Year 7								
Term	1	2	3	4	5	6		
Topic Title	Forces	Completion of Forces Space: The night sky, The Solar System, The Earth, The Moon.	Completion of Space Light	Light	Light/Sound	Sound		
Rationale	Forces incorporate a large topic at K32, hence this topic extends the pupils knowledge of work previously covered. It is also necessary that they learn these foundation ideas as this will be required in subsequent topics in Year 8 such as magnetism and motion.	Many stars visible at this time of year due to nights drawing in. Phases of moon observable. This is generally considered one of the mong of how the process and first in well at the beginning of the yearter single stars and the second stars properties in the previous module which possesses some curricular links.	Many stars visible at this time of year due to nights drawing in. Phases of moon observable. This is generally considered one of the most popular locits and fits in well at the beginning of the year having also studied about wave properties in the previous module which possesses some curricular links.	This topic fits in well with the previous topics. Many of the keywords used and properties of light may have been discussed in these modules such as were properties, effection (Moons). The puppli have slow energy completed by action to the the near 6, so this topic fits in appropriately at this point in the year.	The pupils have already studied the basics of the physics of sound in Year 4. This builds on this topic, but also introduces many keywords that they will need when studying future topics such as light and space. There are also a number of engaging activities for the pupils to try at the beginning of Year 7	The pupils have already studied the basics of the physics of sound in Year 4. This builds on this topic, but also introduces many keywords that they will need when studying future topics such as light and space. There are also a number of engaging activities for the pupils to try at the beginning of Year 7		
Prior knowledge	Year 3: Pupils should be taught to: If compare how things move on different surfaces If notice that some forces need contact between two objects, but magnetic forces on act at a distance I observe how magnets attract or repel each other and attract some materials and not others I compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials I specific magnets a bennit to too point of the specific magnetic specific magnets will attract or repel each other, depending on holes are faining. Forces and magnets, focusing on attraction and repulsion objects magnets materials and the two poles of a magnet. At K32 (years 3) Pupils should be refetco 1 an instruction, water resistance and friction, that fact between moving surfaces. If recognise that some mechanism, including lavers, pulleys and gears, allow a smaller force to have a greater effect.	At KS2 (Year 5) Pupils should be taught to: 8 describe the movement of the Earth, and other 9 describe the KS-an the tosk system 8 describe the movement of the Moon relative to the Earth 8 describe the Sun, Earth and Moon as approximately special bodies 8 use the Idea of the Earth's rotation to explain 6 and and the Apple and Superior the Superior the Super- tion across the Sky.	At KS2 (Year 5) Pupils should be taught to: 8 describe the movement of the Earth, and other plants, relative the San in the San's system 8 describe the movement of the Moon relative to the Earth 8 describe the San, Earth and Moon as approximately spherical bodies 8 use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	From KS2 (Year 6): Pupils should be taught to: If ecceptive that light appears to travel in straight lines Brue the loss that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye is pupil in that we set things because give travels from light sources to our eyes or from light sources to objects and then to our eyes If use the loss that light travels in straight lines to explain why shadows have the sume thope as the objects that cast them.	At KS2 (Year 4) Pupils have been taught to:	At KS2 (Year 4) Pupils have been taught to: 8 identify how sounds are made, associating some of them with something vibrating 8 recognise that vibrations from sounds travel through a medium to the ear 8 indin patterns between the yold or a sound and features of the object that produced it 8 inding the source of the sound and the strength of the vibrations that produced it 8 recognise that sounds get fainter as the distance from the sound source increases.		
