GCSE Biology Learning Checklist

Unit 6: Inheritance, variation and evolution	Sub-unit: Variation and Evolution

I can...		After Lesson	After Revision
1	Explain how genetics and the environment affects phenotype		
2	Give examples of differences caused by genetic variation, environmental variation and a combination of both		
3	Recall that all variants arise from mutations and that: most have no effect on the phenotype		
4	Describe evolution through a process of natural selection		
5	Describe the process of selective breeding to breed plants and animals for particular genetic characteristics		
6	Give examples of selective breeding		
7	Outline the advantages and disadvantages of selective breeding		
8	Describe genetic engineering as a process which involves modifying the genome of an organism by introducing a gene from another organism to give a desired characteristic *(Higher tier only)*		
9	Give examples of genetic engineering (eg. GM bacteria to produce human insulin)		
10	Explain the potential benefits and risks of genetic engineering		
11	Explain how genetic engineering could be used to overcome some genetic disorders		
12	Outline different ways of creating plant clones *(separate only)*		
12	Explain why plant clones are useful *(separate only)*		
13	State the steps involved in embryo transplants *(separate only)*		
14	State the steps involved in adult cell cloning *(separate only)*		
15	Evaluate the benefits and risks of adult cell cloning *(separate only)*		

Keywords:

Variation
Mutation
Allele
Natural selection
Species
Selective breeding
Yield
Inbreeding
Genetic engineering
Plasmid
Vector
Herbicide resistance
Cloning
Tissue culture
Embryo transplants
Adult cell cloning
Gene therapy
Golden rice

Exam insights:

Remember the key steps in natural selection: mutation → advantage → survive → reproduce → pass on genes