Year 7: Spring term Department: <u>Science</u>

Unit of Work: Sexual reproduction in animals and ecosystems.

Projection Grades (end of year 11)	Projection Grades (end of year 11)	Projection Grades (end of year 11)
1-3	4-6	7-9
 1-3 Identify animals that reproduce sexually and correctly use the term: sexual reproduction. Describe how different animals care for their offspring. Describe how fish, birds and mammals reproduce sexually. Identify sperm cells and egg cells as gametes and correctly use the term: gamete. Describe the functions of the structures and organs of the human reproductive system. Describe how a woman becomes pregnant after fertilisation and correctly use the term: implantation. Recall the names of the structures surrounding the developing foetus. Identify the placenta and umbilical cord. Describe how the developing foetus is protected inside the mother. Recall the names of substances in a mother's blood that may harm a developing foetus and correctly use the term: premature 	 4-6 Compare the sexual reproduction of fish, birds and mammals. Use knowledge of the positions or shapes of reproductive organs to make deductions about reproductive processes. Suggest outcomes caused by problems with reproductive organs. Explain how sperm cells and egg cells are adapted to their functions. Compare the reproductive systems of humans and other animals. Describe what happens during cell division. Explain how identical and non-identical twins occur. Describe how materials are supplied and removed from the foetus. Identify stages of growth from embryo to newborn baby and recall how these stages can be checked. Describe what happens during labour and birth in humans. Explain why breast milk is best for newborn babies 	 7-9 Explain the implications of different methods of fertilisation in fish, birds and mammals. Explain the implications of a certain level of animal offspring aftercare in different situations. Explain the links between scientific advances and survival rates of humans. Suggest reasons for differences between the same types of specialised cells from different organisms. Suggest a function for an unknown animal cell based on its adaptations. Use knowledge of reproductive organs to suggest causes of reproductive problems. Identify and explain the points in reproduction where difficulties in becoming pregnant could occur
 harm a developing locius and correctly use the term: premature baby. Recall when human babies change their diet and correctly use the term: mammary gland. List the main stages in giving birth in humans. Recall the length of the gestation period in humans and correctly use the term: gestation period. Identify the parts of the body that change in males and females during puberty and correctly use the terms: puberty, adolescence. Recall the length of and stages in the menstrual cycle. Correctly use the term: habitat. Identify the physical environmental factors that make up the environment in a habitat. Describe the adaptations of a range of organisms to their habitats. Compare similar adaptations in plants and animals that live in similar places. Identify and give examples of inherited & environmental variation Describe how physical environmental factors vary in a habitat, both on a daily basis and seasonally. Use food chains to create food webs and identify food chains within food webs. Use a food web to identify food sources for different animals State the resources that organisms need from their habitats and ecosystems. Define feeding relationships in terms of energy flow. Describe the sources and effects of some pesticides. 	 Explain why breast milk is best for newborn bables. Compare the life cycles of different animals. Identify the role of sex hormones in puberty. Describe what happens to parts of the body during puberty and adolescence. Explain the purpose of the menstrual cycle. Use knowledge of the menstrual cycle to predict timings (e.g. of menstruation, ovulation, fertile period) Tell the difference between and identify examples of continuous and discontinuous variation. Correctly use the term: species. Explain how particular adaptations increase the chances of survival. Explain how changes in a physical environmental factor in a habitat affect populations and communities. Explain how particular adaptations increase the chances of survival. Explain how changes in a physical environmental factor in a habitat affect populations and communities. Explain how particular adaptations increase the chances of survival. Describe how the distribution of organisms is controlled by the availability of resources. Use food webs to predict the effects of changes in populations. Explain the gains and losses of energy from living organisms. Explain the effects of some persistent pesticides on ecosystems. 	 Explain how IVF and hormones can be used to increase the chances of pregnancy. Explain why ultrasound scans are used during pregnancy. Explain why acne may become a problem during puberty. Correctly use the term: hybrid. Describe how hybrids can be distinguished from species. Explain how particular adaptations limit an organism's distribution. Recall the differences between innate and learned behaviours. Describe how certain learned and innate behaviours can be beneficial to organisms. Evaluate food chains and food webs as models of feeding relationships. Use data to create food webs. Compare models of number, biomass).