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|  | **Science – Biology** **KEY STAGE THREE ASSESSMENT FRAMEWORK, YEAR 7** |
| **Learning Focus**  | **Milestone 1** | **Milestone 2** | **Milestone 3** | **Milestone 4** | **Milestone 5**  |
| **Emerging** | **Developing** | **Securing** | **Mastering** | **Beyond** |
| **Classification and Cells** | I can state that cells are the fundamental unit "building block" of organisms (8)I can name some equipment that may be used to observe cells (6,7)I can list some tissues and organs (11)I can name the main Kingdoms of living things (1)I can state that different acids and alkalis may have different strengths (2)I can state colours on the pH scale (4) | I can list the main parts of cells (cell wall, cell membrane, nucleus, vacuole, mitochondria and chloroplasts) and identify them from a diagram (8)I can accurately draw parts of cells when viewing them under a light microscope (6,7)I can describe a tissue, an organ and an organ system and describe how multicellular organisms are organised (11)I can name an example of a unicellular organism (5)I can use keys to classify organisms (2,3,4)I can describe the main groups of plants, Invertebrates and Vertebrates.I can state the purpose of an indicator and describe how Universal indicator is used to find the strength of an acid or alkali using the pH scale (3) | I can describe the functions of the main parts of cells, including the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts (8)I can describe the structural adaptations of some animal and plant cells (9)I can describe the difference between a unicellular and a multicellular organism (10)I can identify some structures of amoeba and euglena (10)I can explain the differences between groups and use these ideas to produce my own keys (5)I can describe neutralisation and the reaction of metals and acids, as examples of chemical reactions (6)I can identify the ions responsible for acidity and alkalinity (10)I can identify strengths and weaknesses of different substances on the pH scale using different indicators (4) | I can compare and contrast animal and plant cells (6,7)I can identify the structural adaptations of some unicellular organisms (10)I can organise individuals into their groups applying knowledge to new organisms (1,3,4,5)I can identify a salt from a word equation (11) I can select the appropriate indicator to use when testing particular strength Acids and Alkalis (5) | I can explain the structure and function of euglena (10) I can explain the process that occurs in chloroplasts (8,9)I can develop Keys to enable classification of more complex and unusual organisms (5) |
| I can write word equations for the reactions of acids with bases, alkalis, metals and carbonates (11) |

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| **Life** | I can name and describe the functions of some tissues and organs in the human reproductive systems (5)I can state what is meant by fertilisation (5)I can state how long pregnancy lasts (7)I can state a simple definition of the menstrual cycle (11)I can name the parts of a flower (1)I can state what is meant by pollination (2)I can describe the methods of seed and fruit dispersal (3) | I can describe fertilisation (5)I describe the main structures in the male and female reproductive systems (5)I can name and describe the functions of some tissues and organs in the reproductive systems of plants (1) | I can explain how gametes are involved in fertilisation (5)I can describe the function of the main structures in the male and female reproductive systems (5) I can describe the stages of pregnancy and birth (6,7,8)I can describe the main stages in the menstrual cycle (11)I can describe the process of pollination (2)  I can describe the process of fertilisation in plants (12) | I can explain the sequence of fertilisation and implantation (5,7) I can describe accurately the sequence of events during gestation (8) | I can explain how the different parts of the male and female reproductive system work together to achieve certain functions (5)I can explain in detail how contractions bring about birth (8)I can evaluate some methods used to resolve infertility problems (12)I can make links between the menstrual cycle, fertilisation and infertility problems.I can discuss the impact of menstrual lifestyle on the foetus (10,12)I can discuss the importance of insect pollination and plant reproduction, with reference to human food security (2)I can explain the processes of wind and insect pollination comparing the similarities and differences between the two (2)  |

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|  | **Science – Biology** **KEY STAGE THREE ASSESSMENT FRAMEWORK, YEAR 8** |
| **Learning Focus**  | **Milestone 1** | **Milestone 2** | **Milestone 3** | **Milestone 4** | **Milestone 5**  |
| **Emerging** | **Developing** | **Securing** | **Mastering** | **Beyond** |
| **Body Systems 2** | I can list some nutrients (4,15)I can name some tissues and organs in the human gas exchange system and label a simple diagram of the human gas exchange system (1)I can state that organisms release energy from carbohydrates by respiration (3) | I can outline the process of digesting food (6,8)I can describe the impact of exercise, asthma and smoking on the human gas exchange system (1) | I can explain the consequences of imbalances in the diet (obesity, starvation and deficiency related diseases) (3)I can calculate and compare energy values of different foods in kJ (using food labels) (3)I can name and describe the functions of some tissues and organs in the human digestive system (6,8)I can state what happens to the air, ribs and diaphragm during breathing and describe changes in lung volume (1) | I can make calculations of energy requirements in a healthy daily diet (4,5)I can explain how digestion happens, with reference to enzymes (6,7)I can summarise the reactants and products of aerobic and anaerobic respiration using word equations (2)I can compare and contrast aerobic and anaerobic respiration (2) I can describe some applications of aerobic and anaerobic respiration (2) | I can link adaptations of different parts of the digestive system to their functions (6,7)I can evaluate the implications of aerobic and anaerobic respiration for organisms based on the reactants and products (2,3)I can explain how ventilation occurs with reference to pressure changes and measuring lung volume (1,2)I can interpret data about and evaluate the impact of exercise, asthma and smoking on the human gas exchange system (1,2) |

