...



Newton's Laws of Gravitation and Motion

2017 E 00:08:57

Series: Gravity and Motion

Three hundred years ago Sir Isaac Newton's work paved the way for our understanding of the force of gravity. This clip explains, both qualitatively and quantitatively, the law of gravitation, and how...

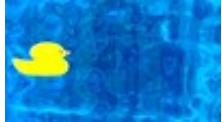


Newton's Laws of Motion

2018 E 00:09:59

Series: Collisions

Newton's three laws of motion are fundamental to many aspects of physics, including collisions. This clip covers the laws, explaining each and looking at how they apply to different examples of collis...



Newton's Laws of Motion

2005 E 00:26:25

This program shows how Newton's three laws of motion can be used to explain and predict the motion of everyday objects.



Newton's Three Laws of Motion

2009 E 00:29:00

Series: The Science of Disney Imagineering

Which attractive force propels the launch of Rock n' Rollercoaster at Disney's Hollywood Studios? Magnetism! In this programme, the Walt Disney Imagineers demonstrate how they use magnets of all types...



Newton, the Super Scientist

2014 E 00:03:45

This unit about the figure of Isaac Newton explains why he was one of the greatest scientists in history. It serves to introduce curricular contents such as the famous Laws of Dynamics and Universal G...



Non-Renewables

2015 E 00:27:28

Series: Electricity Generation

Fossil fuels and nuclear energy still account for over 60% of the UK's electricity generation and in some countries, their use is even on the rise. As well as containing clear explanations and graphic...



Nuclear Energy: Advanced Version

2008 E 00:27:41

Series: Nuclear Energy

In addition to covering all topics in the basic version of Nuclear Energy, this program covers a number of advanced topics. Understand the use of water to vary reactor power, as well as different meth...



Nuclear Energy: Basic Version

2008 E 00:23:09

Series: Nuclear Energy

Introduces the basics of how a nuclear power station works. What is fission and the role of cooling water in nuclear reactors? Understand the nuclear fuel cycle: mining, milling, enrichment, fabricati...



Nuclear Physics

1991 E 00:21:21






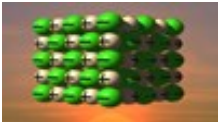





We examine the following: * Nucleus: models, density, atomic mass unit; * Isotopes caused by neutron numbers; * Nuclear stability, nuclear force, mass defect; * Radioactivity, alpha, beta, gamma radia...

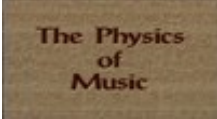









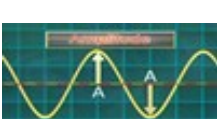



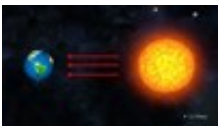


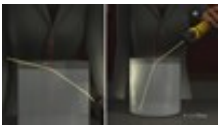







Nuclear Power - Fission, fusion, reprocessing & disposal



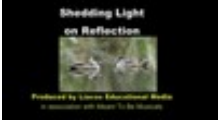





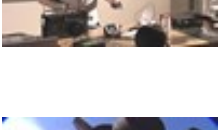


1992 E 00:31:14



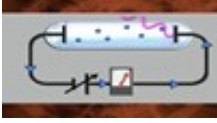









This program looks at the practical application of nuclear energy, using footage from nuclear power stations and fusion laboratories.* FISSION: - thermal and fast breeder reactors.* FUSION: - Coulomb...

