

Subject	Year 7 Threshold Knowledge – Autumn/Spring/Summer term	How to support students' learning
Biology	<p>Autumn Term</p> <ol style="list-style-type: none"> 1. Describe cells as the fundamental unit of living organisms. 2. Describe how to observe, interpret and record cell structure using a light microscope. 3. Describe the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts. 4. Compare the similarities and differences between plant and animal cells. 5. Describe what a specialised cell is and give examples. 6. Explain the structural adaptations of some unicellular organisms. <p>Spring Term</p> <ol style="list-style-type: none"> 7. Know the different parts of the skeleton. 8. Understand and demonstrate that antagonistic pairs of muscles create movement when one contracts and the other relaxes. 9. Know the different roles of muscle and where muscles are found. 10. Understand what joints are and name the four different types giving examples. 11. Investigate how resting muscles effects fatigue. 12. Know the structures of the respiratory system and their functions. 13. Explain how breathing occurs through changes in pressure in the lungs. 14. Know that in gas exchange, oxygen and carbon dioxide move between alveoli and the blood. 15. Know that oxygen is transported to cells for aerobic respiration and carbon dioxide is removed from the body. 16. Understand that the amount of oxygen required by body cells determines the rate of breathing. 	<p>Use BBC bitesize Biology:</p> <ul style="list-style-type: none"> • https://www.bbc.co.uk/bitesize/subjects/z4882hv. • 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. • Watch David Attenborough documentaries about the planet e.g., blue planet. • Use the link below to help find lessons you need to refresh and want to revise; https://continuityoak.org.uk/lessons

17. Explain how different factors affect breathing.
18. Understand that knowledge of digestion and a healthy diet allows humans to live a healthier lifestyle.
19. Know what a balanced diet is, (carbohydrates, lipids, proteins, vitamins, minerals, dietary fibre and water) and that the body needs these for energy, growth and maintenance.
20. Understand that the digestive system breaks large food molecules into smaller, soluble molecules which can be absorbed into the blood and transported to cells.
21. Describe the action of enzymes to aid digestion.
22. Understand and use the test for starch and glucose.
23. Know some effects of drugs on the body.

Summer Term

24. Recall the photosynthesis equation and understand that it occurs in plants and algae.
25. Explain the functions of different parts of the leaf and how they are adapted for photosynthesis.
26. Describe the role of fertilisers and the effects on crops when they lack these minerals.
27. Describe the role of Palisade cells and the organelles present in them.
28. Describe and explain the correlation between light intensity and the rate of photosynthesis.
29. Describe how xylem vessels transport water and phloem tubes transport glucose in a plant.
30. Understand that all living things respire to release energy.
31. Explain how respiration is vital for exercise.
32. Give examples of how fermentation is used in food production.

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| | <p>33. Recall the word equations for aerobic and anaerobic respiration.</p> <p>34. Understand where the reactants needed for respiration come from.</p> | |
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