

# KS3 Biology – Variation & Classification – Learning Objectives

	Beginning	Developing	Secure	Embedding	Extending	Excelling
Characteristics	-	Collect and present data to show variation within a species, including the use of mean, mode and median. Explain the difference between continuous and discontinuous variables, and give some examples of each. Distinguish between characteristics that are inherited from our parents, controlled by our environment, and those affected by both inheritance and environment.			Explain why data showing variation within a species may produce a normal or bimodal distribution.	-
Variation and Breeding	-	Explain why selective breeding is sometimes used.	Understand what causes variation between members of the same species. Explain how selective breeding is done (in a given context).	Discuss case studies in which selective breeding has been used successfully, and discuss the ethical issues of selective breeding.	Use monohybrid crosses to show how dominant and recessive alleles combine to give a characteristic to the offspring.	Discuss how some characteristics can skip a generation. Explain how medical conditions can be passed on genetically, and how this can be avoided.
Adaptation and Evolution	Identify some adaptations that a given species has, and explain why the adaptations have helped the species to survive in its environment.		Explain how a species may use camouflage to help ensure its survival. Explain what is meant by the term 'evolution'. Explain why species may become extinct.	For a given species, describe how it has evolved over time, and the reasons this has happened. Discuss the arguments in favour of, and against, Darwin's theory of evolution.		-
Classification	Classify some vertebrates into taxonomic classes, and describe their features and the differences between them. Use a dichotomous key to identify organisms.		Classify some invertebrates into taxonomic classes (and distinguish between types of arthropod), and describe their features and the differences between them. Construct dichotomous keys (branched and question) to identify organisms.		-	-

\* Objectives covering more than one grade are assessed based on the level of scientific detail and language used by the learner.