Key knowledge/skills development	Balanced forces: If Oppoping forces and equilibrium: weight held by stretched spring or supported on a compressed surface. Forces and motion If Forces being needed to cause objects to stop or start moving, or to change their speed of articution of motion (quitative only) If Change depending on affection of motion (quitative only) If the speed of affection of the speed of the speed of the speed of the speed between magnets and forces due to static electricity	Light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras 8 Colours and the different frequencies of light, white light and prism (qualitative only): differential colour effects in absorption and diffuse reflection. 8 Our San as a star, other stars in our galaxy, other galaxies. 8 The light year as a unit of astronomical distance, gravity forces, gravity forces between Letth and Moon, and between Earth and Sun. 8 The seasons and the Earth's tilt, day lengths at different times of year, in different hemispheres,	Light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras Scolours and the different frequencies of light, white light and prisms (qualitative only); differential colour effects in absorption and diffuse reflection. B Urs Sin as a star; other stars in our galaxy, other galaxies. The light year as a unit of astronomical distance, gravity force; garvies of Earth and Moon, and between Earth and Sun. The seasons and the Earth's tilt, day lengths at different times of year, in different hemispheres,	The similarities and differences between light waves and waves in matter. Light waves traveling through a vacuum; speed of light. The transmission of light through materials: aborption, diffuse scattering, and specular reflection at a surface. The transmission of light through materials: aborption, diffuse scattering, and specular reflection at a surface, use of ray model to explain imaging in mirrors, differential colour effects in aborption and diffuse reflection. The transferring energy from source to aborber leading to chemical and electrical effects; photo- sensible material in the refina and in cameras, the reflection of light and action of convex less in focusing (qualitative); the human eye. Light transferring energy from source to aborber leading to chemical and electrical effects; photo- sensible material in the refina and in cameras. The reflection of light and action of convex less in focusing (qualitative); the human eye. Colour and the different leequencies of light, white light, and priors (qualitative); the further only; differential colour effects in absorption and diffuse reflection.	Waves on water as undulations which travel through water with transverse motion; these waves can be reflected, and add or cancel – uperpositionSound needs a medium to travel, the speed of sound in air, in water, in solids, Sound produced by vibrations of objects, in loud speakers, Auditory range of humans and animals. Frequencies of sound waves, measured in hetra (htt). Pressure waves transferring energy, waves transferring information for conversion to electrical signals by microphone. Sound produced by vibrations of objects, in loudspeakers, detected by their effects on microphone disphragm and the eard drum. Pressure was transferring energy, use for cleaning and physicheragh py hara-round, Prequencies of sound waves measured in hetra (ht), echoes, reflection, and absorption of sound,	Waves on water as undulations which travel through water with transverse motion; these waves can be reflected, and add or cancel - superposition - Sound needs a medium to travel, the speed of sound in all, in water, in solation, Sound produced by vitrations of objects, in loss speakers, Auditory range of humans and animas. Frequencies of sound waves, measured in their (10), Pressure waves transforming intervalues, sound waves, measured in their (10), Pressure waves transforming intervalues. Sound movies of objects. In hologakers, detected by their effects on microphone dipakingm and the aid cum. Pressure waves transforming energy; use for calculate and objections of objects. In hologakers, detected by their effects on microphone dipakingm and the aid cum. Pressure waves transforming energy; use for calculate and physiotheraphy vibrato-sound. Frequencies of sound waves measured in hertz (Hz), echoes, reflection, and absorption of sound,		
National Curriculum/specification links	P1:1.3-1.5	P1:4.1-4.4	P1:4.1-4.4	P1: 3.1-3.4	P1:21-2.6	P1:2.1-2.6		
Additional Literacy Opportunities	Use of keyword learning and practise of six mark questions and terminology in Going for Gold or Going Forward type tasks Isaac Newton - Biography	Use of keyword learning and practise of six mark questions and terminology in Going for Gold or Going Forward type tasks.	Use of keyword learning and practise of six mark questions and terminology in Going for Gold or Going Forward type tasks.	Use of keyword learning and practise of six mark questions and terminology in Going for Gold or Going Forward type tasks	Use of keyword learning and practise of six mark questions and terminology in Going for Gold or Going Forward type tasks. Use of ultrasound: research	Use of keyword learning and practise of six mark questions and terminology in Going for Gold or Going Forward type tasks. Use of ultrasound: research		
