

Subject	Year 9 Core Knowledge – Autumn/Spring/Summer term	How to support students' learning
Science - Physics	<p>Autumn Term</p> <ol style="list-style-type: none"> 1. Recall the 8 stores of energy. 2. Recall the 4 energy transfers. 3. Apply the concept of conservation of energy to situations. 4. Recall the concept of power and apply it to situations. 5. Calculate work done. 6. Understand dissipation. 7. Describe ways to reduce unwanted energy transfers. 8. Recall the concept of efficiency and apply it to situations. <p>Spring Term</p> <ol style="list-style-type: none"> 9. Recall the three states of matter and their particle diagrams. 10. Recall the names of the changes of state. 11. Calculate the density of objects. 12. Explain how to measure the density of objects. 13. Understand that heating can change either the temperature or the state of an object. 14. Be able to explain the features of a heating/cooling curve. 15. Know the factors that affect how much energy is needed to alter the temperature of an object. 16. Calculate specific heat capacity of materials. 17. Investigate how to measure the specific heat capacity of materials. 18. Know the factors that affect how much energy is needed to change the state of a material. 19. Calculate specific latent heat. 20. Explain how the motion of particles in a gas is related to the gases temperature and pressure. <p>Summer Term</p> <ol style="list-style-type: none"> 21. Describe the basic structure of the atom. 22. Know the size of the atom and the nucleus. 	<ul style="list-style-type: none"> • Use BBC bitesize Physics: https://www.bbc.co.uk/bitesize/subjects/znxtyrd • Get pupils to set themselves quizzes on Educake (The Science Department's homework platform) to help them revise topics they are trying to understand. • Talk about science at home and what students have learnt today. As well as discuss new scientific advances in the news. • Use the link below to help find lessons you need to refresh and want to revise; https://continuityoak.org.uk/lessons • For topics that exceed the national curriculum you may need to look at the GCSE topics to.

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| | <ol style="list-style-type: none">23. Describe why atoms have no overall charge.24. Know the mass number is the number of protons and neutrons.25. Describe what an isotope is.26. Describe the discovery of the atom and the nucleus.27. Describe the results of the alpha scattering experiment.28. Describe what radioactive decay is.29. Know the difference between activity and count rate.30. Physics - Describe the 3 types of nuclear radiation - alpha, beta and gamma decay. | |
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