	<p>One Flash and You're Ash!: Working Safely with Electricity</p> <p>Working with electricity is potentially dangerous. Both the equipment, and the way it is used, must be safe. If something does go wrong and someone is injured, knowing how to deal with the situation,...</p>	2013	E	00:15:16
	<p>Orbits of Satellites</p> <p>Series: Gravity and Motion</p> <p>Constant unbalanced forces, known as centripetal forces, cause planets, moons and stars in the universe to orbit one another. This clip, aimed at senior level students of physics, examines fundamental...</p>	2017	E	00:12:53
	<p>Our Place in Space: Astronomy</p> <p>The development of modern telescopes, both optical and radio, has enabled astronomers to develop new insights and theories about the origins of the universe, starting from the simple observations we c...</p>	2008	E	00:30:03
	<p>Part 1: Electric Fields, EM Fields, Motor Effect</p> <p>Series: Electromagnetism</p> <p>This programme looks at how magnetism and electricity are linked. Experiments are conducted to create an electrostatic field, an electromagnetic field and a solenoid. It also looks at magnetic propert...</p>	1992	E	00:28:53
	<p>Part 2: Electromagnetic Induction</p> <p>Series: Electromagnetism</p> <p>This programme provides a more detailed investigation of how moving a magnet near a conductor produces electricity - electromagnetic induction. We make a simple AC and DC generator, turn the generator...</p>	1997	E	00:18:08
	<p>Particle Model & Kinetic Theory of Gases</p> <p>Part 1 - Particles (15 mins) * Stacking - crystals, angles and ionic radii. * Temperature - kinetic energy. * Solution. * Precipitation - particles stack as crystals. * Particles move fast - Brownian...</p>	1998	E	00:30:26
	<p>Photonics</p> <p>Series: The Advanced Physics Series</p> <p>Dr Alex Mazzolini, Senior Lecturer in the Faculty of Engineering and Industrial Sciences at Swinburne University covers the following topics: Photonics in everyday life; Light sources; Fibre optics; l...</p>	2007	E	00:51:47
	<p>Physics of Car Crashes</p> <p>There are a lot of crashes in this video! We stop a car at different distances and graph the average stopping force versus distance and explore the concept of crumple zone to increase stopping distanc...</p>	1997	E	00:20:03
	<p>Physics of Collisions</p> <p>Series: Collisions</p> <p>Collisions occur around us constantly. To know how objects behave when they collide, an understanding of some important concepts of physics is needed. This clip features many examples of collisions, a...</p>	2018	E	00:07:52
	<p>Physics of Fun: Fun Parks, Circuses and Stunts</p> <p>This video looks at the potential and kinetic energy of roller coasters, trapeze, slides; as well as $W = F \times \text{Distance}$. Also examined are vectors, components of motion, trajectory, angular acceleration,...</p>	1998	E	00:23:37
	<p>Physics of Motion: Displacement, Velocity and Acceleration</p> <p>* Relative motion * Projectiles from standing and moving launch sites * Aristotlean ideas of motion * Motion of the planets, geocentric, heliocentric * Galileo's experiments * Frames of reference * The...</p>	1993	E	00:23:25

	Physics of Music There is a great variety of musical instruments but they all have one thing in common, an element that vibrates (air column, vocal chord, violin string, stretched membrane), a mechanism to make it vib...	1992	E	00:34:01
	Physics of Thunderstorms This video explores the aspects of: latent heat of fusion & vaporization and was produced in association with the Bureau of Meteorology. Specific areas covered include: The states of water, ice, liqu...	1997	E	00:26:59
	Polarisation of Light The true nature of photons is still subject to research and speculation. It is safe to say however that the world is made up of wave-particles; atoms, neutrons, electrons, photons and other particles...	1992	E	00:23:48
	Power of Accommodation of the Human Eye Series: Refraction and Dispersion of Light How does the human eye accommodate for what it is looking at? Students will find out how the eye adjusts its focal length to see objects of various sizes at different distances.	2014	E	00:03:22
	Principles and Laws of Motion Motion has fascinated physicists for centuries, and much of the work done by scientists and mathematicians hundreds of years ago still forms the basis of our understanding of motion. This programme l...	2009	E	00:18:50
	Principles of Physics 1: Light Almost everything we do can be described in terms of physics. The aim of physics is to find out, by careful observation and experiment, the laws or rules that help us to understand how nature works. B...	2012	E	00:14:28
	Principles of Physics 1: Mechanics Series: Principles of Physics Almost everything we do can be described in terms of physics. The aim of physics is to find out, by careful observation and experiment, the laws or rules that help us to understand how nature works. B...	2012	E	00:10:41
	Principles of Physics 1: Mechanics, Heat, Light Almost everything we do can be described in terms of physics. The aim of physics is to find out, by careful observation and experiment, the laws or rules that help us to understand how nature works. B...	2010	E	00:30:44
	Principles of Physics 2: Sound, Magnetism, Electricity and Radioactivity Physics is a science that describes how things work. Almost everything around us can be explained in terms of the principles of physics. With the use of practical demonstrations related to common acti...	2010	E	00:24:43
	Projectile Motion Using real-life examples, this program investigates the motion of projectiles beginning with vertically projected objects before moving to angled projection.	2003	E	00:23:56
	Properties of Waves If the movement of a particle causes delayed movement in its neighbour we have a wave. Incorporating graphics this video shows:- Transverse waves, tension waves such as ripples, gravity waves, longitu...	2003	E	00:25:26
	Push and Pull Forces Any type of motion means a force is at work – it is one of the most fundamental concepts in physics, and has formed the basis of the work of many pioneering scientists, including Isaac Newton. This vi...	2013	E	00:12:01

