

Year 9 Autumn 1 Assessment w/c 30-1-23 & 6-2-23  
Revision List

Topic	Key content / links to BBC Bitesize
Ecological relationships	<ol style="list-style-type: none"> <li>1. organisms only survive in a habitat where they have all the essentials for life and reproduction.</li> <li>2. animals can be divided into vertebrates and invertebrates and that these groups can be further subdivided</li> <li>3. green plants can be subdivided into those with vascular tissues (xylem and phloem) and complex leaves with a waterproof cuticle, and those without.</li> <li>4. use of quadrats as a sampling technique for investigating populations.</li> <li>5. observe and record the organisms which comprise the living community in a habitat.</li> <li>6. different habitats support different living things.</li> <li>7. different habitats have different environmental features.</li> <li>8. organisms show adaptations to environmental conditions.</li> <li>9. plants and animals are adapted to ensure the survival of the species.</li> <li>10. abundance of organisms in habitats is affected by environmental factors such as availability of light, water and nutrients.</li> <li>11. the size of a population depends on resources.</li> <li>12. all feeding relationships within a habitat are interconnected.</li> <li>13. food webs are made up of a number of food chains.</li> <li>14. plants benefit from waste products and the decay of other organisms.</li> <li>15. a pyramid of numbers describes the numbers of food plants, herbivores and carnivores in a habitat.</li> <li>16. there is a flow of energy from the producers to the final organisms in the food chain.</li> </ol> <p>BBC Bitesize - Ecosystems <a href="https://www.bbc.co.uk/bitesize/topics/zxhhvcw">https://www.bbc.co.uk/bitesize/topics/zxhhvcw</a></p>
Inheritance and selection	<ol style="list-style-type: none"> <li>1. offspring are similar but not identical to their parents.</li> <li>2. some characteristics are inherited.</li> <li>3. cells have nuclei which contain information that is transferred from one generation to the next.</li> <li>4. during fertilisation genetic information from male and female parents is combined.</li> <li>5. the fusion of male and female sex cell nuclei in both animals and plants produces a new individual that is genetically unique.</li> <li>6. sperm and egg cells are specialised.</li> <li>7. fertilisation is similar in animals and plants.</li> <li>8. genetic material is called DNA.</li> <li>9. DNA is in the shape of a double helix held together by 4 chemicals called bases.</li> <li>10. chromosomes are long strands of coiled DNA and genes are sections of chromosomes that hold the information to produce characteristics.</li> <li>11. DNA structure was discovered by James Watson, Francis Crick and Rosalind Franklin.</li> <li>12. Franklin used X-rays to investigate DNA structure and produced the first image.</li> <li>13. Watson and Crick used the image to report that DNA was a helix which later developed into a double helix with base pairs.</li> <li>14. selective breeding involves choosing individuals with particular inherited characteristics to mate.</li> <li>15. different breeds of animals have been produced by selective breeding.</li> <li>16. selective breeding results in new varieties of plants and breeds of animals.</li> <li>17. domestic farm animals have been bred to possess 'desirable' characteristics.</li> </ol>

	<ol style="list-style-type: none"> <li>18. natural selection is a theory that explains how species evolve.</li> <li>19. natural selection is the process by which species change over time in response to environmental changes and competition for resources.</li> <li>20. competition is when two or more living things struggle against each other to get the same resource.</li> <li>21. evolution is the theory that an animal and plant species today descended from species that existed in the past.</li> <li>22. variation between individuals is important for the survival of a species, helping it to avoid extinction in an always changing environment.</li> <li>23. fossils provide evidence for evolution by natural selection.</li> <li>24. DNA evidence can now be used to identify similarities and differences in the genome of organisms.</li> </ol> <p>BBC Bitesize - Inheritance and genetics <a href="https://www.bbc.co.uk/bitesize/topics/zpffr82">https://www.bbc.co.uk/bitesize/topics/zpffr82</a></p>
<p>Energy and electricity</p>	<ol style="list-style-type: none"> <li>1. useful changes usually involve energy transfers.</li> <li>2. Know that the terms, kinetic, gravitational potential, chemical, electrical, thermal and elastic are useful when describing energy.</li> <li>3. energy is transferred along four pathways: mechanical, heating, electrical or wave.</li> <li>4. electrical circuits are used to perform a variety of useful tasks.</li> <li>5. electrical energy is transferred around circuits and can be transferred by components as light, sound, movement and heat.</li> <li>6. Know how current behaves in electrical circuits.</li> <li>7. Know how to measure voltage (potential difference) in a circuit.</li> <li>8. Know a simple model of energy transfer from batteries to components in circuits.</li> <li>9. Know a simple model of potential difference making a current flow in a circuit.</li> <li>10. a cell has chemical energy, which is transferred to electrical energy in a circuit.</li> <li>11. in energy transfers, energy may go to waste.</li> <li>12. when energy is transferred the total amount of energy remains constant.</li> <li>13. use flow diagrams to show how energy is transferred in systems.</li> <li>14. electricity can be made to flow by causing movement in an electrical generator.</li> <li>15. fossil fuels, nuclear fuels and renewable energy sources can be used to drive electrical generators.</li> <li>16. electricity cannot be stored.</li> <li>17. Know about some environmental impacts caused by the generation of electricity.</li> <li>18. electric current is conducted from the mains to components in electrical circuits.</li> <li>19. energy is transmitted via electricity to an appliance, where it is transferred to another store.</li> <li>20. some appliances transfer more energy than others (in a given time), this is the definition of power.</li> <li>21. Make calculations of power in terms of power = energy transferred/time.</li> <li>22. identify the power rating of common electrical appliances.</li> <li>23. electricity is paid for per kilowatt hour at a unit cost.</li> <li>24. Be able to calculate the cost of electricity, given the time, unit cost or kilowatt hours used.</li> </ol> <p>BBC Bitesize - Electricity <a href="https://www.bbc.co.uk/bitesize/topics/zgy39j6">https://www.bbc.co.uk/bitesize/topics/zgy39j6</a>  BBC Bitesize - Energy stores  <a href="https://www.bbc.co.uk/bitesize/topics/zc3g87h/articles/zg2sn9q">https://www.bbc.co.uk/bitesize/topics/zc3g87h/articles/zg2sn9q</a></p>