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| **Emerging** | **Developing** | **Securing** | **Mastering** | **Beyond** |
| **Environment 2** | I can state that all organisms in an ecosystem may affect each other and are affected by their environment (3,6)I can construct and interpret simple food chains (7)I can identify variation between organisms of the same and different types (4)I can sample habitats for plant species and invertebrates (1,2,3) | I can describe how a change in the numbers of one organism may affect another (7)I can list some physical environmental factors in an environment (6)I can use food webs to write food chains (7)I can explain how to use a quadrat and how to dig a pitfall trap (1,2) | I can use food chains to make food webs (7)I can identify predators, prey, consumers, producers, herbivores and carnivores from a food chain (7) | I can describe and explain how organisms may be affected by their environment, with reference to adaptations (3,6)I can explain how a change in the numbers of one organism may affect another, with reference to competition and predation (5,7)I can explain how adaptations increase the chances of survival for organisms (6)I can describe the role of variation in natural selection (5)I can explain the causes and effects of extinction (11) | I can evaluate the impact of humans on other organisms, with reference to the accumulation of toxic materials (9)I can evaluate the effect of humans on the Atmosphere (10)I can explain how energy is lost in food chains (7,8)I can interpret and draw pyramid of numbers and a pyramid of biomass (8)I can explain the effects of some persistent pesticides on top predators (9)I can describe the purpose of gene banks (12) |

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| **Microbes** | I can name types of microbes, describe their basic structure and place in order of size (1)I can state some uses of microbes (2)I can name some diseases caused by microbes and the pathogens that cause them (5)I can suggest simple ways to stop spread of disease (5) | I can describe mechanisms for the spread of disease (5)I can identify some of the body’s defences (6)I can describe the action of white blood cells (6)I can describe how microbes can make us ill (5) | I can discuss the benefits of bacteria in the human digestive system (3)I can explain how we have used our knowledge of white blood cells to produce vaccinations (5)I can explain how our ideas of disease have changed over time and the work completed by famous Microbiologist that have led to these changes (7) | I can explain how Vaccination can prevent the spread of disease and Herd Immunity (6)I can explain the different forms of Immunity (6)I can explain specificity of vaccination using knowledge of antigens and antibodies (6) | I can evaluate the use of viruses in medicine (2)I can interpret how microbes effect the composition of the atmosphere through Photosynthesis, decomposition and respiration (4) |

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| **Biology**  **KEY STAGE THREE ASSESSMENT FRAMEWORK, YEAR 9** |
| **Learning Focus** | **Milestone 1** | **Milestone 2** | **Milestone 3** | **Milestone 4** | **Milestone 5**  |
| **Emerging** | **Developing** | **Securing** | **Mastering** | **Beyond** |
| **Genetics** | I can describe specialised cells and link their adaptations to their function (1)I can describe how organisms are organised (1,2)I can describe the types of variation seen in organisms (5) | I can explain that variation can be caused by Inherited or Environmental factors or a mixture of both (5)I can explain the process of development that leads to a new organism (3,4)I can identify variation as continuous and discontinuous (6)I can define DNA and suggest its’ importance in variation (7) | I can explain how Inherited Variation occurs and relate to DNA (5)I can explain the difference between Natural and Artificial Selection (and between cross and Selective breeding) (9)I can present discontinuous and Continuous Variation appropriately (6) | I can correctly apply the terms Dominant and Recessive to inheritance (8)I can use Punnet squares to predict outcomes of crosses (8)I can apply ideas to suggest how to produce specific individuals through selective and or cross breeding (9)I can apply ideas about Asexual reproduction to explain Cloning methods (10) | I can compose Punnet Squares to speculate on possible outcomes of crosses (8)I can evaluate the practices of cloning (10)I can describe the work of Watson, Crick and Franklin in the discovery of the structure of DNA (7) |

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| **Biology**  **KEY STAGE THREE ASSESSMENT FRAMEWORK, YEAR 9** |
| **Learning Focus** | **Milestone 1** | **Milestone 2** | **Milestone 3** | **Milestone 4** | **Milestone 5**  |
| **Emerging** | **Developing** | **Securing** | **Mastering** | **Beyond** |
| Photosynthesis | I can state that all Food Webs start with the Sun (1)I can identify plant organs and tissues (2)I can test food and leaves for Starch (3)I can correctly use the terms; Producer, Consumer, Carnivore, Herbivore, Trophic level, Omnivore (11)I can link food chains to produce a food web (11) | I can describe functions of plant organs and tissues (2)I can explain how green plants use the sun to photosynthesize (1,3,4,5,)I can write a method for Starch testing (3,4)I can state the conditions necessary for Photosynthesis (3,4)I can draw pyramids of biomass (11,12) | Explain how plant cells are adapted for their function (1,2)I can draw pyramids of numbers and Biomass and interpret them to explain the effects of changes in the environment (11)I can recall reactants and products of Photosynthesis (3,4,5)I can explain the role of guard cells in limiting water loss (2)I can explain why various steps of Starch testing have to be completed (3,4)I can plan to investigate which factors that affect the rate of photosynthesis (7,8,9) | I can compare and contrast Photosynthesis and respiration in plants (10)I can write a word equation for Photosynthesis (3,4)I can interpret results from Starch testing experiments (3,4)I can explain why other minerals/nutrients are required for healthy plant growth (6)I can explain factors that affect photosynthesis (3,4)I can apply knowledge to explain energy loss from Food Webs(11,12) | I can write a balanced symbol equation for Photosynthesis (3,4)Generate ideas to explain why Green plants are green in relation to their energy source (4)I can describe and explain how humans impact upon food chains (12) |