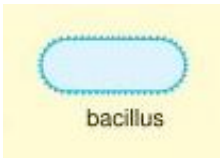
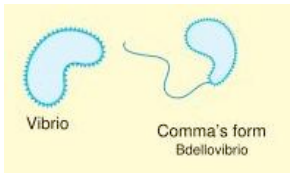
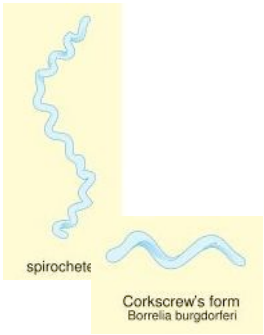
Assessment Schedule – 2006

Biology: Describe how humans use and are affected by micro-organisms (90168)

Evidence Statement

Q	Achievement	Achievement with Merit	Achievement with Excellence
Type	Bacillus	Vibrio	Spirillum
Shape	 *Key feature: Rod like / rounded ends* *Must be 2 dimensional drawing for all. Single cell sufficient*	 *Key features: Banana or comma like.*	 *Key features: Wiggly, spiral or corkscrew like*
1(a)	Any two of the three reasonably represented (as above).		
(b)	Any example, eg: Staphylococcus (boils & pimples), Streptococcus (sore throats) Salmonella typhimurium (typhoid) Treponema (syphilis) etc. **Bacterial disease**. Identified either by bacteria or disease.		
(c)	Describes saprophytic *and* parasitic feeding, eg: Feeds on dead matter (saprophyte); feeds on living organic matter / material / host (parasite). *Key distinction is dead / living.*	Comparison of feeding based on location / consequence of type of feeding (none / harm ; beneficial / non-beneficial). *Needs to include both groups for comparison.*	
(d)	(i) Completes the graph, as above. *J or S-shape curve* **OR** (ii) Reproduce by binary fission / describe dividing in two each generation.	(ii) Reason for shape is due to **population** doubling in each reproductive period *(reference to exponential growth / beyond one generation)*	(ii) As for Merit **AND** explains that exponential growth cannot continue indefinitely ***due to limiting factors*** *States and explains effect of limiting factor.*

Q	Evidence contributing to Achievement	Evidence contributing to Achievement with Merit	Evidence contributing to Achievement with Excellence
2(a)	Any TWO lines of table correct 1. Sporangium + Produce / store spores 2. Spores + For reproduction / start of new organism / means of dispersal 3. Hyphae + Feeding / secretion of enzymes / extracellular digestion / securing fungus to substrate / absorb water and/or nutrients and/or food		
(b)	Describes fermentation in terms of forming alcohol and CO_2	Explains that yeast is needed for: anaerobic respiration (of glucose) **AND** ethanol / alcohol is produced **AND** CO_2 produced **OR** annotated (word or symbol) anaerobic equation (mentions yeast)	
3	Answer must refer to <u>both</u> fungi and bacteria, either together or separately. describes that fungi and bacteria are vital for decomposition **OR** describes the release of nutrients	Explains that without decomposition, nutrients would not be available / would run out / be all locked up in living animals and plants **OR** explains that fungi ***and*** bacteria make nutrients available in usable form	
4	Describes all three of: Viruses can only reproduce in a host cell. Viruses contain nucleic acid (or RNA or DNA) / protein coat (may be shown in a diagram) Viruses can change, eg: Structure / shape / genetic material	Gives a reason for the body not defending based on any two of reproduction / structure / mutation, eg: **Reproduction** Large numbers produced quickly / inability to identify as in the host cell / destruction of host cell **Structure** Unable to recognise protein coat / new protein coat formed / new antigen formed / **Mutation** DNA / RNA alters frequently / virus mutates quickly requiring new antibody / host cannot produce new antibodies quickly enough.	Discusses reasons for body not defending based on all three of reproduction / structure / mutation **OR** Relates body's defence mechanisms to reproduction / structure / mutation

Judgement Statement

Biology: Describe how humans use and are affected by micro-organisms (90168)

Achievement	Achievement with Merit	Achievement with Excellence
FIVE questions answered correctly. Minimum 5 × A	SIX questions answered correctly, including at least THREE at Merit level. Minimum 3 × M + 3 × A	SIX questions answered correctly, including at least THREE at Merit level and at least ONE at Excellence level. Minimum 1 × E + 3 × M + 2 × A