4.2.2 Classification and evolution

(a)	the biological classification of species	To include the taxonomic hierarchy of kingdom, phylum, class, order, family, genus and species **AND** domain.
		HSW1, HSW5, HSW6, HSW7
(b)	the binomial system of naming species and the advantage of such a system	
(c)	**(i)** the features used to classify organisms into the five kingdoms: Prokaryotae, Protoctista, Fungi, Plantae, Animalia	To include the use of similarities in observable features in original classification.
	(ii) the evidence that has led to new classification systems, such as the three domains of life, which clarifies relationships	To include the more recent use of similarities in biological molecules and other genetic evidence **AND** details of the three domains and a comparison of the kingdom and domain classification systems.
		HSW1, HSW5, HSW6, HSW7, HSW11, HSW12
(d)	the relationship between classification and phylogeny	(covered in outline only at AS Level).
		HSW5, HSW7
(e)	the evidence for the theory of evolution by natural selection	To include the contribution of Darwin and Wallace in formulating the theory of evolution by natural selection **AND** fossil, DNA (only genomic DNA at AS Level) and molecular evidence.
		HSW1, HSW2, HSW5, HSW6, HSW7
(f)	the different types of variation	To include intraspecific and interspecific variation **AND** the differences between continuous and discontinuous variation, using examples of a range of characteristics found in plants, animals and microorganisms **AND** both genetic and environmental causes of variation.
		An opportunity to use standard deviation to measure the spread of a set of data **and/or** Student's *t*-test to compare means of data values of two populations **and/or** the Spearman's rank correlation coefficient to consider the relationship of the data.
		M1.2, M1.3, M1.6, M1.7, M1.10 HSW4
(g)	the different types of adaptations of organisms to their environment	Anatomical, physiological and behavioural adaptations **AND** why organisms from different taxonomic groups may show similar anatomical features, including the marsupial mole and placental mole.

4.2.2 Classification and evolution

HSW5

(h)	the mechanism by which natural selection can affect the characteristics of a population over time	To include an appreciation that genetic variation, selection pressure and reproductive success (or failure) results in an increased proportion of the population possessing the advantageous characteristic(s). *M0.3* HSW8
(i)	how evolution in some species has implications for human populations.	To include the evolution of pesticide resistance in insects and drug resistance in microorganisms. HSW8, HSW9, HSW12