	<p>Radiation Series: Flow of Heat</p> <p>Students will learn about radiation in this video. Radiation is a mode of heat transfer that can take place with or without the presence of a medium due to electromagnetic waves. Students will also l...</p>	2016	E	00:07:29
	<p>Radioisotopes at Work: Medical and Industrial Uses</p> <p>Radioisotopes have an important role in society today. The ability of radiation to pass through matter allows radioisotopes to be applied in many different ways. This program examines the use of radio...</p>	2001	E	00:26:59
	<p>Refraction and Images</p> <p>Exactly how does a lens work and how does it form. This video provides an explanation of refraction and image formation, prisms, rainbows, telescopes, cameras, lenses, etc. The content is easy for stude...</p>	1997	E	00:22:38
	<p>Refraction of Light Series: Refraction and Dispersion of Light</p> <p>How does light get refracted? This video will engage students in learning about properties of light and its interaction with different kinds of media.</p>	2014	E	00:14:01
	<p>Renewable Energy</p> <p>Believe it or not, we're using energy faster than we can produce it; and most of that energy comes from sources that are stinky, dangerous, and hazardous. Both to the environment and to us. There's go...</p>	2012	E	00:24:37
	<p>Renewables Series: Electricity Generation</p> <p>The drive to reduce greenhouse gas emissions means that many governments are trying to decarbonise electricity generation. But some renewables only generate electricity when conditions are right, they...</p>	2015	E	00:43:28
	<p>Rules for Drawing Ray Diagrams Using Concave and Convex Lenses Series: Light: Reflection and Refraction</p> <p>Objective: To understand the three rules for drawing a ray diagram using a concave lens and the three rules for drawing a ray diagram using a convex lens. Learning outcomes - students will be able to:...</p>	2014	E	00:07:04
	<p>Semiconductors, Diodes and Transistors</p> <p>This program uses succinct descriptions and dynamic graphics to demonstrate the operation of semiconductors, diodes and transistors, and explains how the invention of the integrated circuit and transi...</p>	2011	E	00:22:49
	<p>Sergeant Magnet of the Electron Army</p> <p>This video explores how electricity works at the atomic level, looking particularly at how when the light switch goes on Sergeant Magnet sets off to recruit loosely held electrons to answer the call....</p>	2003	E	00:12:35
	<p>Shedding Light on Colour Series: Shedding Light</p> <p>Join presenter Spiro Liacos as he looks into all things colour! What is colour? How can objects have different colours when the light shining on them is white? How is coloured light produced? What hap...</p>	2011	E	00:30:14
	<p>Shedding Light on Curved Mirrors Series: Shedding Light</p> <p>In this excellent program, presenter Spiro Liacos uses clear, real-life examples and superb animations to explain how and why convex and concave mirrors are so useful. Following a brief recap on refle...</p>	2011	E	00:48:17

	<p>Shedding Light on Electromagnetic Waves Series: Shedding Light</p> <p>What are electromagnetic waves and how did they discover that light is made of them? How did they discover all the electromagnetic waves (like radio waves) that we can't even see? And how do these ele...</p>	2011	E	00:56:59
	<p>Shedding Light on Lenses Series: Shedding Light</p> <p>In Shedding Light on Lenses, which is conveniently broken up into nine sections, Science teacher Spiro Liacos uses fantastic visuals and animations to explain how convex and concave lenses produce ima...</p>	2011	E	00:56:05
	<p>Shedding Light on Reflections Series: Shedding Light</p> <p>In this outstanding program, teacher Spiro Liacos uses fantastic animations and amazing visuals to delve into every aspect of reflection, mirrors, and the virtual-3D mirror world that mirrors create....</p>	2011	E	00:45:24
	<p>Shedding Light on Refraction Series: Shedding Light</p> <p>With brilliant visuals, engaging explanations, and outstanding animations, science teacher Spiro Liacos leads students from the swimming pool into space and from the depths of the ocean to the end of...</p>	2011	E	00:55:37
	<p>Simple Machines Series: Bill Nye the Science Guy</p> <p>Bill Nye careens around a roller coaster, furiously pedals his bike on the "Tour du Science," and parodies the Jackson 5's "A-B-C 1-2-3" with "ABCs of Machinery," to show that simple machines doing co...</p>	1995	E	00:26:16
	<p>Simple Machines - Junior</p> <p>This program shows how simple machines make a task easier. We see that if we reduce the force, we have to move further. Examples shown include: lifting four bricks on a bench in different ways, using a...</p>	1995	E	00:23:29
	<p>Simple Machines - Senior</p> <p>Machines change force and distance but the work done is constant. We look at machines from the perspective of $W=FD$ including: * Inclined Planes* Pulleys * Levers* Gears as circular levers, belt pulley...</p>	1996	E	00:26:05
	<p>Sound in The Studio: Physics at Work in a Recording Studio</p> <p>This program looks at how physics of sound is applied in a real sound recording studio. It is a unique window into the world of the music industry through the eyes of physics. There are many aspects t...</p>	2001	E	00:21:10
	<p>Sound Waves and Other Demonstrations Series: The Advanced Physics Series</p> <p>Sandor Kazi presents a range of demonstrations related to waves, including: wave machines, standing waves, Chladni figures, ripple tanks and resonance. Sandor teaches senior Physics. Nick Nicola is th...</p>	2007	E	00:41:50
	<p>Space Exploration Series: Bill Nye the Science Guy</p> <p>Did you know that it takes 100 tons of fuel for a rocket to orbit the earth? Meet Dr. Linda Horn, a NASA scientist who's helping to develop the Cassini spacecraft. Destination: Saturn!</p>	1997	E	00:27:29
	<p>Space Science: Everyday Astronauts Series: Show Me Science Advanced Series</p> <p>With the retirement of NASA's space shuttle fleet in 2011, the role of getting people, satellites and other instruments into space has fallen to private companies. As of June 2011, there have been onl...</p>	2010	E	00:16:51

