

# Feeding Relationships

## Mark Scheme 3

<b>Level</b>	IGCSE(9-1)
<b>Subject</b>	Biology
<b>Exam Board</b>	Edexcel IGCSE
<b>Module</b>	Double Award (Paper 1B)
<b>Topic</b>	Ecology and the Environment
<b>Sub-Topic</b>	Feeding Relationships
<b>Booklet</b>	Mark Scheme 3

**Time Allowed:** 56 minutes

**Score:** /46

**Percentage:** /100

**Grade Boundaries:**

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	10%

Question number	Answer	Notes	Marks
1 (a)	1. named feeding level such as producer / consumer; 2. stage / position / place / level in food chain / pyramid / food web / eq;	ignore herbivore / carnivore	1
(b)	1. shape; 2. order; 3. names;	max 1 if food chain	3
(c)	1. fewer caterpillars; 2. fewer nettles / less food / eq; 3. colder / less light / eq; 4. become cocoon / pupa / butterfly / eq;	ignore hibernation	2
(d)	1. energy loss / not all transferred / eq; 2. respiration; 3. excretion / urine; 4. egestion / not digested / faeces / eq; 5. not all of each organism eaten / eq; 6. some organisms die / decompose / eq; 7. <u>movement</u> ; 8. heat loss / thermoregulation / eq;	ignore heat loss in Mp 1 ignore waste for Mp 3 and Mp 4	4

(Total for Question 1 = 10 marks)

Question number	Answer	Notes	Marks		
2 (a)	<table border="1"><thead><tr><th>Letter</th><th>Name of process</th></tr></thead></table>	Letter	Name of process	ignore absorption  ignore decomposition	5
	Letter	Name of process			
	A	(fossilisation)			
	B	combustion / burning / eq;			
	C	respiration;			
	D	photosynthesis;			
	E	feeding / eating / consumption / ingestion / nutrition / digestion / assimilation / eq;			
	F	death;			

Question number	Answer	Notes	Marks
2 (b) (i)	1. starch; 2. glucose; 3. cellulose; 4. sucrose; 5. fructose;		2
(ii)	DNA / deoxyribose nucleic acid;	allow RNA	1
(c)	1. greenhouse gas / greenhouse effect; 2. traps heat / infra red / long wavelength; 3. ice caps melt / rise in sea level / flooding; 4. habitat destruction / desertification / soil erosion / coral bleaching / forest fire / eq; 5. food chain disruption / extinction / eq; 6. migration / spread of disease / affects plant growth / eq; 7. climate change / extreme weather events / drought / eq;		5

(Total for Question = 13 marks)

Question number	Answer	Marks
3 (a) (i)	greenfly <u>and</u> blue tit in correct order; secondary consumer; producer;	3
(ii)	bacteria / fungi;	1
(b)	three; allow decomposition, respiration and combustion	1

**Total 5 Marks**

Question number	Answer	Notes	Marks												
4(a)	<table border="1"><thead><tr><th>Sentence</th><th>Number</th></tr></thead><tbody><tr><td>the number of animals is</td><td>(8)</td></tr><tr><td>the number of producers is</td><td>1;</td></tr><tr><td>the number of herbivores is</td><td>4;</td></tr><tr><td>the number of secondary consumers is</td><td>4;</td></tr><tr><td>the number of food chains is</td><td>6;</td></tr></tbody></table>	Sentence	Number	the number of animals is	(8)	the number of producers is	1;	the number of herbivores is	4;	the number of secondary consumers is	4;	the number of food chains is	6;		4
Sentence	Number														
the number of animals is	(8)														
the number of producers is	1;														
the number of herbivores is	4;														
the number of secondary consumers is	4;														
the number of food chains is	6;														

Question number	Answer	Notes	Marks
4 (b) (i)	decrease / eq;	allow have a negative effect	1
(ii)	number of <u>same species</u> / number of <u>a species</u> / number of <u>one species</u> / eq;	allow amount / how many as eq to number	1
(c)	carbohydrate / glucose; protein / amino acids; fat / fatty acids / glycerol / cholesterol/ lipid; mineral / ions / salt / named mineral / named ion / named salt; vitamin / named vitamin; water;	ignore other blood components such as haemoglobin, rbc, platelets, oxygen and sugar etc	2
		<b>Total</b>	<b>8</b>

Question number	Answer	Notes	Marks
5 (a)	(i) all names present and parakeet in middle; arrows in right direction;	ignore enzyme ignore maltase ignore absorbed in small intestine	2
	(ii) digested / broken down; amylase / carbohydrase; maltose / glucose / sugar;		3
(b)	(i) 25.5;;	allow one mark for 2 or 27.5 in working ignore keep warm ignore reference to maintain body temperature	2
	(ii) increase (volume of oxygen) / eq; (more) respiration; heat loss / eq;		3
<b>Total</b>			10