

Subject	Y10 Core Knowledge – Autumn/Spring/Summer term	How to support students' learning
Science - Physics	<p>Autumn Term</p> <p>Atomic Structure -</p> <ol style="list-style-type: none"> 1. Understand nuclear decay equations. 2. Understand half-lives and the random nature of radioactive decay. 3. Compare contamination and irradiation. 4. Describe the nature of background radiation. (Triple only) 5. Understand different half-lives of radioactive isotopes. (Triple only) 6. Describe the uses of nuclear radiation. (Triple only) 7. Describe nuclear fission. (Triple only) 8. Describe nuclear fusion. (Triple only) <p>Energy 2 -</p> <ol style="list-style-type: none"> 9. Calculate kinetic energy. 10. Calculate gravitational potential energy. 11. Calculate elastic potential energy. 12. Apply the law of conservation of energy to calculations of changing energy stores. <p>Spring Term</p> <p>Forces -</p> <ol style="list-style-type: none"> 13. Describe scalars and vectors. 14. Describe contact and non-contact forces. 15. Describe gravity. 16. Determine resultant forces. 17. Describe work done and energy transfer. 18. Understand forces and elasticity. 19. Describe motion along a line. 20. Compare distance and displacement. 21. Compare speed and velocity. 22. Understand and interpret distance-time graphs. 23. Understand and interpret velocity-time graphs. 24. Describe Newton's laws of motion. 25. Understand acceleration. 26. Understand forces and braking. 27. Describe stopping distance. 28. Describe factors affecting stopping distance. 29. Understand momentum is a property of moving objects. (HT only) 30. Understand conservation of momentum. (HT only) 31. Understand moments, levers and gears. (Triple only) 32. Understand pressure in a fluid. (Triple only) 33. Understand atmospheric pressure. (Triple only) 	<p>Students can revise on the following websites:</p> <ul style="list-style-type: none"> • Educake: www.educake.co.uk • Oak academy lessons: https://continuityoak.org.uk/lessons • Free science lessons: https://www.youtube.com/c/free-sciencelessons • BBC bitesize- select Physics (Single science) and then AQA if studying for Triple Science or Combined and then select AQA Trilogy if studying Combined Science and then select the relevant topics – https://www.bbc.co.uk/bitesize/levels/z98jmp3 • Save my exams - https://www.savemyexams.com/gcse/ • Primrose Kitten - https://www.primrosekitten.com/collections/gcse • Past paper questions can be found on the Physics and Maths Tutor website for all three science subjects - https://www.physicsandmathstutor.com/

	<p>34. Understand changes in momentum. (Triple only)</p> <p>Summer Term</p> <p>Electricity -</p> <p>35. Recognise standard circuit diagram symbols.</p> <p>36. Understand electrical charge and current.</p> <p>37. Calculate current, resistance and potential difference.</p> <p>38. Understand resistors.</p> <p>39. Compare series and parallel circuits.</p> <p>40. Compare direct and alternating potential difference.</p> <p>41. Understand mains electricity.</p> <p>42. Calculate power.</p> <p>43. Describe energy transfers in everyday appliances.</p> <p>44. Describe the National Grid.</p> <p>45. Understand static charge. (Triple only)</p> <p>46. Understand electric fields. (Triple only)</p>	
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