Additional Numeracy Opportunities	Force Diagrams: calculating simple resultant forces	Planet Research Task	Planet Research Task Large numbers use of the unit Light year Maths Project in STEM Lessons	Reading angles, calculating speeds.	Speed of sound calculations. Use of wavelength and frequncy - introduction	Speed of sound calculations. Use of wavelength and frequncy - introduction		
STEM (WS)	In the Lab Unit; WS unit; Asking scientific QY; Planning 7 recording data skills.	Complete WS unit: Analysing data; Evaluating data; Scientific investigation, Writing a conclusion. Crest Awards begin	Maths Project and skills	Bio Crest Investigation	Chem Crest Investigation	Phys Crest nvesigation		
Cross curricular links	P774 Forces (balanced / unbalanced, types of force) LINI: (17 PE Term 1-6) (18 Tech Term 1-6,6) (19 PE Term 1-6) (19 Tech Term 1,2)	P7T2 Space (Earth in space, solar system; Universe, eclipse;) UNIX: (Y8 RE Term6) (Y9 History Term 6)	P772 Space (Earth in space, solar system; Universe; eclipses) LINK: (YS RE Term6) (Y9 History Term 6)	P7T3 Light waves; eye; colour; issa: Newton (17 Art Term3;4); (17 Matha Term 3; 18 Term 5) (195Computing Term 1,2,3) (19 Maths Term 3) (19 History Term 5)	P7T1 Sound (waves, types; ultrasound) LINC: Y7 music term1; term3; term6), (Y8 Music term 1.5;6)	P7T1 Sound (waves, types; ultrasound) LINK: Y7 music term1; term3; term6]; (Y8 Music term 1;5;6)		
Key vocabulary	push, pull, contact, non-contact, interaction pair, newtonmeter, weight, newton, deform, compress, stretch, reaction, extension, tension, elastic limit, Hookes Law, linear, friction, bubication, water resistance, air resistance, drag forces, streamling gravity, magnetic, electrostatic, feld, mass, weight, kilograms, gravitational field strength, balanced, equilibrium, unbalanced, driving force, resistive force.	The night sky, The Solar System, The Earth, The Moon, star, artificial satellite, orbit, natural satellite, planet, Sun, conter, motore, medorite, star, galava, Milky Way, Universe, astronomer, upp gaint, dived found, gaving, engolanet, axis, dry, night, vers, reason, contellation, phases of the moon, unitra, total solar ecipse, penumbra, partial solar eclipse, lunar eclipse	The night sky, The Solar System, The Earth, The Moon, star, antificial satellite, orbit, natural satellite, phanet, Sun, comet, meteore, metoenter, stara, galaw, Milky Way, Universe, astronomer, ellipse, asteroid, Mercury, Yenus, Mars, terrestrila, galam, dava flanet, gavity, exoplanet, axis, day, night, year, season, constellation, phases of the mounter, lot al solar eclipse, penumbra, partial solar eclipse, lunar eclipse	source, emit, reflect, eye, abooh, luminous, non-luminous, transmit, transparent, translucent, opaque, umbra, perumbra, vacuum, wave, light-time, image, virtual, plane, incident ray, reflected ray, nomes, angel of reflection, jaw of reflection, specular reflection, diffue scattering, refraction, medium, lein, comes, comerging, focus, focal point, refraction, pupil, comea, inverted, photorecesptor, optic news, brain, planbe camera, rail image, paic, charge-coupled device, prima, prestrum, dispension, continuous, frequency, primary colour, secondary colour, filter	occiliation, vibration, energy, undulation, sound, amplitude, frequency, wavelength, peak, creat, trough, transverse, longitudinal, compression, reserfection, reflection, incident wave, reflected wave, superpoor, vibration, medium, vacuum, speed of sound, speed of light, patch, loadness, microphone, occiliscope, herzi, likhentra, audile range, infrasonul, dirsanud, ear, pinan, auditory caral, eardnur, outer ear, oscicles, middle ear, amplift, oral window, cochiea, auditory nerve, inner ear, decibeis, diaphragm, amplifier, echo, reverberation, transmitter, receiver	oscillation, vibration, energy, undulation, sound, amplitude, frequency, wavelength, peak, crest, trough, transverse, longitudinal, compression, rearefaction, reflection, incident wave, reflected wave, superpose, vibration, medium, vacuum, speed of Songh, Tuck, Jondens, monophone, oscilloscop, Herri, Kiloherz, auditor ange, energi angel of the structure of the structure of the structure of the structure energi angel of the structure of the structure of the structure of the energi angel of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure angel fier, echo, reverberation, transmitter, receiver		

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National Carriculum/specification Links	10.13.14	101.514	123334	10.0.0.0	101143	70.14.04
