TRIPLE Biology Tick List

Target	Triple Biology Paper 1 Revision Tick list		DIRT	
	B3 Infection and Response			
1.	*Describe how to prepare a bacterial culture*			
2.	*Describe the difference between antiseptics, disinfectants and antibiotics*			
3.	*Calculate cross-sectional areas of colonies or clear areas using πr2*			
4.	*Calculate the number of bacteria in a sample when using a counting chamber*			
5.	*Describe how a plant disease is detected and how it can damage a plant*			
6.	*Describe how plants can be infected by viral, bacterial and fungal pathogens as well as aphids as insects*			
7.	*Describe physical and chemical plant defence responses*			
8.	***Describe how monoclonal antibodies are produced***			
9.	***Describe how monoclonal antibodies can be used, for example treating cancer***			
Target	**Triple Biology Paper 2 Revision Tick list**			
	B5 The nervous system			
1.	Describe the function of the cerebral cortex, cerebellum and medulla (BIOLOGY)			
2.	**Describe the techniques used by scientists to investigate brain function, including studying patients with brain damage, electrical stimulation and MRI**			
3.	Label the parts of the eye and describe the function of the retina, sclera, cornea, iris, pupil, ciliary ligaments, suspensory ligaments, optic nerve			
4.	Describe and explain how accommodation can occur to focus on near and distant objects			
5.	Describe the features of myopia and hyperopia and options for how they can be corrected			
	B5 Homeostasis and Response			
6.	Describe the response of plants to light and gravity, according to the action of auxin in shoots and roots			
7.	Describe the action of plant hormones in agriculture and horticulture: in particular, the use of auxins, gibberellins (seed germination) and ethene (ripening)			
8.	Describe the monitoring and control of body temperature by skin receptors and thermoregulatory centre			
9.	Describe and explain the process of increasing energy transfer to the environment if body temperature is too high or too low			
10.	Describe the general processes of removal of carbon dioxide; urea; and uncontrolled water and ions from the body			
11.	Label the parts of the renal system			
12.	Describe and explain the function of the kidneys to control water, ion and glucose levels and to remove urea form the blood			
13.	**Describe and explain the function of ADH on the kidneys in regulating water balance**			
14.	Describe the process of dialysis in treating kidney failure and explain the mechanism by which dialysis works			
15.	Describe the way that transplant can be used to treat kidney failure			
16.	Compare and evaluate the usefulness of dialysis and transplant to treat kidney failure			
	B6 inheritance and Variation			
17.	**Describe complementary base pairings in the DNA molecule**			

18.	Define gene expression and describe the function of DNA as a code to make protein; including the triplet code for a single amino acid			
19.	**Describe in detail the stages of proteins synthesis including: template strand; amino acid carrier molecules; bonding of amino acids; final formation of fibrous or globular protein**			
20.	Outline the development of genetic theory from Mendel's observations to the discovery of DNA			
21.	Describe Lamarck's theory of acquired characteristics			
22.	Describe Darwin's theory of evolution according to natural selection			
23.	Explain the reasons why Darwin's theory of evolution was only gradually accepted			
24.	Describe Wallace's contribution to Darwin's theory of evolution			
	Describe the process of adult cell cloning			
	B7 Ecology			
25.	Explain the significance of decomposition in the recycling of material in the environment			
26.	Describe and explain the factors that affect the rate of decay			
27.	Describe how the process of anaerobic decay produces methane gas			
28.	Define the term trophic level and describe the features of each trophic level in a food chain			
29.	Explain what biomass is and be able to describe, construct and interpret a pyramid of biomass			
30.	Explain the reasons why biomass is lost by organisms at each stage of the food chain			
31.	Describe and explain the factors that affect food security			
32.	Describe the ways that the efficiency of food production can be improved due to modern farming methods			
33.	Define sustainable food production			
34.	Describe the ways that fish stocks in the oceans can be managed			
35.	Describe the way that modern technology has enabled new opportunities for food production, specifically: mycoprotein and GM food			