	<p>Special Relativity Series: The Advanced Physics Series</p> <p>Joe Wolfe, Professor of Physics, University of New South Wales covers the topic Approaches to teaching Einstein's Special Theory of Relativity.</p>	2007	E	00:45:25
	<p>Static Electricity Series: Bill Nye the Science Guy</p> <p>Why do socks stick together when taken from the dryer? Learn the shocking truth in this program on static electricity.</p>	1996	E	00:25:19
	<p>The Photoelectric Effect</p> <p>This comprehensive programme tells the story of the discovery of the photoelectric effect, its investigation and eventual explanation by Einstein, which brought about the revolutionary notion that lig...</p>	2003	E	00:33:04
	<p>The Physics of Light</p> <p>What is light? How does it operate? What are its properties? Why is it so important to the foundations of our physical world? The Physics of Light examines the nature of light and how it's harnessed i...</p>	2010	E	00:29:22
	<p>The Physics of Medical Imaging</p> <p>Technological advances developed from our understanding of the electromagnetic spectrum have provided medical technologists sophisticated tools with which to analyse and interpret bodily processes for...</p>	2009	E	00:27:54
	<p>The Scientific Method</p> <p>In this unit, students learn what the scientific method is and how it is used to obtain reliable answers. They learn which steps should be taken in order to solve problems and find solutions.</p>	2014	E	00:04:19
	<p>Time Series: Bill Nye the Science Guy</p> <p>Bill shows how humans measure time with the help of "Beverly Hills 90210" heartthrob Ian Ziering and comedian Ellen Cleghorne. When he's not demonstrating how to make a water clock, Bill is explaining...</p>	1996	E	00:16:07
	<p>Trajectory Series: The Science of Disney Imagineering</p> <p>What scientific principle keeps coming up...and up...when designing Disney's theme park attractions? Trajectory! The Imagineers demonstrate how forces and motion play a leading role in creating rides...</p>	2008	E	00:23:42
	<p>Waves Series: Bill Nye the Science Guy</p> <p>Catch a few waves with the Science Guy! Bill explores sound waves, light waves, seismic waves, energy waves, and even "the wave" that's so popular with stadium crowds!</p>	1995	E	00:22:43
	<p>Waves and Sound</p> <p>How do sound or light reach us? What makes a whistle sound so different from a trombone? In this video we will discover what are waves, how they are transmitted and what are their properties. Using so...</p>	2016	E	00:03:48
	<p>Waves in the Ocean (Senior)</p> <p>This film provides an excellent summary of the nature of waves in the ocean, how they are formed, their characteristics, why and how waves break and much more.</p>	2004	E	00:24:08
	<p>Ways to Minimise and Increase Friction Series: Friction</p> <p>Depending on whether the presence of friction is advantageous or disadvantageous, there are a variety of methods used to either decrease or increase friction. Friction can be decreased using lubricati...</p>	2016	E	00:07:26



What's Special About Relativity?

2001 E 00:32:22

Using simple language and illuminating graphics, the program demystifies Special Relativity.



Why Does Toast Land Buttered Side Down?

Series: Physics House

2016 E 00:05:32

Why is it that toast usually seems to land buttered-side down? Is it the weight of the butter? Or are there other forces at work? Join Yanick in Physics House and get to the physics behind your ruined...



Why Has My Tea Gone Cold?

Series: Physics House

2016 E 00:05:29

Why does a glass of ice heat up while a mug of tea cools down? What's making them change temperature? Can Yanick figure out the physics behind heat transfer before his morning tea in the Physics House...