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Tem Tuois Title	1 PLS Particle Model	1 P1.2 Changing State	2 P.J.Preset	3 P2.1 Materi	4 P2.2 Nondona Lawa	8 P2.3 Forces in action	8 Bats and Charter		
Rationale	Proceedings and understanding of the particle name of reader is fundamental to physics, Learning and understanding of the particle name of reader is fundamental to physics, Learning the set is the supportant of index in a different town, they must also be in The mounter and name of mount are elemental to the further undextanding of physics.	P. J. Company axis A clines understanding of the hundrations of the physical work forms a solid base to further fieldy of physical. Understanding of the antidication because to its further fieldy of physical. Understanding of the antidoxin physical changes that we see around us.	Picar resource in the second s	P2.1 Bolico Students will learn about how different objects interact, how they can calculate greads and predicting travel traves. They all also gain vite information about how objects behave during calificians.	Yes, contact sums Nexton's laws of enclose essentially advances by which roots of changes and the rolationship lastesan Robert changes in solitor with from and roots.	PL-2 Fortiers in states Forces sating on an object can read in a change of shape or readors, Heaving based at the search of instead on a can reversitable for loss as falled and forces causing changes. This develops the risks that for instead of the search of the search of the search of the search of the search instead. The search of the search through search of the search of th	These are the fundamentals of electrical discuts and all give students the ecology including that they lead in order to further understand the soft to closely which scores there is the course.		
Prior knowledge	Learnest should be avere of the above, model, and that above are examples of particles. They should also too the attrenuts between above, mainches and antipools, Learnest should understand how density can be attracted by the state state-table or is.	Learners should be familiar with the structure of nutter and the similarities and offseences between solids, liquids and gases. They block that are and also of the parties models and be able to use it to model changes in particle behaviour during changes of make Learners (should have been and an understanding that easily can be solided internally by nuterials.	Learness should be aware of the change is pressure in the attroophene and in Sopois with height qualitative establishing only. They should have as understanding of forming and brinking and the effect of upfrout. Learness should how the pressure is measured by an other of the over almost with autograd a content to the sortaux.	yil term li fe physica	Learners should been an unknowned by if arotest and on-curtain forms influencing the restore of a signif- tray should be assess of the Needon and that the third science. The two two becauses will be around the two two two because and the significant science of the significant the two	Learning shault have an unknowning of house adoption default adjusts and a reaction reaction. They wantai analog to formite with instant strands the data type default adjusts and by a reaction reaction. They make a reaction of the setting being comparison of the strands and the setting to adjust adjusts of the setting the galaxies and the setting being comparison of the strands. The setting comparison of the setting a form due to galaxies and that generational field along its affine can only provide adjusts and the set in a form due to galaxies and that generational field along its affine can only provide adjusts and easy.	yil tern 1 physics.		
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National Curriculum/tipecification links	P1.14.P1.2	P1.2	P13	P3.2.4, 1.5	P22	P23	Pi 12, 13		
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Cross curricular links	Methematical skills, use of formulae and problem solving (W 7 - T1,T6, W8 - T1,T6, T6 Y8 - T1,T2,T6, Y10 - T2,T6)	Methematical skills, use of formulae and problem solving (H 7 - T1,74, VIII - T1,74, T6 VII- T1, T2,T4, V11 - T2,T4)	Mathematical skills, use of formulae and problem sching (Nr.P - T1,T6, NH - T1,T6, T6 VH- T1, T2,T6, Y13 - T2,T6)	Mathematics skills throughout whole content	Mathematical skills, use of formulae and problem solving (Vr.7 - T1,T6, Vr.8 - T1,T6, T6 VF - T1, T2,T6, Vr.9 - T2,T6)	Mathematical skills, use of formulae and problem subing (Yr 7 - T1, T6, Y0 - T1, T4, Y0 YP- T1, T2, T4, Y13 - T2, T4)	Mathematics skills, D+T electronics		
Kay vicabulary	In the second process of the second s	A second	Simple with 1.1 for these the last sequences are the standard sequences of the last seq	tura, quest, distante time, accordante, weble, kalar		Hericki Shari Yang Yang Yang Yang Yang Yang Yang Yang	man, reader, darge, udage, darent, mainte		