

**Assessment Schedule – 2006****Science: Describe the chemical properties and effects of fertilisers (90766)****Evidence Statement**

Question	Achievement	Achievement with Merit	Achievement with Excellence
1(a)	General fertiliser <b>AND</b>		
1(b)	man-made / blood and bone are natural.		
1(c)	% elements <b>OR</b> Correct in TWO only. <b>OR</b> NPKS rating. Not Amount.	<b>THREE</b> correctly identified.  2 % nitrogen, 6% phosphorus, 8% potassium, 3% sulfur.	
1(d)	Fillers.	Fillers. Other chemicals the active components are bonded to.	
1(e)	High in nitrogen.	Nitrogen easily converted to nitrates for plants to use.	
2(a)	A correct mathematical formula used, but contains some obvious errors <b>OR</b> Provides answers only.	$\text{NH}_4\text{NO}_3$ $14 + 4 + 14 + 48 = 80$ $\text{N} = \frac{28}{80} = 35\%$ <b>OR</b> $\text{CO}(\text{NH}_2)_2$ $12 + 16 + 28 + 4 = 60$ $\text{N} = \frac{28}{60} = 47\%$	$\text{NH}_4\text{NO}_3$ $14 + 4 + 14 + 48 = 80$ $\text{N} = \frac{28}{80} = 35\%$ <b>AND</b> $\text{CO}(\text{NH}_2)_2$ $12 + 16 + 28 + 4 = 60$ $\text{N} = \frac{28}{60} = 47\%$
2(b)	Neither acidic or basic / pH 7.		
3(a)	Loss of electrons.		
3(b)	$\text{K} = +$ ; $\text{PO}_4 = -$ (BOTH required.)		
3(c)	ONE required.  Nutrients taken in by diffusion <b>OR</b> Need to be soluble in water <b>OR</b> Reformed into new molecules by the plant.	TWO required.  Nutrients taken in by diffusion <b>AND / OR</b> need to be soluble in water <b>AND / OR</b> reformed into new molecules by the plant.	Nutrients taken in by diffusion <b>AND</b> need to be soluble in water <b>AND</b> reformed into new molecules by the plant.
4(a)	19.9.12		
4(b)	The trees would lose condition <b>OR</b> Growth would be stunted.	The trees would lose condition <b>AND</b> growth would be stunted.	
4(c)	Limestone / lime.		
5(a)	Superphosphate / calcium phosphate (ONE required).		
5(b)	Causes excessive weed growth / depletes oxygen.	Causes excessive weed growth <b>AND</b> when weed dies bacteria deplete oxygen levels.	

5(c)	<b>ONE</b> valid form required  Restrict the amount of phosphate fertiliser used on farms, use less soluble forms of phosphates, use riparian strips around waterways to absorb phosphates.	<b>ONE</b> valid link required  Restrict the amount of phosphate fertiliser used on farms, use less soluble forms of phosphates, use riparian strips around waterways to absorb phosphates.	<b>TWO OR MORE</b> valid links required  Restrict the amount of phosphate fertiliser used on farms, use less soluble forms of phosphates, use riparian strips around waterways to absorb phosphates.
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### Judgement Statement

### Science: Describe the chemical properties and effects of fertilisers (90766)

Achievement	Achievement with Merit	Achievement with Excellence
EIGHT questions answered correctly.  Minimum of $8 \times A$	EIGHT questions answered correctly, including at least FOUR at Merit level.  Minimum of $4 \times M + 4 \times A$	EIGHT questions answered correctly, including at least TWO at Excellence and at least TWO at Merit level.  Minimum of $2 \times E + 2 \times M + 4 \times A$