1. **Explain why diversity aids in species survival.**

Key vocabulary:

biodiversity, diversity index ,species, niche, generalist, specialist, mutualism, commensalism, parasitism, artificial selection, natural selection

Things to know:

* Importance of variation
* Diversity index
* Niche (generalists vs specialists)
* Symbiotic relationships (mutualism, commensalism, parasitism)
* Natural vs artificial selection

1. **Explain the link between reproduction and heredity.**

Key vocabulary:

gamete, zygote, clone, allele, heterozygous, homozygous, purebred, hybrid, dominant, recessive, discrete variation, continuous variation

Things to know:

* Sexual vs asexual reproduction

(advantages and disadvantages of each)

* Types of asexual reproduction
* Sexual reproduction (internal vs external fertilization)
* Nature vs nurture
* Punnett square crosses
* Dominant, recessive and co-dominant traits
* Discrete vs continuous variation of traits

1. **Describe the role of genetic material and biotechnology.**

Key vocabulary:

transgenics, nucleotide, chromosomes, DNA, genes, mitosis, meiosis

Things to know:

* Role of chromosomes, DNA and genes
* Examples of biotechnology
* Ethics of biotechnology
* Mitosis vs meiosis \*Ensure you can sketch what these look like.

1. **Identify and analyze human impacts on biodiversity.**

Key vocabulary:

extirpation, extinction, endangered

Things to know:

* Factors that may cause loss of biodiversity
* Ways we are trying to preserve biodiversity