

Question number	Answer	Notes	Marks
3 (a)	i 3.1 ONLY circled in the table; ii (average) speed = distance (moved)/time (taken);	accept words or standard symbols	1 1
	iii discards anomalous result; calculates mean time for B; substitution; evaluation; e.g. average time = 4.7                      gets 1 marks average time = 5.5                      gets 2 marks speed = $20/5.5$ gets 3 marks = 3.7                                      gets 4 marks	allow 4.67 Allow 5.45 allow $20/5.45$ Allow 3.67  answers which round to 4.3 get 3 marks	4
	iv explanation including the following ideas EITHER bar chart; because woodpeckers are discrete / eq; OR mass is a continuous variable; therefore scatter-gram / eq;  b discussion to include any 3 ideas from:  MP1. there is no (discernible) pattern;  MP2. supporting data quoted;  MP3. discussion of why prediction is wrong/ C should be fastest;  MP4. three data sets is insufficient to decide;  MP5. need for further data to extend range of results;	condone histogram DOP  DOP allow line graph  no mark for unqualified 'yes' or 'no' results don't go in order/eq allow calculated speeds (cm/s) A= 1.8 B= 3.7 (4.3) C = 2.3 A heaviest,slowest; B middle, fastest; C lightest, middle  ignore discussion of anomalies	2 3

**Total 11 marks**