UNIT 2: HOW IS CONTINUITY OF LIFE MAINTAINED?

AREA OF STUDY 2: HOW IS INHERITANCE EXPLAINED?

Key knowledge

Genomes, genes and alleles

genomic app	many organisms, comparing relatedness between species, determining gene function and plications for the early detection and diagnosis of human diseases. What is the Human Genome Project?
2.1.3.2.	How long did the Human Genome Project take to complete?
2.1.3.3.	What was the role of the Human Genome Project?
2.1.3.4.	What is the question still to be answer in relation to the Human Genome Project?
2.1.3.5.	Why is mitochondrial DNA so useful in genetic sequencing?

2.1.3 the role of genomic research since the Human Genome Project, with reference to the sequencing of

2.1.3.6.	What is comparative genomics and how can it be used by scientists?
The diagram amino acids a	shows a comparison of mtDNA from humans, gorillas and orangutans. Only the changed are labelled.
	G CAC ACT ACT ATA ACC ACC CTA ACC CTG ACT TCC CTA ATT CCC CCC ATC CTT ACC ACC
	G TAC GCT ACC ATA ACC ACC TTA GCC CTA ACT TCC TTA ATT CCC CCT ATC CTT ACC ACC
(c) Orangutan ACA GCC AT — Thr — ala —	G TTT ACC ACC ATA ACT GCC CTC ACC TTA ACT TCC CTA ATC CCC CCC ATT ACC GCT ACC CTC ATT AAC
	Use the example above to discuss how DNA sequencing and gene sequencing can be used to
snow re	elatedness between species.
2.1.3.8.	What is a molecular clock?